



www.cherryfieldecology.co.uk

Report prepared for: James Gran

For the Site of: Hexton Manor, Hexton, Hitchin, Hertfordshire SG5 3JH

Version:	Written by:	Checked by:	Final:
Draft	Cleo Featley 05/01/2024		
Final	Luke Beeton 09/01/2024	Tanya O'Connor 10/01/2024	Luke Beeton 15/01/2024

Cherryfield Ecology has prepared this report for the named clients' use only.

Ecological reports are limited in shelf life, Natural England usually expect reports for licences to be from the most recent or current season, e.g. May 2024 to May 2025 for bats. Therefore, should the project not proceed within 12 months of this report an updated survey should be undertaken in order to check for changes that may have occurred on site. Information is believed to be accurate at the time of the survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.

Luke Beeton BSc (Hons)

luke@cherryfieldecology.co.uk

07421 708 652

Contents

0.0 Non-Technical Summary	4
0.1 Background.....	4
0.2 Results and Findings	4
0.3 Impact Assessment and Recommendations.....	5
1.0 Introduction.....	7
1.1 Aim	7
1.2 Background Information	7
1.3 Species Specific Information	8
1.3.1 Breeding Birds.....	8
1.3.2 Bats	9
1.3.3 Reptiles	9
1.3.4 Badgers.....	10
1.3.5 Great Crested Newts	10
1.3.6 Otter.....	10
1.3.7 Water Vole.....	11
1.4 Protected Sites and Priority Habitats	11
2.0 Methods.....	12
2.1 Limitations	12
3.0 Results	14
3.1 Desk Study	14
3.1.1 MAGIC.....	14
3.1.2 GCN DLL Zone	15

3.1.3 Biological Records Data	15
3.1.4 Site Location and Surrounds	16
3.2 Habitat, Building, Tree or Other Structure	17
3.2.1 Habitats	17
3.2.2 Species List	20
3.3 Evidence or Likelihood of Species Presence	26
3.3.1 Bats	26
3.3.2 Badgers	27
3.3.3 Breeding Birds	28
3.3.4 Amphibian	28
3.3.5 Reptile	28
3.3.6 Other Species e.g. Hazel Dormouse / Otter / Water Vole	29
3.3.7 Invasive Non-Native (Schedule 9 Species)	29
4.0 Conclusions, Discussion, Impacts and Recommendations	30
4.1 Conclusion and Discussion	30
0.2 Results and Findings	30
4.2 Potential Impacts	31
4.3 Recommendations	31
4.4 Additional Recommendations	32
5.0 References	40
Appendix I - Site Plans	42

Ecological Appraisal (EA)

0.0 Non-Technical Summary

0.1 Background

This report follows national guidelines JNCC (2010) and UKHab's (2023) allowing for a daytime inspection, and recommends for further surveys if considered necessary. If a deviation from the guidelines has been made, this will be detailed in the Method Section.

The following report details the findings and recommendations for the site of Hexton Manor, Hexton, Hitchin, Hertfordshire SG5 3JH.

The client commissioned Cherryfield Ecology to undertake an EA as the proposals include for the conversion of The Bothy (B1) to a detached dwelling with associated features.

Plans have been provided (Appendix I).

0.2 Results and Findings

The site consists of one detached single storey building, developed land, vegetated garden, ornamental hedgerows and individual trees. No protected species or evidence of protected species were found on site at the time of the survey.

The site provides **negligible** potential for badger and reptiles due to the lack of suitable habitat and limited connectivity to more suitable habitats. The site provides **Negligible** potential for GCN due to the lack of suitable habitat onsite. However, the site is within approximately 186m of a waterbody.

The building (B1) provides **high** potential for roosting bats due to the ample number of roosting features and access points.

The introduced shrub, tree and hedgerow habitats provide **high** potential for breeding birds.

The site provides **negligible** potential for other protected species due to the lack of suitable habitat onsite.

0.3 Impact Assessment and Recommendations

Badger - No further surveys are necessary; however, if any badger setts are found throughout works, all works must stop, and advice sought.

Bats - Presence/likely absence surveys (high) will be required (three surveys, three weeks apart), with two surveyors to cover the building B1; two of these must be undertaken between May to August and the third can be undertaken in September if required.

Breeding Birds - No further surveys are recommended; however, the development should take place outside the nesting season (March to August). If this is not possible, it is recommended that a qualified ecologist is on-site to ensure the building/vegetation is not occupied by breeding birds, prior to demolition/clearance. Should an occupied nest be found, a buffer zone would need to be created until the nest is no longer in use.

1. Great Crested Newt (GCN) - Unlicensed Method Statement

Habitat that is being affected is not suitable for GCN, although there is a waterbody within 186m of the site, therefore an unlicensed method statement will be required, please refer to section 4.

Reptiles - No further survey is necessary; however, if reptiles are found on-site, all works must stop, and advice sought.

Other protected species - No further survey is necessary; however, if any other protected species are found on site, all works must stop, and advice sought.

Habitats - All habitats found are common and widespread, no impacts are foreseen.

The findings outlined in this report are valid for one year, after which updated surveys will be required.

Enhancements and mitigation are recommended (please see Section 4.4 for further details).

1.0 Introduction

1.1 Aim

The aim of this report is to inform of ecological constraints that may affect the development proposals and recommend to the client if further surveys are required for protected species. An impact assessment is undertaken at this stage; however, if further surveys are required, additional and unexpected impacts may result. The information within this report can be used as the baseline for any Biodiversity Net Gain (BNG) metric requirements, however, the calculations are not included within this report.

1.2 Background Information

The client, James Gran, has commissioned Cherryfield Ecology to undertake an EA for the site of Hexton Manor, Hexton, Hitchin, Hertfordshire SG5 3JH. Planning permission is being sought to convert The Bothy (B1) to a detached dwelling with associated features.

This survey has checked all habitats, buildings, trees (from ground level only) or structures due to be affected by the proposals on site; it includes checking for protected species, signs of protected species or habitat value e.g. crevices, badger setts, ponds etc. as well as mapping the habitats on site.

The inspection was conducted on 05/01/2024.

The survey can only ever provide a 'snapshot' of the site at the time of the survey and circumstances may change following this report. Health and Safety restrictions or obstructions may limit the ability to find evidence.

Biological records have been requested to give the report context and allow a study of the surrounding area. The information is often sensitive and therefore a synopsis is provided.

The survey can be conducted year-round with the optimal period between mid-March and mid-October (south)/1st April and 30th September (north). However, it can be limited due to bad weather and in the winter, when some species are not as active, thus evidence and species are often not found. During these periods, habitat value (likely presence) becomes more important to the assessment of the site.

Summary of legislation and National Planning Policy that protects wildlife in England:

- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
- Wildlife and Countryside Act 1981 as amended.
- Countrywide and Rights of Way Act 2000.
- Natural Environment and Rural Communities Act 2006.
- National Planning Policy Framework (“NPPF”).
- Circular 06/05.

