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# Ecological Appraisal

Land off Timmy's Lane, Hurworth on Tees

October 2023

Irwin Mitchell

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# Summary

OS Ecology Ltd were commissioned by Irwin Mitchell in May 2023 to undertake an Ecological Appraisal of land off Timmy’s Lane, Hurworth on Tees. Activity surveys of the buildings on site were subsequently commissioned and completed in August 2023. The site is proposed for development of a single new dwelling.

<b>Summary Table</b>	
<b>Habitat Assessment</b>	The habitats in the proposed development area are largely built development and gardens and considered to be of low value with a small portion of an other neutral grassland field also within the development area. The other neutral grassland field, hedgerows, trees and woodland are considered to be of local value.
<b>Bats</b>	<p>There buildings are present on site, a bungalow, L-shaped barn and a storage container. The bungalow and barn were concluded to be of low to moderate suitability for use by roosting bats, with scattered droppings recorded within the interior of the barn. The storage container is of negligible suitability.</p> <p>Small numbers of common pipistrelle and a single brown long-eared bat were recorded emerging from roosts within the large barn during activity surveys, with bats also recorded foraging internally.</p> <p>During the dusk survey on 24<sup>th</sup> August 2023, a pile of moth and butterfly wings were recorded inside the barn which are often an indication of brown long-eared feeding areas.</p> <p>No roosts were recorded within the bungalow.</p> <p>The site is considered to be of local value to bats.</p> <p>There is considered to be a low risk of the buildings being used during the winter hibernation period. There is considered to be a low risk of maternity use of the buildings though surveys carried out during August recording no evidence of maternity use.</p>
<b>Birds</b>	The site provides a number of foraging and nesting opportunities and is considered to be of local value to bird species.
<b>Other Protected Species</b>	<p>Hedgehog are likely to be present on site on occasion and the site is considered to be of local value.</p> <p>No other protected or priority species are likely to be present on site.</p>
<b>Designated Sites</b>	The site is within a nutrient impact area requiring consultation with the local planning authority regarding the potential impact of proposals on designated sites through an increase in nutrient load.
<b>Further Survey</b>	Updating bat surveys will be required if development does not take place within 12 months of the last survey.

	<p>Should demolition of the L-Shaped barn where bat roosts have been proven not be undertaken prior to May 2024, updating bat survey will be required to support the required licence application.</p>
<p><b>Impact Assessment</b></p>	<p>Loss of habitats of up to local value, including native hedgerows, through site clearance/redevelopment works.</p> <p>Loss of common pipistrelle day roosts of individual bats</p> <p>Loss of brown long-eared night/feeding roosts of individual bats</p> <p>Loss of (foul-weather) foraging resource through demolition of the barn</p> <p>Disturbance to bat commuting and foraging habitats due to the development and increased lighting on site post development.</p> <p>Loss of bird nesting and foraging habitats of local value.</p> <p>Harm or disturbance to bird species if vegetation clearance/building demolition is undertaken during the nesting bird season (March to August inclusive).</p> <p>Risk of harm or entrapment to hedgehog and other small mammals during site works.</p> <p>Possible root severance or asphyxiation to retained trees and hedgerows during site clearance works.</p> <p>The proposed increase in the local population and land use change may increase the nutrients being released into the River Tees, which can affect the cited features of the Teesmouth and Cleveland Coast Special Protection Area (SPA).</p>
<p><b>Recommendations</b></p>	<p><b>Prior to works which will impact on the roosts within Building 2, a Natural England mitigation licence will be obtained. If this is not obtained before May 2024, updating bat surveys will be required.</b></p> <p>Demolition of the bungalow (Building 1) will be completed to a detailed method statement for bats.</p> <p>The woodland, hedgerows and scattered trees outside the development area will be retained.</p> <p>External lighting that may affect the site's suitability for bats will be avoided. If required this will be limited to low level, minimising the use of high intensity security lighting, with lighting directed inward toward the development rather than out towards the surrounding habitats.</p> <p>The majority of the other neutral grassland in the north of site will be retained.</p> <p>Works will not be undertaken during the nesting bird season (March to August inclusive) unless the site is checked by an appropriately experienced ecologist and nests are confirmed to be absent.</p>

	<p>Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.</p> <p>Retained trees will be protected from damage in line with the recommendations in BS5837:2012.</p> <p>Building demolition/vegetation clearance works will not be undertaken during the nesting bird season (March to August inclusive) unless the site is checked by an appropriately experienced ecologist and nests are confirmed to be absent.</p> <p>Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.</p> <p>Bat roosting features in the form of five integrated bat boxes will be incorporated into the development.</p> <p>Two bat boxes will be erected on retained mature trees in the wider site.</p> <p>Landscape planting shall include berry and fruit bearing species to provide increased foraging opportunities in the local area.</p> <p>Tree and shrub planting within the site will utilise native species.</p> <p>Loss of hedgerows/trees will be compensated for through additional hedgerow/tree planting within the wider site.</p> <p>Landscape planting should seek to provide wildlife corridor habitat around the site boundaries as well as throughout the site.</p> <p>Grassland areas within the site will be sown with a wild seed mix in order to create species rich grasslands around site boundaries.</p> <p>Integrated swift bricks will be incorporated into the proposed new structures within the site<sup>1</sup>. These bricks should be incorporated onto the northern elevation of structures and situated away from windows.</p> <p>Nest boxes should be installed within the site owners land holding. Boxes should be installed on retained buildings or incorporated into new structures. Boxes should be suitable for a range of species, particularly starling and house sparrow.</p> <p>Hedgehog hibernacula should be installed within the site in order to provide additional opportunities for such species.</p>
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<sup>1</sup> Swift boxes have been shown to have good occupancy rates by a range of urban species of conservation concern including swifts, house sparrows, starlings and tits (<https://cieem.net/swift-bricks-the-universal-nest-brick-by-dick-newell/>)

	<p>Closed-panel fences should be avoided or gaps suitable for hedgehog should be installed in garden fences to allow hedgehog to move throughout site.</p> <p>Works on site should be undertaken in accordance with a CEMP in order to minimise impacts on habitats and species across the site, including protection of the watercourse to the north.</p> <p>Consultation has been undertaken with the local planning authority who have confirmed that a Habitat Regulation Assessment, including a nutrient neutrality assessment, is not required for this site.</p>
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# 1. Introduction

## Site Location

1.1 The site is located to the east of Hurworth on Tees at an approximate central grid reference of NZ 31238 10344. The site location is illustrated within figure 1 in the appendices.

## Site Description

1.2 The site is small, approximately 0.8ha in size and comprises an area of permanent pasture with a bungalow and agricultural buildings to the south.

## Objectives of the Study

1.3 The objectives of this report are:

- To identify and describe any potential ecological receptors that may be present on site or within an identified zone of influence.
- To identify and assess whether proposals may impact on the identified receptors.
- To identify potential mitigation, compensation or enhancement measures if required.
- To identify and detail further surveys if required.

## Development Proposals

1.4 The development will comprise the following:

- Demolition of existing buildings and construction of a care facility (see Appendix 5 for proposed site plan).

## 2. Methodology

### Scope of Study

- 2.1 The site was surveyed to identify whether the following were present for legislative and planning purposes:
  - Habitats of Conservation Value
  - Priority Habitats
  - Protected and Priority Species
- 2.2 A summary of relevant legislation is provided within Appendix 2.
- 2.3 The ecological characteristics of the site were reviewed to identify the scope of the assessment, with the zone of influence determined through professional judgement.
- 2.4 The survey area comprised the "site" defined within figure 2 (Appendix 4). The desktop study included a data search covering the site and a 2km buffer zone while habitats within the local area were reviewed via aerial imagery.
- 2.5 Access permitting, all potential bat roosting sites within the survey area were assessed. Guidance regarding the assessment of the suitability of sites for use by bats is provided within Appendix 1.

### Planning Policy

- 2.6 Planning policy relevant to this site, specifically the National Planning Policy Framework and the Darlington Borough Local Plan, can be found within Appendix 2.

### Desk Study

- 2.7 Desk study was undertaken to assess the nature of the surrounding habitats and included:
  - Assessment of aerial imagery and Ordnance Survey mapping.
  - A search of the MAGIC website<sup>2</sup> for statutorily designated sites for nature conservation, habitat listed within the Priority Habitat Inventory or the Ancient Woodland Inventory and European protected species licensing records within 2km of the survey area.
  - A data search request submitted to the Local Record Centre.

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<sup>2</sup> Multi Agency Geographic Information for the Countryside ([www.magic.gov.uk](http://www.magic.gov.uk))

## Field Survey

### Habitats/Protected Species

- 2.8 The site was subject to a walk over, during which habitats were assessed in line with the habitat classifications detailed within the UK Habitat Classification User Manual<sup>3</sup>. Definitions of broad habitat types and commonly recorded habitat types are provided within the appendices.
- 2.9 For plant species, abundance has been recorded using the DAFOR scale as detailed in Mandatory Secondary Codes within the UK Habitat Classification have been used as defined within the User Manual.
- 2.10 During the survey the site was checked for evidence of protected species and habitats were assessed for their potential to support such species.
- 2.11 Survey was undertaken by Jessica Wilson ACIEEM, an experienced surveyor who holds protected species licences for a range of species including bats and great crested newts.
- 2.12 The following equipment was utilised during survey:
- Zeiss 8x30 binoculars.
  - Digital camera.

2.13 The survey was undertaken on the 10<sup>th</sup> July 2023 in the following weather conditions:

<b>Table 2.1: Survey Conditions</b>				
<b>Date</b>	<b>Temperature</b>	<b>Cloud Cover</b>	<b>Precipitation</b>	<b>Wind Conditions</b>
10.07.2023	16°C	20%	Dry	F1

### Bats

#### *Daytime Risk Assessment*

2.14 Survey effort has been based on that provided by the Bat Conservation Trust Good Practice Survey Guidelines<sup>4</sup>.

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<sup>3</sup> Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1 at <http://www.ukhab.org/>

<sup>4</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition). Bat Conservation Trust

- 2.15 Structures and trees within the site and adjacent to the site, were inspected<sup>5</sup>, where access was available, for potential roosting features (PRFs) and to record any field signs, including bats, if present<sup>6</sup>.
- 2.16 Assessment followed the Bat Conservation Trust Guidelines<sup>7</sup> current at the time, which classifies the suitability (negligible, low, moderate or high) of the potential roosting, foraging and commuting habitats within the site. Full details of the classifications are provided within the table in Appendix 1.
- 2.17 Survey was undertaken by Jessica Wilson ACIEEM, an experienced bat surveyor who holds protected species licenses got a range of species including bats and great crested newts.
- 2.18 The following equipment was utilised during survey:
- 8x30 binoculars.
  - Digital camera.
  - High power LED torch.

2.19 The survey was undertaken on the 10<sup>th</sup> July 2023 in the following weather conditions:

<b>Date</b>	<b>Temperature</b>	<b>Cloud Cover</b>	<b>Precipitation</b>	<b>Wind Conditions</b>
10.07.2023	16°C	20%	Dry	F1

### *Activity Surveys*

2.20 The daytime risk assessment indicated that the buildings are of low to moderate suitability to roosting bats. Activity surveys were therefore completed in line with the current at the time guidance provided by the Bat Conservation Trust<sup>8</sup> and comprised two dusk surveys supplemented with thermal image cameras.

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<sup>5</sup> It should be noted that assessment relates entirely on the structure or tree's suitability to support bats and or other protected species. Assessment must in no way be taken as an assessment of the structure's integrity or safety.

<sup>6</sup> If bats are recorded during appropriate measures are undertaken to limit any potential disturbance

<sup>7</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition). Bat Conservation Trust

<sup>8</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition). Bat Conservation Trust

Date	Temperature (°C)		Cloud Cover (%)	Precipitation	Wind Conditions	Sunset Time	Survey Period
	Start	End					
07.08.23	14	14	10	dry	F0	20:55	20:40-22:25
24.08.23	16	14	100	dry	F1	20:19	20:04-21:49

- 2.21 Activity surveys were undertaken in suitable weather conditions (no constant rain or high winds and sunset temperature of at least 10°C).
- 2.22 Surveyor locations are chosen to enclose the site to identify whether bats enter or leave the site.
- 2.23 Surveyors are placed where practicable and permissible to cover all potential entry/exits sites.
- 2.24 All surveyors are equipped with full spectrum detectors to enable high quality recordings to be taken and analysed following the survey, to allow for any potential surveyor error and to enable the cross referencing of calls.
- 2.25 Detectors enable the surveyors to listen to all activity during the survey.
- 2.26 Where required thermal cameras are used to provide more robust data.
- 2.27 The activity surveys were undertaken by Gemma Cone, Linus Morton, Lucy Turner, Joe Jones, Ella Farley, Mike Perkins, Matthew Iley, Rachel Thomson, James Atton and Rory Kavanagh.
- 2.28 The following equipment was utilised during survey:
- Anabat Scout
  - iRGuide 19 Pro thermal camera

Limitations to Survey

- 2.29 Due to private property and dense scrub vegetation along the building, access was not available to the east of the stable block. Surveyors and cameras were placed to record and detect bats from this area.