This legislation makes it illegal to:

- Intentionally or deliberately kill, injure or capture a protected species.
- Deliberately disturb a protected species, whether at rest or not.
- Damage, destroy or obstruct access to a resting place.
- Possess or transport a protected species or any part of that species, unless acquired legally.
- Sell, barter or exchange a protected species, or any part of a species.

1.3 Species Specific Information

All UK-protected species have the same protection and the detail under Bats also applies to GCN, Dormouse, Otters and the two UK-protected reptiles.

1.3.1 Breeding Birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Furthermore, a number of birds enjoy further protection under that Act and are listed

on Schedule 1 of the Act. These further protected birds are also protected from disturbance and it may be necessary to operate a “no-go” buffer zone around such nests - typically out to 5m.

1.3.2 Bats

All 18 species of bat common in the UK (17 known to be breeding) are fully protected under the Wildlife and Countryside Act (as amended) 1981 through inclusion in Schedule V of the Act. All bat species in the UK are also included in Schedule II of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which transpose Annex II of the Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (“Habitats Directive”) which defines United Kingdom protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture bats.
- Deliberately disturb bats, whether at roost or not.
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport bats, unless acquired legally.
- Sell, barter or exchange bats.

1.3.3 Reptiles

There are six species of reptiles in Great Britain (Edgar *et al.*, 2010) and four of these are commonly found; the Barred Grass Snake *Natrix helvetica*, Adder *Vipera berus*, Common Lizard *Zootoca vivipara* and Slow Worm *Anguis fragilis*.

All native British species of reptiles are legally protected through their inclusion in Schedule V of the Wildlife and Countryside Act 1981. As such, all species are protected from deliberate killing or injury. Therefore, where development is permitted, and there will be a significant change in land use, a reasonable effort must be undertaken to avoid committing an offence. The same act makes the trading of native reptile species a criminal offence without appropriate licensing.

Two species of reptile; the Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis* are further protected under The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which defines UK protected species of animals (“rare reptiles”).

1.3.4 Badgers

Badger *Meles meles* and its habitat are protected under The Protection of Badgers Act 1992, Schedule V of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention 1979.

This legislation makes it an offence to:

- Kill, injure, take or possess a badger.
- Interfere with, damage or destroy a badger sett including e.g. obstructing access to a badger sett.
- Cruelly treat or harm a badger.
- Disturb a badger in a sett.

1.3.5 Great Crested Newts

Great Crested Newts (GCN) *Triturus cristatus* are listed in both The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and in Schedule V of the Wildlife and Countryside Act 1981.

GCN are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

1.3.6 Otter

The Eurasian Otter *Lutra lutra* is the only Otter species native to the UK. The Eurasian Otter is fully protected under Schedule V of the Wildlife and Countryside Act (as amended) 1981 and in Schedule II of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which transpose Annex II of the Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora

("Habitats Directive") which defines United Kingdom protected species of animals. This legislation makes it illegal to:

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

1.3.7 Water Vole

The Water Vole *Arvicola amphibius* is protected under Schedule V of the Wildlife and Countryside Act 1981 and is a priority conservation species. This legislation makes it illegal to:

- intentionally capture, kill or injure water voles.
- damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care).
- disturb them in a place of shelter or protection (on purpose or by not taking enough care).
- possess, sell, control or transport live or dead water voles or parts of them (not water voles bred in captivity).

1.4 Protected Sites and Priority Habitats

Some areas with distinctive plants, animals, habitats, geology or landforms are protected at the international, European, national and local-level under statutory and non-statutory sites. Some habitats have been identified as needing priority conservation action; UK BAP Priority Habitats are a range of semi-natural habitat types that are identified as being the most threatened and requiring conservation action.

If a statutory site, non-statutory site or UK priority habitat is to be affected by proposed development, details will be outlined below:

There are no protected sites or priority habitats located within the site boundary.

2.0 Methods

The survey follows the national guidelines JNCC (2010) and UKHabs (2023), and the following equipment is available for the inspection:

- Torches (e.g. LED Lensar type).
- Ladders (Standard 4m telescopic surveying ladder).
- Endoscope where holes, cracks and crevices are accessible.
- Mirrors (extendable and movable mirror face).
- Binoculars (Pentax close focus).
- Thermometer/hygrometer.
- Camera.
- Sample bags for collecting dropping and feeding evidence.
- Quadrat for vegetation sampling

Condition Assessments for BNG are included (where required) within the table in the results section, the excel sheets for these are released separately.

Target notes are made when appropriate to highlight, for example, protected species or an 'other feature(s)' of ecological note.

If a deviation from the guidelines has been made the reason and justification will be explained below:

Access to the building was not available at the time of the survey.

2.1 Limitations

This survey provides a snapshot of the site at the time of the survey only. Species are highly mobile and can turn up from time to time unexpectedly. All care has been taken

to ensure the results and recommendations are suitable to the context of the development and the information gathered on surveys.

Table 1: Habitat value (likelihood) of protected species presence assessed against Collins (2023), Edgar *et al.* (2010) and Natural England (2007) etc.

Likelihood of species presence (Habitat Value)	Features that species can use, regardless of evidence being present.
Confirmed Presence	Species are found to be present during the survey. Evidence of species is found to be present during the survey.
Higher likelihood of presence	Buildings, trees or other structures or habitat features of particular significance for use by protected species e.g. nesting habitat, roosting opportunities, and ponds. Habitat of high quality for foraging e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting species e.g. river and or stream valleys and hedgerows. Site is close to known locations of records for protected species.
Moderate and Lower likelihood of species presence	Several potential habitat opportunities in buildings, trees or other habitats. Habitat could be used for foraging e.g. trees, shrub, grassland or water. Site is connected with the wider landscape by linear features that could be used by commuting species e.g. lines of trees and scrub or linked back gardens. A small number of less significant habitat opportunities. Isolated habitat for foraging e.g. a lone tree or patch of scrub. An isolated site not connected by prominent linear landscape features.
Negligible likelihood of species presence	No features suitable for roosting, minor foraging or commuting.

3.0 Results

The following section details the results of the desk study, inspection and survey; it includes MAGIC information, biological records data and map/aerial photo information. The results detail the building, structure or tree (numbered for reference) description of any evidence found and habitat value if no evidence has been located.

3.1 Desk Study

The desk study is centred on Grid Reference - TL 10819 30491 and Postcode - SG5 3JH.

3.1.1 MAGIC

The following statutory sites and Natural England Protected Species (NEPS) have been located within the 2km search area (Figure 1).