## Analysis of Data

- 2.30 Following the survey, all bat calls are manually assessed and analysed using Analook Insight and or Bat Explorer software, enabling the full spectrum of the call to be assessed.
- 2.31 Where possible bat calls are identified to species, referencing call parameters as detailed within Russ (2012)<sup>9</sup>, Middleton et al (2014)<sup>10</sup> and Barataud (2015)<sup>11</sup>.
- 2.32 Bats are identified to species, where possible, though it is noted that there can be a significant overlap in call parameters in some species, particularly the *Myotis* genus.
- 2.33 *Myotis* bat calls are assessed using a range of indicators, though due their modulated calls a number of external factors can impact the reliability. As such *Myotis* bats will often be identified as *Myotis* sp. where identification to species cannot be confirmed.
- 2.34 Where possible further detail on the *Myotis* species will be gathered, such as DNA. The use of full spectrum detectors gives a greater success rate in identification. This can also be backed up by computer programmes such as Bat Classify.
- 2.35 Although a greater certainty can be provided in other species, there is still an overlap in calls between other genera of bats such as *Pipistrellus* and *Nyctalus*, which can be affected by a range of environmental factors. The following table details the parameters utilised by OS Ecology Ltd and are based on “typical” open flight calls.

<b>Table 4: Bat Species Identification Parameters</b>	
<b>Species</b>	<b>Peak Frequency Range (KHz)<sup>9</sup></b>
<b><i>Pipistrellus</i></b>	
Common pipistrelle	>42 and <49
Soprano pipistrelle	≥51
Nathusius’ pipistrelle	<39
Common or soprano pipistrelle ('50KHz pip')	≥49 and <51
Common or Nathusius’ pipistrelle ('40KHz pip')	≥40 and ≤42
<b><i>Nyctalus</i></b>	
Noctule	≥17 and <23.5
Leisler’s	≥23.5 and <29.9
<b><i>Eptesicus</i></b>	
Serotine	≥24.1 and <32.2
<b><i>Plectocus</i></b>	
Brown Long-eared Bat	≥25.5 and <42.1
<b><i>Barbastellus</i></b>	
Barbastelle	≥29.2 and <44.7
<b><i>Rhinolophus</i></b>	

<sup>9</sup> Russ, J. (2012) British Bat Calls: A Guide to Species Identification. Pelagic Publishing

<sup>10</sup> Middleton, N., Froud, A. and French, K. (2014) Social Calls of the Bats of Britain and Ireland. Pelagic Publishing

<sup>11</sup> Barataud, M. (2015) Acoustic Ecology of European Bats – Species Identification, Study of their Habitats and Foraging Behaviour

Greater Horseshoe	77-84
Lesser Horseshoe	107-114

2.36 Where there is uncertainty in species identification species are identified to genus.

### Assessment Methodology

2.37 Guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) is utilised to provide habitat valuations.

2.38 The level of value of specific ecological receptors is assigned using a geographic frame of reference. For, example international value being most important (SACs, SPAs and pSPAs), then national (SSSIs), regional, county (LWS), district (LNR), local and lastly, within the immediate zone of influence of the site only (low).

2.39 In terms of species, for example breeding birds, should the population within the site constitute greater than 1% of the geographic population, it would be considered significant at that level. In addition, presence of designated sites, scarce species and or quality<sup>12</sup>/diversity of habitats are used to guide that valuation.

2.40 Assessment methods for bats have been undertaken with reference to Wray et al. (2007)<sup>13</sup>, which correlates with the geographic frame of reference. Within which they define the relative rarity of each species based on the known distribution<sup>14</sup> at the time and the value of the roost type, assuming that roosts such as feeding perches are of lower value that maternity roosts or sites that have a high level of fidelity.

2.41 Examples of ecological receptors at various levels of value are provided within Appendix 4.

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<sup>12</sup> Quality can be subjective and vary in different geographic areas. Reasoned professional judgement is therefore used to inform the assessment.

<sup>13</sup> Wray et al (2007) Valuing Bats in Ecological Impact Assessment. In Practice. Based on a presentation at the Mammal Society – Specific Issues with Bats

<sup>14</sup> It should be noted that there are regular changes to our understanding of distribution as further studies are undertaken.

## 3. Results

### Desk Study

#### General Land Use

3.1 A review of aerial imagery and Ordnance Survey mapping highlighted that the general land use in the surrounding area is dominated by lowland agriculture with both arable and permanent pasture. The village of Hurworth-on-Tees lies to the west of the site with the River Tees approximately 180m to the south. The Cree Beck forms part of the northern boundary of the site. No ponds are apparent within 500m of the site.

#### Designated Sites

3.2 A search of the Multi Agency Geographic Information for the Countryside Website<sup>15</sup> indicated that no designated sites for nature conservation lie within 2km of the site.

3.3 The site lies within a Site of Special Scientific Interest Impact Risk Zone, within a nutrient impact area where it is stated '*For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required*'.

#### Priority Habitats

3.4 A search of the MAGIC website identified areas of habitat within 2km of the site identified within the Priority Habitat Inventory as the following habitat types:

- Deciduous woodland
- Traditional Orchard
- Open Mosaic Habitats on Previously Developed Land

3.5 Of the identified areas of habitat, the closest is an area identified as deciduous woodland which lies 600m to the south of the site.

3.6 The Local Records Centre also provided a map of the priority habitats which are presented in Appendix 5.

#### Ancient Woodland

3.7 The MAGIC website identified no areas of woodland listed within the Ancient Woodland Inventory within 2km of the site.

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<sup>15</sup> Multi Agency Geographic Information for the Countryside (MAGIC) [www.magic.gov.uk](http://www.magic.gov.uk) (Accessed June 2023)



## European Protected Species Licensing

3.8 The MAGIC website identified the following granted Natural England European Protected Species licenses within 2km of the site<sup>16</sup>.

<b>Licence Reference</b>	<b>Species</b>	<b>Licensed Work</b>	<b>License Period</b>
EPSM2011-3051	Common pipistrelle	Destruction of a resting place	2011-2012
EPSM2013-5850	Common pipistrelle, brown long-eared	Destruction of a resting place	2013-2015
EPSM2012-5015	Soprano pipistrelle	Destruction of a resting place	2012-2014
EPSM2009-1091	Great crested newt	Destruction of a resting place	2010-2012
EPSM2010-2551	Common pipistrelle	Destruction of a resting place	2011-2012
2018-37225-EPS-BDX	Soprano pipistrelle	Damage and destruction of a breeding site and resting site	2018

## **Data Search**

### Local Records Centre

3.9 The following table summarises the data search results from Environmental Records Information Centre North East. Records were provided for all protected and notable species within 2km of the site, of which key species are listed. The full data search can be provided on request.

<b>Taxon</b>	<b>Species</b>	<b>No. of Records within Search Area</b>	<b>Records of Particular Note</b>
Amphibians	N/A	None	-
Mammals (excluding bats)	American Mink	4	-
	Brown Hare	6	-
	Eastern Grey Squirrel	2	-

<sup>16</sup> The dataset is noted as having been last updated in January 2022.

<b>Table 3.2: Records from LRC Data Search</b>			
<b>Taxon</b>	<b>Species</b>	<b>No. of Records within Search Area</b>	<b>Records of Particular Note</b>
	Eurasian Badger	7	-
	Eurasian Otter	15	Closest records from River Tees >200m from site
	European Water Vole	2	Historic records from 1983
	West European Hedgehog	10	-
Bats	Bats (no species given)	10	-
	Brown Long-eared Bat	1	-
	Common Pipistrelle	11	-
	Daubenton's Bat	1	-
	Myotis Bat species	1	-
	Noctule Bat	3	-
	Pipistrelle	1	-
	Pipistrelle Bat species	7	-
Butterflies	Soprano Pipistrelle	6	Maternity roost 800m from site
	Dingy Skipper	2	-
	Small Heath	1	-
	Wall	18	-
Reptiles	White-letter Hairstreak	1	-
	N/A	None	-
Birds	2353 records of bird species were provided including red-listed species green finch, tree sparrow and lapwing. Full details available upon request.		

3.10 No Local Wildlife Sites (LWS) lie within 2km of the site.

## Field Survey

### Habitats

**Table 3.3: Habitat Descriptions**

#### Overview of habitats

The site is dominated by mown grassland classed as other neutral grassland. The site also features both native and ornamental hedgerows, as well as a vegetated garden and gravel pathway.

The habitats within the site are illustrated within Figure 3.

Habitat Description			Habitat Category
<b>Grassland</b> The site is dominated by mown grassland with no buffer zone up to the outlining hedgerows and appears to be regularly mown. Botanical diversity is relatively low with an average of 6-7 species per m <sup>2</sup> . Scattered trees are present.			<i>Primary Code</i> g3C – other neutral grassland.
Species/m <sup>2</sup> : 6-7	Sward Height: 5cm	Bare ground (%): <1%	<i>Secondary Code</i> 32 – Scattered trees 106 – Mown
<b>Species List</b> Dominant: N/A  Abundant: Perennial ryegrass ( <i>Lolium perenne</i> ), Broadleaved dock ( <i>Rumex obtusifolius</i> ), Cow Parsley ( <i>Anthriscus sylvestris</i> ).  Frequent: Dove-foot Cranesbill ( <i>Geranium molle</i> )  Occasional: Yarrow ( <i>Achillea millefolium</i> ), Ribwort Plantain ( <i>Plantago lanceolata</i> ), Cocksfoot ( <i>Dactylis glomerata</i> ), Common Sorrel ( <i>Rumex acetosa</i> ), Ragwort ( <i>Jacobaea vulgaris</i> ), Hogweed ( <i>Heracleum sphondylium</i> ), Creeping Thistle ( <i>Cirsium arvense</i> ), Creeping Buttercup ( <i>Ranunculus repens</i> ), White clover ( <i>Trifolium repens</i> ), Dandelion ( <i>Taraxacum officinale</i> ), Nettles ( <i>Urtica dioica</i> ), Meadow Buttercup ( <i>Ranunculus acris</i> ), Yorkshire Fog ( <i>Holcus lanatus</i> ), Red Fescue ( <i>Festuca rubra</i> )  Abundant: N/A  Rare: N/A			
Schedule 9/Undesirable species present (Y/N): Y - Creeping Buttercup, Broadleaved Dock		Further Survey Needed (Y/N): N	


Habitat Description	Habitat Category
	

<b>Woodland</b> The site contains a small area of woodland along the northern boundary next to an offsite watercourse.		<i>Primary Code</i> w2b – Other Scots Pine Woodland
Number of Age Classes present: 1	Veteran Trees Present (Y/N): N	<i>Secondary Code</i> -
Deadwood Present (Y/N): N	Evidence of Disturbance <sup>17</sup> (Y/N): N	
<b>Species List</b> 16 Scots Pine spaced up to water course.		
Schedule 9/Undesirable species present (Y/N): N		Further Survey Needed (Y/N): N

		
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<sup>17</sup> e.g. significant nutrient enrichment, soil compaction from trampling, machinery or animal poaching, litter

<p><b>Buildings and Hard Standing</b></p> <p>The site contains 3 buildings in the form of a converted bungalow, disused stables, and disused tack store. There is a gravel pathway between the buildings and vegetated gardens to the west and east of the house with scattered trees.</p>	<p><i>Primary Code</i></p> <p>u1 – Built-Up Areas and Gardens</p> <p>u1b – Developed land; sealed surface</p> <p>u1b5 – Buildings</p> <p>u1c – Artificial Unvegetated Unsealed Surface</p>
	

<p><b>Hedgerow</b></p> <p>The site contains both occasionally managed and unmanaged native and ornamental hedgerows. North of the bungalow is an unmanaged native hedgerow with ornamental and native trees including cherry (<i>Prunus</i> sp.), ash (<i>Fraxinus excelsior</i>) and birch (<i>Betula</i> sp.).</p>			<p><i>Primary Code</i></p> <p>h2a- Native hedgerow</p> <p>h2b – Other Hedgerow</p>
<p>Height: 2-6m</p>	<p>Width: 1-2m</p>	<p>Intact (Y/N): N</p>	<p><i>Secondary Code</i></p> <p>-</p>
<p>Species Rich (Y/N): N</p>		<p>Managed (Y/N): N</p>	
<p><b>Species List</b></p> <p><i>Dominant:</i> Leyland Cypress (<i>Lleyandii</i> sp.) Hemlock (<i>Conium maculatum</i>)</p> <p><i>Abundant:</i> Hawthorn (<i>Crataegus monogyna</i>)</p> <p><i>Frequent:</i> N/A</p> <p><i>Occasional:</i> Elder (<i>Sambucus nigra</i>), Spruce (<i>Picea</i> sp.), Blackthorn (<i>Prunus spinosa</i>), Bramble (<i>Rubus fruticosus</i>), Holly (<i>Ilex aquifolium</i>), Ash, Birch</p> <p><i>Rare:</i> N/A</p>			
<p>Schedule 9/Undesirable species present (Y/N): N</p>		<p>Further Survey Needed (Y/N): N</p>	