Table 2: Magic search results

Receptor	Distance and Direction to Nearest (m/km)	Description
Statutory sites	~1,893.2m, SW	Barton Hills (NNR, SSSI)
	~1,322.0m, SE	Deacon Hill (SSSI)
Granted protected species licenses	N/A	N/A
Priority habitat	~595.2m, S & SE	Good quality semi-improved grassland
	~620.4m, S & SE	Lowland calcareous grassland
	On site	Deciduous woodland
	~272.3m	Traditional orchards
	On site	Woodpasture and parkland BAP priority habitat

Figure 1: Magic Map Search

3.1.2 GCN DLL Zone

The site is located in Hertfordshire which is not a part of the DLL scheme.

3.1.3 Biological Records Data

A standard data search of existing records for protected species and nature reserves has been commissioned, below details the results and site context. *Data over 10 years old is not included.*

Biological records were obtained from Hertfordshire Environmental Records Centre (2024).

Table 3: Biological Records

Species	Number of Records	Closest Record (accuracy)	Most Recent Record (year)
Amphibians			
Common Frog <i>Rana temporaria</i>	-	-	-
Common Toad <i>Bufo bufo</i>	-	-	-
Great Crested Newt <i>Triturus cristatus</i>	-	-	-
Palmate newt <i>Lissotriton helveticus</i>	-	-	-
Smooth newt <i>Lissotriton vulgaris</i>	-	-	-
Bats			
Barbastelle <i>Barbastella barbastellus</i>	-	-	-
Brown Long-Eared <i>Plecotus auritus</i>	5	0m (1km)	N/A
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	9	450m (100m)	2013
Daubenton's <i>Myotis daubentonii</i>	28	0m (1km)	N/A
Leisler's <i>Nyctalus leisleri</i>	-	-	-
Nathusius' Pipistrelle <i>Pipistrellus nathusii</i>	-	-	-
Natterer's <i>Myotis nattereri</i>	34	0m (1km)	N/A
Noctule <i>Nyctalus noctula</i>	2	0m (1km)	N/A
Serotine <i>Eptesicus serotinus</i>	2	0m (1km)	N/A
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	5	0m (1km)	N/A
Unidentified Bat <i>Chiroptera sp.</i>	8	0m (1km)	N/A
Unidentified Long-Eared <i>Plecotus sp.</i>	1	0m (1km)	N/A
Unidentified Myotis <i>Myotis sp.</i>	4	250m (1km)	N/A

Unidentified Pipistrelle <i>Pipistrellus sp.</i>	4	0m (1km)	N/A
Unidentified Vesper <i>Vespertilionidae</i>	-	-	-
Whiskered <i>Myotis mystacinus</i>	-	-	-
Mammals (exc. Bats)			
Badger <i>Meles meles</i>	7	350m (10km)	2018
Hazel Dormouse <i>Muscardinus avellanarius</i>	-	-	-
Otter <i>Lutra lutra</i>	-	-	-
Water Vole <i>Arvicola amphibius</i>	-	-	-
West European Hedgehog <i>Erinaceus europaeus</i>	-	-	-
Reptiles			
Adder <i>Vipera berus</i>	-	-	-
Common Lizard <i>Zootoca vivipara</i>	2	470m (10m)	2020
Grass Snake <i>Natrix helvetica</i>	-	-	-
Slow-Worm <i>Anguis fragilis</i>	-	-	-
Other			
Birds, Invertebrates, Plants etc.			

3.1.4 Site Location and Surrounds

The site is located in Hexton, Hertfordshire and is surrounded by arable fields, pasture, and to a lesser extent woodland, in the immediate local area. Table 5 details the commuting, feeding and habitat features in a 1km radius of the site.

Table 4: Habitat features suitable for use by protected species.

Feature	Description
Watercourses	There is a small brook ~76.2m North. There is a small waterway connect Spring Head to another large pond ~269.64m Northeast. There is a network of brooks ~353.16m West Northwest. There is another brook ~814.23m, Northeast, leading off of a pond.
Waterbodies	Spring Head is ~45.5m East. There is a small waterbody ~311.75m South. There are two ponds ~436.68m and ~468.84m West. There is a large pond ~679.74m Northeast.
Woodland	There is a copse on the Southern side of the site. To the East there are two small woodlands ~213.29m and ~607.19m away. There is a copse

	~381.82m West. There is a large woodand ~639.99m Southwest. There is a copse ~681.34m South. A large woodland is ~694.59m Southeast.
Linear e.g. hedgerows	Field margin hedgerows dominate the search area.
Pasture/arable/grassland	Arable land, and to a lesser extent pasture dominate the search area.
Other	Apart of St Faith's Church is a small graveyard ~416.84m West.

3.2 Habitat, Building, Tree or Other Structure

This section details the structures/habitat reference and descriptions (see Figure 5 for Site Plan).

Table 5: Weather Records

Parameter	Unit/value
Temperature	6°C
Cloud cover	100%
Precipitation	None
Wind	1/12

3.2.1 Habitats

Habitats found on site are mapped using the Phase 1 Habitat (JNCC, 2010) and UK Habs (UK Habs, 2023). When the UK Habs has a subset type, this has been used to match as best as possible to the Phase 1 Habitat.

Table 6: Habitat features found on site, this includes for the Phase 1 Habitat type and the nearest UK Habs type. UK Habs may be broken down to subsets when required and if the habitat meets the criteria.

Habitat Features		
Phase 1 Habitat Type	UKHab Habitat Type	Description
Buildings	Developed Land; Sealed Surface	B1 consists of a brick built detached single storey building with a hipped roof. The tiles are made from slate. there are no soffit boxes. A louver is present along the ridge of

		the building. The window and door frames are made of wood.  5 Jan 2024 10:15:48 Hexton Road Cherryfield Ecology Ltd figure 2: B1 exterior
Hardstanding	Developed Land; Sealed Surface	Surrounding B1 is a layer of hardstanding.  5 Jan 2024 10:34:18 Orchard Cottages Cherryfield Ecology Ltd Figure 3: Hardstanding example
Amenity Grassland/Introduced Shrub	Vegetated Garden	The southern boundary consists of amenity grassland, with annual meadow grass <i>Poa annua</i> and perennial rye grass <i>Lolium perenne</i> being the dominant species. Additional areas of introduced shrub are found throughout the site.

		 5 Jan 2024 10:25:34 Orchard Cottages Cherryfield Ecology Ltd Figure 4: Amenity grassland example
Scattered Trees	Urban Tree/Rural Tree	Several small leaved limes <i>Tilia cordata</i> are present to the south of the site.
Hedgerow Features		
Phase 1 Habitat Type	UKHab Type	Description
Introduced Shrub	Hedge Ornamental Non-Native	Several ornamental hedgerows are present on the boundaries of the site.

The following table details the condition assessments for all sites meeting the DEFRA Metric 4.0 criteria, if the site meets the small-scale metric criteria condition assessments are not required (see separate excel sheets).

Table 7: Biodiversity Net Gain Condition Assessments/Scores (see separate excel sheets)

Habitat (UKHabs)	Condition Score
Buildings/Developed Land Sealed Surface	Set score
Vegetated Garden/Introduced Scrub	Set score
Hedge Ornamental Non-Native	Set score
Individual tree	Good = 3

Table 8: Target Notes

Target Note	Description
n/a	n/a

3.2.2 Species List

Table 9: Species found on site with relevant *DAFOR abundance.