Target Notes

<b>Table 3.4: Target Notes</b>	
<b>Target Note 1</b>	Burn patch in centre of grassland to the North of the site.
<b>Target Note 2</b>	Himalayan Balsam, non-native invasive species on Schedule 9 of the Wildlife and Countryside Act, found in nearby watercourse.

Protected Species

*Bats*

3.11 The results of the daytime bat risk assessment are provided within the table below. See figure in Appendix 5 for building locations.

<b>Table 3.6: Bat Risk Assessment Results</b>	
<b>Description</b>	<b>Photos</b>
<p><b>Building 1:</b></p> <ul style="list-style-type: none"> <li>• Converted brick bungalow with roof lights.</li> <li>• Eaves void both sides of building.</li> <li>• Plaster boarded roof lining with king span insulation boards behind in rafters.</li> <li>• MDF type floorboards.</li> <li>• Mouse droppings and dead mouse present.</li> <li>• Max. 1m high at tallest point.</li> <li>• Multiple access hatches.</li> <li>• Cobwebbed.</li> <li>• No roosting features within roof voids.</li> <li>• No light ingress apparent.</li> <li>• Small number of feathers in bathroom void – possible access through ventilation pipe (dryer hose type tubing).</li> <li>• Well-sealed breeze block wall partitions in voids.</li> <li>• No field evidence of bats.</li> <li>• Low suitability for maternity/hibernation use</li> <li>• <b>Overall, low to moderate suitability for roosting bats.</b></li> </ul>	 

<p><b>Roof:</b></p> <ul style="list-style-type: none"> <li>• Terracotta pantiles with some gapping where tiles overlap.</li> <li>• Well-sealed brick chimney.</li> <li>• Concrete ridge tiles well-sealed with very occasional gaps where pantiles keyed in.</li> <li>• End pantiles at eaves above uPVC gutters with some plastic guards.</li> <li>• Well-sealed rendered walls.</li> <li>• Timber soffit boxes, occasional gaps into soffit.</li> <li>• Valleys well mortared.</li> <li>• Gaps at corners of roof lights.</li> <li>• Lifted lead flashing around dormers.</li> </ul>	
<p><b>Building 2:</b></p> <ul style="list-style-type: none"> <li>• All open and draughty.</li> <li>• Long L-shaped building/barn.</li> <li>• 15 sheet asbestos walls and roof, monopitched stable block.</li> <li>• Walls comprised of a mix of corrugated sheets, timber, ply, and Perspex internally and divided into stables.</li> <li>• Some overlapping timber sections and internal roof beams but generally low roosting suitability.</li> <li>• Old birds' nests, currently nesting wood pigeon.</li> <li>• Dirt and brick floor, hard to detect droppings.</li> <li>• Bat droppings found on stored furniture in barn.</li> <li>• As open-sided, accessible and suitable for foraging bats.</li> <li>• Low suitability for maternity/hibernation use</li> <li>• <b>Overall, low to moderate suitability for roosting bats.</b></li> </ul>	  
<p><b>Building 3:</b></p> <ul style="list-style-type: none"> <li>• Storage-type container.</li> <li>• Old tack room storage.</li> <li>• No droppings found.</li> <li>• <b>Negligible suitability.</b></li> </ul>	



- 3.12 The daytime risk assessment found field evidence of bats within the large barn (Building 2) in the form of bat droppings on stored furniture.
- 3.13 During the daytime risk assessment, a contractor on site gave anecdotal evidence of a single bat on a telephone pole adjacent to Building 1. The bat flew off in the direction of the buildings.
- 3.14 Dusk emergence survey completed on 7<sup>th</sup> August 2023 recorded common and soprano pipistrelle, brown long-eared, noctule and *Myotis* sp. bats foraging on site with foraging recorded within Building 2. Detailed survey data and figures illustrating the results are provided within the appendices.
- 3.15 Dusk emergence survey completed on 24<sup>th</sup> August 2023 recorded common and soprano pipistrelle and brown long-eared bats foraging on site and within Building 2. Four common pipistrelle bats were recorded emerging from the lean to on the north of Building 2 and are considered to have been roosting internally within the barn. A brown long-eared was also recorded foraging within Building 2 approximately 30 minutes after sunset and given the timing of the activity and as the species was not recorded externally prior to this, it is also considered likely to be roosting within the barn. Moth wings were found in the open barn which are often a feeding sign of brown long-eared bats. No bats were recorded emerging from Building 1. Detailed survey data and figures illustrating the results are provided within the appendices.

#### *Birds*

- 3.16 The small woodland, scattered trees and hedgerows on site will provide nesting opportunities for a range of locally common bird species.
- 3.17 No evidence of nesting birds were recorded within the buildings though the barns are suitable for nesting and are likely to support nesting birds on occasion.
- 3.18 The grassland field is regularly mown, managed for amenity purposes, is bound by hedgerows limiting sight lines and is considered suboptimal for ground-nesting birds.

#### *Great Crested Newts*

- 3.19 There are no ponds within the proposed development area or apparent within 500m of site from a review of aerial imagery and OS mapping.
- 3.20 No records of any amphibians were provided by the local records centre.
- 3.21 Great crested newt are considered likely to be absent from site.

*Other protected species*

- 3.22 The River Tees is located approximately 150m to the south. The closest otter records have been provided approximately 300m from site with all of these records from the River Tees. There is a small watercourse present on the northern boundary less than 1m wide with a silty bottom and overgrown with vegetation, including Himalayan balsam. The watercourse is considered to be likely suboptimal for otter as the water, where visible through the vegetation, appears to be relatively shallow and unlikely to provide a good foraging resource for otter. The watercourse is outside the site boundary, more than 50m from the proposed development area and will not be impacted by the proposals.
- 3.23 Two historic records of water vole from 1993 were provided but from more than 1km from site and it is considered likely that water vole are absent from the area. Similar to otter, the watercourse is not within the site boundary and more than 50m from the development area; water vole are considered likely absent from site.
- 3.24 Hedgehog are likely to be present on site on occasion with the hedgerows providing suitable refuge areas and the large grassland field suitable for foraging.
- 3.25 No other protected or priority species are likely to be present on site.

## 4. Site Assessment

### Assessment of Survey Findings

#### Habitats

4.1 The habitats in the proposed development area are largely built development and gardens and considered to be of low value. The larger grassland field, hedgerows, trees and woodland are considered to be of local value.

#### Bats

4.2 The site is considered to be of local value to bats.

4.3 Small numbers of common pipistrelle and a single brown long-eared bat were recorded emerging from roosts within the large barn during activity surveys, with bats also recorded foraging internally.

4.4 No roosts were recorded within the bungalow.

4.5 The site is considered to be of local value to bats.

4.6 There is considered to be a low risk of the buildings being used during the winter hibernation period.

4.7 There is considered to be a low risk of maternity use of the buildings though surveys carried out during August recording no evidence of maternity use.

#### Birds

4.8 The site provides a number of foraging and nesting opportunities and is considered to be of local value to bird species.

#### Other Protected Species

4.9 The site is likely to be of local value to hedgehog.

#### Designated Sites

4.10 The site is within a nutrient impact area requiring consultation with the local planning authority regarding the potential impact of proposals on designated sites through an increase in nutrient load. Consultation has been undertaken and the local authority have confirmed a nutrient neutrality assessment is not required for the site.

## 5. Impact Assessment

5.1 The following impact assessment is based on the survey work to date and the understanding that the Client wishes to undertake the following:

- Demolition of all buildings
- Redevelopment with residential/care facilities in the south of site

5.2 As a result of the assessment completed and the nature of the proposed works, the likely impacts, without appropriate avoidance measures, mitigation and/or compensation scheme, are anticipated to be:

- Loss of habitats of up to local value, including native hedgerows, through site clearance/redevelopment works.
- Loss of common pipistrelle day roosts of individual bats
- Loss of brown long-eared night/feeding roosts of individual bats
- Loss of (foul-weather) foraging resource through demolition of the barns
- Disturbance to bat commuting and foraging habitats due to the development and increased lighting on site post development.
- Loss of bird nesting and foraging habitats of local value.
- Harm or disturbance to bird species if vegetation clearance/building demolition is undertaken during the nesting bird season (March to August inclusive).
- Risk of harm or entrapment to hedgehog and other small mammals during site works.
- Possible root severance or asphyxiation to retained trees and hedgerows during site clearance works.
- The proposed increase in the local population and land use change may increase the nutrients being released into the River Tees, which can affect the cited features of the Teesmouth and Cleveland Coast Special Protection Area (SPA).

## 6. Recommendations

### Avoidance Measures

6.1 The following measures should be incorporated into the design of the scheme to avoid impacts on wildlife:

- The woodland, hedgerows and scattered trees outside the development area will be retained.
- External lighting that may affect the site's suitability for bats will be avoided. If required this will be limited to low level, minimising the use of high intensity security lighting, with lighting directed inward toward the development rather than out towards the surrounding habitats.
- The majority of the other neutral grassland in the north of site will be retained.
- Works will not be undertaken during the nesting bird season (March to August inclusive) unless the site is checked by an appropriately experienced ecologist and nests are confirmed to be absent.
- Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.
- Retained trees will be protected from damage in line with the recommendations in BS5837:2012.

### Mitigation Strategy

6.2 The following is recommended:

- **Prior to works which will impact on the roosts within Building 2, a Natural England mitigation licence will be obtained. If this is not obtained before May 2024, updating bat surveys will be required.**
- Demolition of the bungalow (Building 1) will be completed to a detailed method statement for bats.
- Building demolition/vegetation clearance works will not be undertaken during the nesting bird season (March to August inclusive) unless the site is checked by an appropriately experienced ecologist and nests are confirmed to be absent.
- Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.

### Compensation Scheme

6.3 The following is recommended:

- Bat roosting features in the form of five integrated bat boxes will be incorporated into the development.

- Two bat boxes will be erected on retained mature trees in the wider site.
- Landscape planting shall include berry and fruit bearing species to provide increased foraging opportunities in the local area.
- Tree and shrub planting within the site will utilise native species.
- Loss of hedgerows/trees will be compensated for through additional hedgerow/tree planting within the wider site.
- Landscape planting should seek to provide wildlife corridor habitat around the site boundaries as well as throughout the site.
- Grassland areas within the site will be sown with a wild seed mix in order to create species rich grasslands around site boundaries.
- Integrated swift bricks will be incorporated into the proposed new structures within the site<sup>18</sup>. These bricks should be incorporated onto the northern elevation of structures and situated away from windows.
- Nest boxes should be installed within the site owners land holding. Boxes should be installed on retained buildings or incorporated into new structures. Boxes should be suitable for a range of species, particularly starling and house sparrow.
- Hedgehog hibernacula should be installed within the site in order to provide additional opportunities for such species.
- Closed-panel fences should be avoided or gaps suitable for hedgehog should be installed in garden fences to allow hedgehog to move throughout site.
- Works on site should be undertaken in accordance with a CEMP in order to minimise impacts on habitats and species across the site, including protection of the watercourse to the north.
- Consultation has been undertaken with the local planning authority who have confirmed that a Habitat Regulation Assessment, including a nutrient neutrality assessment, is not required for this site.

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<sup>18</sup> Swift boxes have been shown to have good occupancy rates by a range of urban species of conservation concern including swifts, house sparrows, starlings and tits (<https://cieem.net/swift-bricks-the-universal-nest-brick-by-dick-newell/>)

# Appendix 1 – Bat Suitability and Survey Effort

Classifications of suitability are based on those provided within the Bat Conservation Trust Good Practice Survey Guidelines<sup>19</sup>, with the table below taken from page 35 of the guidelines (table 4.1).