Common Name	Scientific Name	*DAFOR Scale
Alder	<i>Alnus glutinosa</i>	
Annual Meadow-Grass	<i>Poa annua</i>	D
Annual Mercury	<i>Mercurialis annua</i>	
Apple	<i>Malus</i> sp.	
Ash	<i>Fraxinus excelsior</i>	
Aspen	<i>Populus tremula</i>	
Beech	<i>Fagus sylvatica</i>	
Bent	<i>Agrostis</i> sp.	
Birch	<i>Betula</i> sp.	
Bittersweet	<i>Solanum dulcamara</i>	
Black Bryony	<i>Dioscorea communis</i>	
Black Horehound	<i>Ballota nigra</i>	
Black Medick	<i>Medicago lupulina</i>	R
Blackthorn	<i>Prunus spinosa</i>	
Bluebell	<i>Hyacinthoides non-scripta</i>	
Box	<i>Buxus</i> sp.	
Bracken	<i>Pteridium aquilinum</i>	
Bramble	<i>Rubus fruticosus</i> agg	R
Bristly Oxtongue	<i>Picris echioides</i>	R
Broom	<i>Cytisus scoparius</i>	
Buddleia	<i>Buddleja davidii</i>	
Bull Rush	<i>Typha latifolia</i>	
Canadian Fleabane	<i>Conyza canadensis</i>	
Cat's-Ear	<i>Hypochaeris</i> sp.	R
Cherry	<i>Prunus</i> sp.	
Cherry Laurel	<i>Prunus laurocerasus</i>	
Cleavers	<i>Galium aparine</i>	
Cock's-foot	<i>Dactylis glomerata</i>	O
Colt's-foot	<i>Tussilago farfara</i>	
Comfrey	<i>Symphytum</i> sp.	
Common Bent	<i>Agrostis capillaris</i>	

Common Bird's-Foot-Trefoil	<i>Lotus corniculatus</i>	
Common Chickweed	<i>Stellaria media</i>	
Common Columbine	<i>Aquilegia vulgaris</i>	
Common Couch	<i>Elymus repens</i>	
Common Knapweed	<i>Centaurea nigra</i>	
Common Lilac	<i>Syringa vulgaris</i>	
Common Mallow	<i>Malva sylvestris</i>	
Common Sorrel	<i>Rumex acetosa subsp. acetosa</i>	
Common Reed	<i>Phragmites australis</i>	
Common sowthistle	<i>Sonchus oleraceus</i>	R
Common Toadflax	<i>Linaria vulgaris</i>	
Cornflower	<i>Centaurea cyanus</i>	
Cotoneaster	<i>Cotoneaster sp.</i>	
Cow Parsley	<i>Anthriscus sylvestris</i>	
Cowslip	<i>Primula veris</i>	
Crane's-bill	<i>Geranium sp.</i>	
Creeping Bent	<i>Agrostis stolonifera</i>	
Creeping Buttercup	<i>Ranunculus repens</i>	O
Creeping Cinquefoil	<i>Potentilla reptans</i>	
Creeping Thistle	<i>Cirsium arvense</i>	
Cut-Leaved Crane's-Bill	<i>Geranium dissectum</i>	
Cuckoo Flower	<i>Cardamine pratensis</i>	
Daisy	<i>Bellis perennis</i>	
Dandelion	<i>Taraxacum officinale agg.</i>	R
Dock	<i>Rumex sp.</i>	
Dog's Mercury	<i>Mercurialis perennis</i>	
Dogwood	<i>Cornus sanguinea</i>	
Dove's Foot Crane's-Bill	<i>Geranium molle</i>	
Dog rose	<i>Rosa canina</i>	
Elder	<i>Sambucus nigra</i>	
Elm	<i>Ulmus sp.</i>	
Enchanter's Nightshade	<i>Circaea lutetiana</i>	
Evening Primrose	<i>Oenothera sp.</i>	
Evergreen spindle	<i>Euonymus japonicus</i>	
False Oat-Grass	<i>Arrhenatherum elatius</i>	
False-Acacia	<i>Robinia pseudoacacia</i>	
False Brome	<i>Brachypodium sylvaticum</i>	
Flag Iris	<i>Iris pseudacorus</i>	
Field Bindweed	<i>Convolvulus arvensis</i>	
Feverfew	<i>Tanacetum parthenium</i>	

Field Maple	<i>Acer campestre</i>	
Firethorn	<i>Pyracantha coccinea</i>	
Forget me not	<i>Myosotis sp.</i>	
Foxglove	<i>Digitalis purpurea</i>	
Garden Privet	<i>Ligustrum ovalifolium</i>	
Garlic Mustard	<i>Alliaria petiolata</i>	
Germander Speedwell	<i>Veronica chamaedrys</i>	0
Giant Hogweed	<i>Heracleum mantegazzianum</i>	
Goat Willow	<i>Salix caprea</i>	
Goat's-rue	<i>Galega officinalis</i>	
Good-King-Henry	<i>Chenopodium bonus-henricus</i>	
Gorse	<i>Ulex europaeus</i>	
Grape hyacinth	<i>Muscari sp.</i>	
Greater Willowherb	<i>Epilobium hirsutum</i>	
Greater Bird's-Foot-Trefoil	<i>Lotus pedunculatus</i>	
Greater Knapweed	<i>Centaurea scabiosa</i>	
Greater Plantain	<i>Plantago major</i>	R
Green Alkanet	<i>Pentaglottis sempervirens</i>	R
Ground-Elder	<i>Aegopodium podagraria</i>	
Ground-Ivy	<i>Glechoma hederacea</i>	R
Groundsel	<i>Senecio vulgaris</i>	R
Hard Rush	<i>Juncus inflexus</i>	
Hart's-Tongue	<i>Phyllitis scolopendrium</i>	
Hairy Bittercress	<i>Cardamine hirsuta</i>	
Hawkbitt	<i>Leontodon sp.</i>	
Hawthorn	<i>Crataegus monogyna</i>	
Hazel	<i>Corylus avellana</i>	
Hedge Bindweed	<i>Calystegia sepium</i>	
Hedge Mustard	<i>Sisymbrium officinale</i>	
Hedge Woundwort	<i>Stachys sylvatica</i>	
Hemlock	<i>Conium maculatum</i>	
Herb-Robert	<i>Geranium robertianum</i>	
Himalayan Balsam	<i>Impatiens glandulifera</i>	
Hoary Ragwort	<i>Senecio erucifolius</i>	
Hogweed	<i>Heracleum sphondylium</i>	
Holly	<i>Ilex aquifolium</i>	
Holm Oak	<i>Quercus ilex</i>	
Honeysuckle	<i>Lonicera periclymenum</i>	
Honeysuckle (Ornamental)	<i>Lonicera sp.</i>	
Hop	<i>Humulus lupulus</i>	