<b>Guidelines for Assessing the Potential Suitability of Proposed Development Sites for Bats</b> (based on the presence of habitat features within the landscape, to be applied using professional judgement)		
<b>Suitability</b>	<b>Description</b>	
	<b>Roosting Habitats</b>	<b>Commuting and foraging habitats</b>
Negligible	Negligible habitat features on site, likely to be used by roosting bats	Negligible habitat features on site, likely to be used by commuting and foraging bats
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically.</p> <p>However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions<sup>a</sup> and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e unlikely to be suitable for maternity or hibernation<sup>b</sup>).</p> <p>A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential<sup>c</sup>.</p>	<p>Habitat that could be used by small numbers of commuting bats such as gappy hedgerow or unvegetated stream, but isolated, i.e not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions <sup>a</sup> and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions <sup>a</sup> and surrounding habitat	<p>Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree lined watercourse and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>
<p><i>a. For example in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.</i></p> <p><i>b. Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2015). This phenomenon requires some research in the UK but ecologists should be aware of potential for larger numbers of this species to be present during the autumn and winter in larger buildings in highly urbanised environments.</i></p> <p><i>c. The system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015)</i></p>		

<sup>19</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition). Bat Conservation Trust

The classification of the suitability relates to the level of further survey recommended.

<b>Survey Effort and Timing Depending on Suitability of the Structure or Tree</b> (Tables 7.1-7.3 in the BCT Guidelines)			
	<b>Low roost suitability</b>	<b>Moderate suitability</b>	<b>High roost suitability</b>
<b>Survey Effort</b>	One survey visit  One dusk emergence or dawn re-entry survey	Two separate visits  One dusk emergence and a separate dawn re-entry survey	Three separate visits  At least one dusk emergence and a separate dawn re-entry survey. The third can be either dusk or dawn.
<b>Timings</b>	May-August (structures) No further survey (trees)	May to September. At least one must be in the optimum period (May to August)	May to September. two must be in the optimum period (May to August)
<b>If bats are recorded</b>	If bats emerge from or enter a building during surveys, the survey schedule will be adjusted to increase the survey effort so that enough information can be collected to characterise the roost and provide data should a Natural England Licence be required.		



# Appendix 2 – Policy and Legislation

## Planning Policy

### National Planning Policy Framework (NPPF)<sup>20</sup>

The revised National Planning Policy Framework sets out the government's planning policies for England and how these are expected to be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. Planning law requires that applications for planning permission be determined in accordance with the development plan. The key paragraphs from the relating to the natural environment are detailed below.

<b>Ecologically Relevant Paragraphs of the NPPF</b>	
<b>Paragraph</b>	<b>Statement</b>
8	<p>Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):</p> <ul style="list-style-type: none"> <li>a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;</li> <li>b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities’ health, social and cultural well-being; and</li> <li>c) an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy</li> </ul>
174	<p>Planning policies and decisions should contribute to and enhance the natural and local environment by:</p> <ul style="list-style-type: none"> <li>a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);</li> <li>b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;</li> <li>c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;</li> <li>d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;</li> </ul>

<sup>20</sup> National Planning Policy Framework July 2021  
([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1005759/NPPF\\_July\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf))

<b>Ecologically Relevant Paragraphs of the NPPF</b>	
<b>Paragraph</b>	<b>Statement</b>
	<p>e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and</p> <p>f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate</p>
175	<p>Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries</p>
179	<p>To protect and enhance biodiversity and geodiversity, plans should:</p> <p>a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and</p> <p>b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.</p>
180	<p>When determining planning applications, local planning authorities should apply the following principles:</p> <p>a) 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;</p> <p>b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;</p> <p>c) 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<sup>63</sup> and a suitable compensation strategy exists; and</p> <p>d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.</p>
181	<p>The following should be given the same protection as habitats sites:</p> <p>a) potential Special Protection Areas and possible Special Areas of Conservation;</p> <p>b) listed or proposed Ramsar sites<sup>64</sup>; and</p> <p>c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites</p>

<b>Ecologically Relevant Paragraphs of the NPPF</b>	
<b>Paragraph</b>	<b>Statement</b>
182	The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

### Local Planning Policy

The following table details the ecologically relevant policies of the local plan relevant to this site.

<b>Ecologically Relevant Policies of the Darlington Borough Local Plan<sup>21</sup></b>	
<b>Policy No.</b>	<b>Policy</b>
ENV 4	<p><b>Green and Blue Infrastructure (Strategic Policy)</b></p> <p>Green and blue infrastructure will be protected, and where appropriate, improved and extended to provide a quality, safe and accessible network of well connected, multi-functional open spaces for recreation and play and to enhance visual amenity, biodiversity, landscape and productivity. This will be achieved by:</p> <ul style="list-style-type: none"> <li>a. Development proposals within, or adjacent to an existing green corridor (as defined on the Policies Map) should conserve and enhance its function, setting, biodiversity, landscape, access and recreational value as appropriate to that location;</li> <li>b. Development proposals that are crossed by an existing or proposed green corridor (as defined on the Policies Map) should incorporate it into the sites layout and design having regard to green infrastructure functions appropriate to that location;</li> <li>c. Capitalising on opportunities to enhance and/or create green links between green and blue infrastructure features;</li> <li>d. Expecting development to improve local water quality wherever possible, taking into account the Northumbria River Basin Management Plan;</li> <li>e. Working with partners and the community to bring forward priority projects and measures identified in Darlington’s Green Infrastructure Strategy and the Northumbria River Basin Management Plan;</li> <li>f. Providing green infrastructure as part of new residential and non-residential developments in line with Policy ENV 5;</li> <li>g. Refusing planning permission for development that would result in the loss of existing green space(42) unless it can be demonstrated that the loss of the space would not cause significant harm to the character and appearance of the area or to local biodiversity (in line with Policy ENV 7), and one or more of the following criteria are met: <ul style="list-style-type: none"> <li>i) there is an identified surplus of that type of green space in the area and that its loss would not adversely affect the recreational needs of residents;</li> </ul> </li> </ul>

<sup>21</sup> Darlington Borough Local Plan 2016-2036, Darlington Borough Council, February 2022