Hornbeam	<i>Carpinus betulus</i>	
Horse-Chestnut	<i>Aesculus hippocastanum</i>	
Horse-Radish	<i>Armoracia rusticana</i>	
Horsetail	<i>Equisetum</i> sp.	
Italian Ryegrass	<i>Lolium multiflorum</i>	
Ivy	<i>Hedera helix</i>	0
Ivy-Leaved Speedwell	<i>Veronica hederifolia</i>	
Japanese hazel	<i>Corylus sieboldiana</i>	
Japanese Honeysuckle	<i>Lonicera japonica</i>	
Japanese Knotweed	<i>Fallopia japonica</i>	
Japanese Laurel	<i>Aucuba japonica</i>	
Japanese rose	<i>Rosa rugosa</i>	
Lavender	<i>Lavandula</i> sp.	
Lawson's Cypress	<i>Chamaecyparis lawsoniana</i>	
Leyland Cypress	<i>Cuprocyparis leylandii</i>	
Lime	<i>Tilia</i> sp.	
London Plane	<i>Platanus occidentalis x orientalis</i>	
Lords-and-Ladies	<i>Arum maculatum</i>	
Magnolia	<i>Magnolia</i> sp.	
Mahonia	<i>Mahonia x media</i>	
Meadow Barley	<i>Hordeum secalinum</i>	
Meadow Buttercup	<i>Ranunculus acris</i>	
Meadow Crane's-Bill	<i>Geranium pratense</i>	
Meadow Foxtail	<i>Alopecurus pratensis</i>	
Mexican Orange Blossom	<i>Choisya ternata</i>	
Michaelmas Daisy	<i>Aster</i> sp.	
Mignonette	<i>Reseda</i> sp.	
Mistletoe	<i>Viscum album</i>	0
Montbretia	<i>Crocasmia</i> sp.	
Mouse-Ear Chickweed	<i>Cerastium vulgatum</i>	
Mouse-Ear Hawkweed	<i>Pilosella officinarum</i>	
Mugwort	<i>Artemisia vulgaris</i>	
Mullein	<i>Verbascum</i> sp.	
Nettle	<i>Urtica dioica</i>	R
Nipplewort	<i>Lapsana communis</i>	
Norway Maple	<i>Acer platanoides</i>	
Oak	<i>Quercus</i> sp.	
Oxeye Daisy	<i>Leucanthemum vulgare</i>	
Oxford Ragwort	<i>Senecio squalidus</i>	
Pedunculate Oak	<i>Quercus robur</i>	
Pendulous Sedge	<i>Carex pendula</i>	

Perennial Rye-Grass	<i>Lolium perenne</i>	D
Perforate St John's-Wort	<i>Hypericum perforatum</i>	
Petty Spurge	<i>Euphorbia peplus</i>	R
Pine	<i>Pinus sp.</i>	
Poplar	<i>Populus sp.</i>	
Portuguese Laurel	<i>Prunus lusitanica</i>	
Prickly Sow-Thistle	<i>Sonchus asper</i>	
Procumbent Pearlwort	<i>Sagina procumbens</i>	
Purple Toadflax	<i>Linaria purpurea</i>	
Ragwort	<i>Senecio jacobaea</i>	
Red Campion	<i>Silene dioica</i>	
Red Clover	<i>Trifolium pratense</i>	
Red Dead-Nettle	<i>Lamium purpureum</i>	R
Red Fescue	<i>Festuca rubra</i>	
Redshank	<i>Persicaria maculosa</i>	
Reedmace		
Rhododendron	<i>Rhododendron ponticum</i>	
Ribwort Plantain	<i>Plantago lanceolata</i>	
Rocket	<i>Sisymbrium sp.</i>	
Rose	<i>Rosa sp.</i>	
Rosebay Willowherb	<i>Chamerion angustifolium</i>	
Rowan	<i>Sorbus aucuparia</i>	
Russian-Vine	<i>Fallopia baldschuanica</i>	
Salad Burnet	<i>Sanguisorba minor</i>	
Scentless Mayweed	<i>Matricaria recutita</i>	
Selfheal	<i>Prunella vulgaris</i>	
Sheep's Sorrel	<i>Rumex acetosella</i>	
Shepherd's Purse	<i>Capsella bursa-pastoris</i>	
Shepherd's needle	<i>Scandix pecten-veneris</i>	
Silver Birch	<i>Betula pendula</i>	
Smooth Brome	<i>Bromus racemosus</i>	
Smooth Sow-Thistle	<i>Sonchus oleraceus</i>	
Snowberry	<i>Symphoricarpos sp.</i>	
Spanish Bluebell	<i>Hyacinthoides hispanica</i>	
Spear Thistle	<i>Cirsium vulgare</i>	
Speedwell	<i>Veronica sp.</i>	
Springy turf mosses	<i>Rhytidiadelphus squarrosus</i>	
Stinking Iris	<i>Iris foetidissima</i>	
Sycamore	<i>Acer pseudoplatanus</i>	
Tall Fescue	<i>Festuca arundinacea</i>	
Teasel	<i>Dipsacus fullonum</i>	

Timothy	<i>Phleum pratense</i>	
Traveller's-Joy	<i>Clematis vitalba</i>	
Tree-of-Heaven	<i>Ailanthus altissima</i>	
Tufted Hairgrass	<i>Deschampsia cespitosa</i>	
Turkey oak	<i>Quercus cerris</i>	
Variegated Yellow Archangel	<i>Lamium album</i>	
Vetch	<i>Vicia sp.</i>	
Viper's-Bugloss	<i>Echium vulgare</i>	
Virginia-Creeper	<i>Parthenocissus quinquefolia</i>	
Wall Barley	<i>Hordeum murinum</i>	
Wavy Bittercress	<i>Cardamine flexuosa</i>	
Wavy Hair-Grass	<i>Deschampsia flexuosa</i>	
Wayfaring Tree	<i>Viburnum lantana</i>	
White Campion	<i>Silene latifolia</i>	
White Clover	<i>Trifolium repens</i>	
White Dead-Nettle	<i>Lamium album</i>	
White Goosefoot	<i>Chenopodium album</i>	
White Horehound	<i>Marrubium vulgare</i>	
Wild Carrot	<i>Daucus carota subsp. carota</i>	
Wild Privet	<i>Ligustrum vulgare</i>	
Willow	<i>Salix sp.</i>	
Willowherb	<i>Epilobium sp.</i>	
Wood Avens	<i>Geum urbanum</i>	
Wood Sorrel	<i>Oxalis acetosella</i>	
Woody Nightshade	<i>Solanum dulcamara</i>	
Yarrow	<i>Achillea millefolium</i>	
Yellow Corydalis	<i>Pseudofumaria lutea</i>	
Yew	<i>Taxus baccata</i>	R
Yorkshire Fog	<i>Holcus lanatus</i>	

*DAFOR - Dominant, Abundant, Frequent, Occasional and Rare



Figure 5: Site Plan

3.3 Evidence or Likelihood of Species Presence

This section details the evidence located and likelihood of species presence.

3.3.1 Bats

Table 10: Bats, evidence or the potential for the species.

Bats found	No bats were found at the time of the survey.
Evidence of bat use	No evidence of bats was found at the time of the survey.
Potential for bat use	Level of likelihood of presence - B1 - High Based upon the external features of B1, the building has high potential for bats. For example, there are roosting features/gaps within the louver. Additionally, there are further gaps under the doorframe and along the

ridge. Furthermore, there is a waterbody approximately 175m, which provides suitable foraging habitat.



Figure 6: gap under the doorframe



Figure 7: gaps within the louver

3.3.2 Badgers

Table 11: Badgers, evidence or the potential for the species

Badgers found	No badgers were found at the time of the survey.
Evidence of badger use	No evidence of badger use was found at the time of the survey.
Potential for badger use	Level of likelihood of presence - Negligible The site provides negligible potential for badgers due to the lack of suitable habitat onsite e.g. hardstanding is unsuitable for sett building.

3.3.3 Breeding Birds

Table 12: Breeding birds, evidence or potential for the species

Breeding birds found	No breeding birds were found at the time of the survey.
Evidence of breeding bird use	No evidence of breeding birds was found at the time of the survey.
Potential for breeding bird use	Level of likelihood of presence - High The site provides high potential for breeding birds due to the ample nesting sites provided by B1, the ornamental hedgerows and the individual trees.

3.3.4 Amphibian

Table 13: Amphibians, evidence or potential for species use.

Amphibians found	No Great Crested Newt (GCN) were found at the time of the survey.
Evidence of amphibian use	No evidence of GCN was found at the time of the survey.
Potential for amphibian use	Level of likelihood of presence - Negligible The site provides negligible potential for GCN due to the lack of suitable terrestrial habitat onsite and the lack of waterbodies onsite. However, there is a waterbody within 186m of the site.

3.3.5 Reptile

Table 14: Reptiles, evidence or potential for species use.

Reptiles found	No reptiles were found at the time of the survey.
Evidence of reptile use	No evidence of reptiles was found at the time of the survey.
Potential for reptile use	Level of likelihood of presence - Negligible The site provides negligible potential for reptiles due to the lack of suitable habitat onsite e.g. tall ruderal for foraging, refuge etc. additionally, the site lacks connectivity with more suitable habitats.

3.3.6 Other Species e.g. Hazel Dormouse / Otter / Water Vole

Table 15: Other protected species, evidence or potential for species use.

Species found	No other protected species were found at the time of the survey.
Evidence of species use	No evidence of other protected species was found at the time of the survey.
Potential for species use	Level of likelihood of presence - Negligible The site provides negligible potential for other protected species due to no suitable habitat found on site e.g. watercourses for otter <i>Lutra lutra</i> .

3.3.7 Invasive Non-Native (Schedule 9 Species)

Species found	No invasive non-native species were found at the time of the survey.
---------------	--

4.0 Conclusions, Discussion, Impacts and Recommendations

The following section details the conclusions, discussion, impacts and recommendations in the context of the proposed works.

4.1 Conclusion and Discussion

The client commissioned Cherryfield Ecology to undertake an EA as the proposals include for the conversion of The Bothy (B1) to a detached dwelling with associated features.

Plans have been provided (Appendix I).

0.2 Results and Findings

The site consists of one detached single storey building, developed land, vegetated garden, ornamental hedgerows and individual trees. No protected species or evidence of protected species were found on site at the time of the survey.

The site provides **negligible** potential for badger and reptiles due to the lack of suitable habitat and limited connectivity to more suitable habitats. The site provides **Negligible** potential for GCN due to the lack of suitable habitat onsite. However, the site is within approximately 186m of a waterbody.

The building (B1) provides **high** potential for roosting bats due to the ample number of roosting features and access points.

The introduced shrub, tree and hedgerow habitats provide **high** potential for breeding birds.

The site provides **negligible** potential for other protected species due to the lack of suitable habitat onsite.

Recommended surveys are found in section 4.3.

4.2 Potential Impacts

Impact assessments must be proportionate to the scale of the development (CIEEM, 2018) and Table 16 details a proportionate impact assessment based on current information.

Table 16: Impact Assessment

Impact	Bats - A bat roost will be lost in the development. Breeding Birds - Active nests may be lost in the development.
Characterisation of unmitigated impact on the feature	Bats - A low-level loss/impact at a local level. Breeding Birds - A low-level loss/impact at a local level.
Effect without mitigation	Without mitigation, individual bats and birds could be killed, injured or trapped during the works.
Mitigation and/or potential enhancement	See Table 17 and Table 18
Significance of effects of residual impacts (after mitigation)	Bats - If lost roosts are replaced by bat boxes, the effects would be negligible. Breeding Birds - If lost habitat is replaced by bird boxes and mitigation is followed, the effects would be negligible.

4.3 Recommendations

Badger - No further surveys are necessary; however, if any badger setts are found throughout works, all works must stop, and advice sought.

Bats - Presence/likely absence surveys (high) will be required (three surveys, three weeks apart), with two surveyors to cover the building B1; two of these must be undertaken between May to August and the third can be undertaken in September if required.

Breeding Birds - No further surveys are recommended; however, the development should take place outside the nesting season (March to August). If this is not possible, it is recommended that a qualified ecologist is on-site to ensure the building/vegetation is not occupied by breeding birds, prior to demolition/clearance. Should an occupied nest be found, a buffer zone would need to be created until the nest is no longer in use.

2. Great Crested Newt (GCN) - Unlicensed Method Statement

Habitat that is being affected is not suitable for GCN, although there is a waterbody within 186m of the site, therefore an unlicensed method statement will be required, please refer to section 4.

Reptiles - No further survey is necessary; however, if reptiles are found on-site, all works must stop, and advice sought.

Other protected species - No further survey is necessary; however, if any other protected species are found on site, all works must stop, and advice sought.

Habitats - All habitats found are common and widespread, no impacts are foreseen.

4.4 Additional Recommendations

Table 17: Additional Recommendations

Work	Specification
General information	The following must be undertaken: - All works must be undertaken within 12 months of this report, thereafter a material change check will be required to check for changes that could affect potential protected species habitat. - If any protected species are found at any point whatsoever during works, works will stop and further advice will be sought.

General Precautions	- Trenches and open holes - All trenches and open holes should be covered overnight, or if the hole or trench can't be covered it should be filled in or a rough sawn timber plank installed as an escape route for any species. - General maintenance - If grassland and vegetation is kept in a mown/cut state this should be maintained for the duration of the works. - Store all material on hardstanding or in buildings to prevent artificial refuges from being created.
General bat Information	No development will occur until bat surveys consistent with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) (Collins, 2023) have been undertaken in the appropriate survey season, May to September (Mid-May to August optimal). The Three Tests to be answered before planning can be granted (NE, 2017): <i>Test 1:</i> Regulation 53(2)(e) states: a licence can be granted for the purposes of “preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment”. Test 1 can be achieved via the ‘imperative reasons of overriding public interest’. Although not for the ecologist to determine the planning officer will on grant of consent. <i>Test 2:</i> Regulation 53(9)(a) states: the appropriate authority shall not grant a licence unless they are satisfied “that there is no satisfactory alternative” Test 2 would be achieved on the grant of consent as no other sites have been considered for the development. <i>Test 3:</i> Regulation 53(9) (b) states: the appropriate authority shall not grant a licence unless they are satisfied “that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.” Test 3 will be achieved once full emergence/re-entry surveys are conducted and full mitigation appropriate to species and population has been designed and implemented via an NEPS licence issued from the statutory authority (Natural England) if this becomes necessary following a dusk and pre-dawn survey.
Lighting	Any lighting near or shining onto any trees/buildings etc, will be designed to minimise the impact it has on potential species and commuting. Lighting will be in line with the BCT lighting guidelines (Bats and Lighting in the UK (Bat Conservation Trust, 2023) https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

	This lighting, where possible, will be of low level, be on downward deflectors and be on PIR sensors. Using LED directional lighting can also be a way of minimising the light spill affecting the habitat. No up-lighting should be used. Light spill must be minimised to as low as possible. This will ensure that the foraging and commuting resources that the protected species are likely to be using is maintained.
--	---

Table 18: The local authority has a duty to enhance biodiversity in its day-to-day duties; the following are suggested enhancements that are easily installed into a development and can be cost-effective whilst ensuring a gain for local wildlife.

Work	Specification
Bat, bird and insect box enhancement.	Bat tubes can be installed in the new dwellings (Figure 8). These require no maintenance, can be installed on a gable end/under an eave (no less than 3m above ground level), face south or north and can be faced in any material to provide an aesthetic matching the reminding building.  Figure 8: Example of bat tube Bird boxes for a variety of different species can also be installed. A selection of open-fronted boxes and songbird boxes can be installed (Figure 9 and Figure 10); it is recommended that a minimum of two of each of the boxes are installed. These will be installed at a minimum of 2m high and ideally face north to east.



Figure 9: Robin box



Figure 10: Songbird box

A variety of insect boxes can be installed in the area; a minimum of one box is recommended (Figure 11 and Figure 12).



Figure 11: Urban bee nesting box, used for solitary bees and wasps.



Figure 12: Bug biome, ideal for ladybirds, lacewings and bees

Hedgehog highways and small mammal connectivity.

Hedgehog highways can or will be installed in order to allow hedgehogs and other small mammals a continuous corridor across the site, thus linking the garden/site etc. and green spaces in the area.

- A 13cm-by-13cm is sufficient for any hedgehog to pass through. This will be too small for nearly all pets (Figure 13).
- Remove a brick from the bottom of the wall, creating a 13cm-by-13cm hole.
- Cut a small hole in your fence if there are no gaps.
- Dig a channel underneath your wall, fence or gate.
- Ideally, rather than walls or fences, a hedge will provide foraging, shelter and a route along as well as through the site.



Figure 13: Hedgehog Highway, Source - Wildlife Trust -

<http://7474fab53f1b6ee92458->

	8f3ac932bad207a00c83e77eaae8d15c.r12.cf1.rackcdn.com/Hedgehog%20Highway.jpg
Swifts <i>Apus apus</i>	Swift nest bricks are recommended due to the increased lack of nesting opportunities swifts are finding in modern-built dwelling homes. Information is adapted from the RSPB https://www.rspb.org.uk/our-work/rspb-news/news/stories/swift-advice-for-ecologists/ and http://actionforswifts.blogspot.com The following will be undertaken: ▪ Wherever possible, swift bricks will be installed into new or restored buildings to increase the overall availability of nest sites for swifts and other species. Birds such as house sparrows can use swift bricks, but swifts cannot use house sparrow nest bricks. ▪ Integral swift bricks are the preferred option for new housing developments. These should be fitted in clusters of 2 to 4 on gable ends and near the roofline where swifts would naturally look for a potential nest site. ▪ Try to ensure swift bricks have a minimum of 5m clearance beneath and in front. Always avoid locating them above doors and windows to help prevent a disturbance issue to both the birds and human owners. ▪ Alternatively, swift boxes can be placed on the external walls of a building when a restoration or opportunities don't exist to build in the boxes.  Figure 14: Example of swift bricks, that can be built into a dwelling, Source: https://www.birdbrickhouses.co.uk/brick-nesting-boxes/



Figure 15: Swift box, source: <http://actionforswifts.blogspot.com/p/diy-swift-box-designs.html>

Hedgerows

Hedgerows provide excellent corridors for wildlife and are extremely important to many species of wildlife. A hedgerow could be included in development plans to assist a range of species (Figure 16).

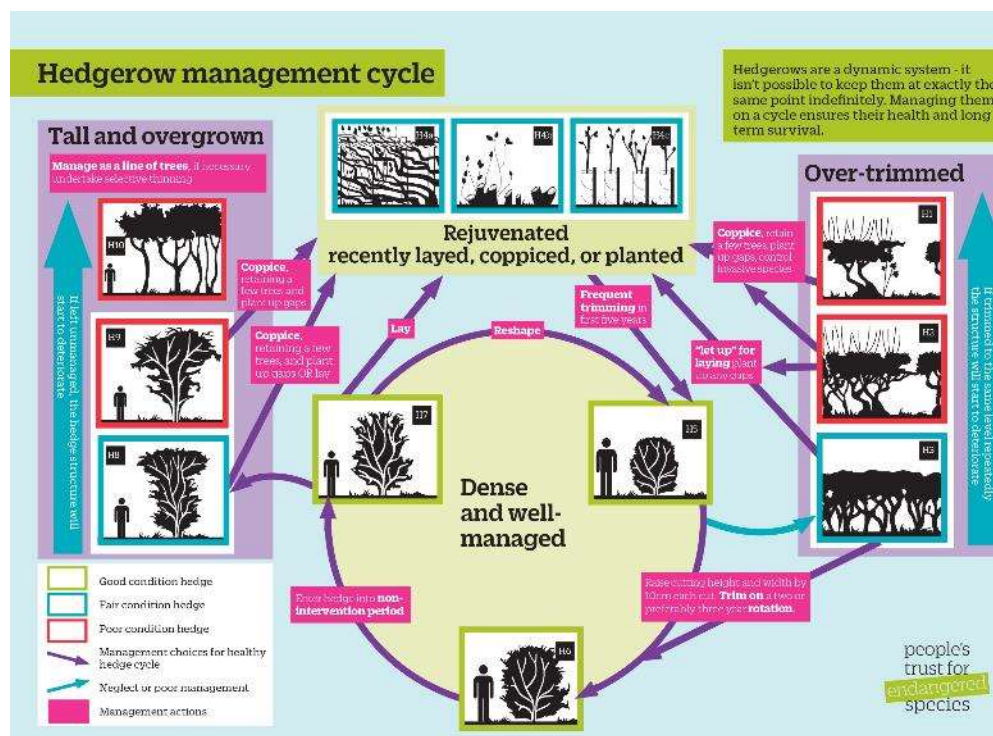


Figure 16: Hedgerow management cycle (<https://hedgerowsurvey.ptes.org/>)

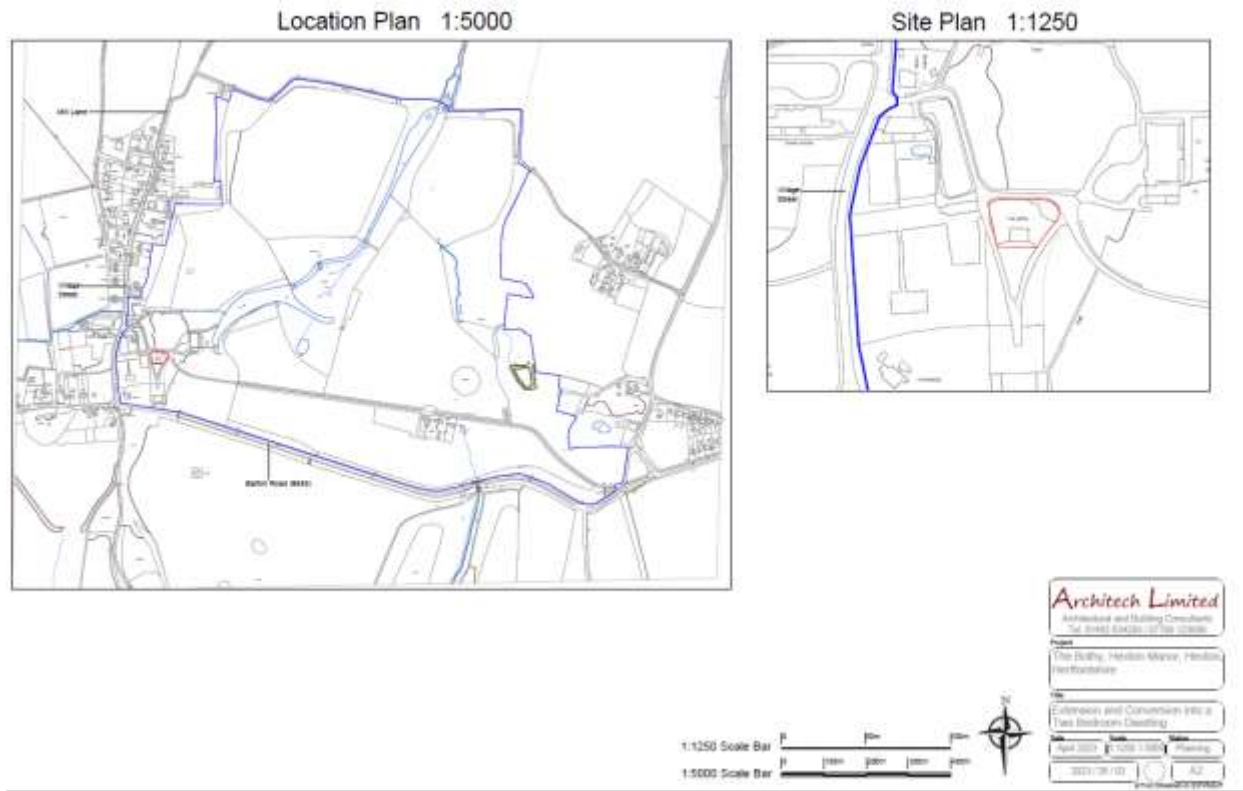
	It is recommended that a diversity of hedgerow species is included in the proposed hedgerows on site. Suitable hedgerow species include: ▪ Hawthorn (<i>Crateagus monogyna</i>) ▪ Hazel (<i>Corylus avellana</i>) ▪ Wild Privet (<i>Ligustrum vulgare</i>) ▪ Field Maple (<i>Acer campestre</i>) ▪ Blackthorn (<i>Prunus spinosa</i>) ▪ Guelder Rose (<i>Viburnum opulus</i>) ▪ Wayfaring Tree (<i>Viburnum lantana</i>) ▪ Dog Rose (<i>Rosa canina</i>) ▪ Spindle (<i>Euonymus europaea</i>) ▪ Holly (<i>Ilex europaeus</i>) The hedgerow should include 5 or more woody species within a 30m length in order to be classified as <u>species-rich</u>. Where possible, no cutting will take place during peak bird nesting season, which runs from March to September. Where possible, shrubs and hedgerows will not be cut back annually, as flower buds often form on second-year growth. Trimming hedges on a two-year or three-year rotation, targeting different sections each year, will make sure there are always flowers for pollinators in spring and berries for birds in autumn. Hedges cut every three years can produce two and a half times as many blossoms as those cut annually. Rotational cutting can also save time and money that would be invested in annual cutting.
--	--

5.0 References

- BCT/ILP (2023), Bats and artificial lighting at night,
<https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/> accessed on Dec 2023
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, September 2018. Chartered Institute of Ecology and Environmental Management, Winchester, online at
<https://www.cieem.net/data/files/ECIA%20Guidelines.pdf>
- Collins, J. (ed.), (2023), Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th Edition, BCT, London
- Google Earth, (2024), Located on site postcode, online
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit.
- MAGIC, (2024): Magic maps, NEPS licences and designated sites, online
<http://www.magic.gov.uk/Login.aspx?ReturnUrl=%2fMagicMap.aspx>,
accessed as report date.
- National Planning Policy Framework, 2023
- Natural England (2007). Badgers and Development a Guide to Best Practice and Licensing. Natural England. Bristol.
- Paul Edgar, Jim Foster and John Baker (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth
- Records: Hertfordshire Environmental Records Centre (2024)
- The Great British Hedgerow Survey (2019), People's Trust for Endangered Species,
online <https://hedgerowsurvey.ptes.org/>, accessed report date.
- Tom Langton, Catherine Beckett and Jim Foster (2001). Great Crested Newt Conservation Handbook. Froglife.
- UKHab (2023), *UK Habitat Classification*, UKHab, [Online] <https://ukhab.org/>
(Accessed at time of report)
- Hedgerow Survey Handbook (2nd Edition), DEFRA, 2007, online at
<https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach>

[ment_data/file/69285/pb11951-hedgerow-survey-handbook-070314.pdf](#) accessed on 20/10/2022

Appendix I - Site Plans



Existing Site Plan (Architect Limited, 2023)