Ecologically Relevant Policies of the Darlington Borough Local Plan <sup>21</sup>	
Policy No.	Policy
	<ul style="list-style-type: none"> <li>ii) satisfactory replacement green space is provided in a suitable location, accessible to current users and at least equivalent in terms of size, usefulness, attractiveness and quality;</li> <li>iii) the proposal involves the development of an alternative sports and recreational provision, the benefits of which clearly outweigh the loss of the current or former use.</li> </ul>
ENV 7	<p><b>Biodiversity and Geodiversity and Development (Strategic Policy)</b></p> <p>The Council will ensure that sites and features of biodiversity and geodiversity importance are given full and appropriate recognition and protection. The Council will also permit proposals where the primary objective is to conserve or enhance biodiversity where they accord with other relevant policies in the Plan.</p> <p>Development will be refused if significant adverse effects to biodiversity or geodiversity, either alone or in combination, cannot in the first instance be avoided, adequately mitigated, or, as a last resort, compensated for.</p> <p>Development will be expected to minimise the impact on and provide net gains for biodiversity, including establishing coherent and resilient ecological networks, by:</p> <ul style="list-style-type: none"> <li>a. Avoiding or mitigating adverse impacts upon BAP priority or protected species. Any potential adverse impact upon the ability of protected species to survive, reproduce and maintain or expand their current distribution will be monitored through application of the derogation tests detailed in the Habitats Regulations, and;</li> <li>b. Significantly and demonstrably enhancing the quality, extent and mix of priority and protected habitats and species identified in the NERC list(54) through: <ul style="list-style-type: none"> <li>i. Incorporating native habitats, or habitat opportunities, within or around the site and/or as part of building design; and/or</li> <li>ii. Creating, improving or extending ecological networks; and/or</li> <li>iii. Contributing to the implementation of the management plans of the Tees Valley Nature Partnership within the Borough.</li> </ul> </li> </ul> <p>Enhancement measures must be compatible with existing biodiversity and ecosystems. In circumstances where the enhancement of biodiversity would place the viability of the development in question, the developer will be required to demonstrate their case to the Council’s satisfaction. Development proposals located within the areas listed below are encouraged, where relevant, to support the achievement of these specific actions as follows:</p> <p>A) River Tees Existing Green Corridor Encourage the protection and enhancement of connections between different parts of the ecological network through:</p> <ul style="list-style-type: none"> <li>i. Creating quality riverside habitat in buffer zones (see Policies ENV 4 and ENV 5);</li> <li>ii. Managing agriculture less intensively;</li> <li>iii. Planting native trees and ground plants;</li> <li>iv. Diversifying the mix of wetland and wet woodland habitats;</li> <li>v. Management of invasive species; and</li> <li>vi. Creating artificial habitats such as otter holts and bird boxes.</li> </ul>

Ecologically Relevant Policies of the Darlington Borough Local Plan <sup>21</sup>	
Policy No.	Policy
	<p>B) River Skerne Proposed Green Corridor Encourage improvements to the value and ecological mix to:</p> <ul style="list-style-type: none"> <li>i. Provide quality priority habitats and species in the buffer zone;</li> <li>ii. Restore the natural river course, systems and character, e.g. meanders and earth bank sides;</li> <li>iii. Retain the natural floodplains;</li> <li>iv. Incorporate sustainable drainage systems;</li> <li>v. Plant more native broadleaved trees, grassland and wetlands to accommodate a range of protected and priority habitats and species;</li> <li>vi. Incorporate green features, such as green roofs and green walls; and vii. Manage invasive species.</li> </ul> <p>C) Rural area Promote the reinstatement of traditional species rich field margins, hedgerows and trees, along with new opportunities for mixed habitats, including meadows, woodland and wetlands, to provide greater connectivity for wildlife (see Policies H 3, H 7 and E 4).</p> <p>D) Nationally and locally designated wildlife sites Protect, maintain and where appropriate manage (as it depends upon ownership) and extend, in accordance with their management plans. Sites will be protected as follows:</p> <ul style="list-style-type: none"> <li>i. Sites of Special Scientific Interest (SSSIs)</li> </ul> <p>Development likely to have an adverse effect on any of the Borough's or neighbouring SSSIs either individually or in combination with other developments, will not normally be permitted unless it can be demonstrated that the benefits of the proposed development in that particular location, clearly outweigh its likely impact on the features of the site that make it of special scientific interest and any broader impacts on the network of sites.</p> <ul style="list-style-type: none"> <li>ii. Local Nature Reserves and Local Wildlife Sites</li> </ul> <p>Development likely to result in significant harm to any of the Borough's Local Nature Reserves or Local Wildlife Sites should be avoided by being relocated to an alternative site of less harmful impacts. Where this is not possible, and it is demonstrated development is required in that location it will only be permitted if the significant harm can be overcome by adequate mitigation or as a last resort appropriate compensation measures. Designate new Local Nature Reserves which meet the Natural England Criteria to ensure the protection of land and species, including Red Hall Wetland, Mill Lane (spanning the Skerne) and Cocker Beck. Local Wildlife Sites are identified and selected for their local nature conservation value. They protect threatened species and habitats acting as buffers, stepping stones and corridors between nationally-designated wildlife sites. Darlington has sites such as Blackwell Meadows, Coatham Grange and West Cemetery.</p> <ul style="list-style-type: none"> <li>iii. Community Woodlands and Ancient Woodland</li> </ul> <p>New development will be expected to retain existing woodlands. Development will not be permitted that would result in the loss of woodland unless the benefits clearly</p>

Ecologically Relevant Policies of the Darlington Borough Local Plan <sup>21</sup>	
Policy No.	Policy
	<p>outweigh the loss and suitable replacement planting can be undertaken which provides woodland types matching those identified as Priority Habitats in the NERC List (55) that are found locally. Ancient woodlands, ancient and veteran trees are irreplaceable habitats and new development will not be permitted that would result in their loss, fragmentation, isolation or deterioration unless there are wholly exceptional reasons (as defined in national policy) and a suitable compensation strategy exists.</p> <p>E) Local Geological Sites (LGSs) Protect the existing sites at Killerby (North Lane Quarry), Houghton-le-Side (Disused Quarry, Side Hill) and High Coniscliffe Quarries (Disused) and designate new sites, as appropriate.</p> <p>F) Wildlife friendly green spaces, parks and parklands Protect and improve the wildlife value of green spaces, parks and parklands.</p>
ENV8	<p><b>Assessing a Development's Impact on Biodiversity</b> Development proposals will be required to provide net gains in biodiversity (prevailing in national policy) and demonstrate achievement of this using the Defra Biodiversity Metric.</p> <p>Development proposals that are situated within or adjacent to sites of biodiversity importance as identified in Policy ENV 7, or that are likely to have an adverse impact upon such sites(56) or upon sites that have a reasonable likelihood of hosting protected and/or priority species, will need to follow the sequence of actions set out below to identify how harm to biodiversity has been avoided, or failing that, adequately mitigated. Applicants should submit evidence that this process has been followed with any planning application:</p> <ol style="list-style-type: none"> <li>1. Undertake a Phase 1 Habitat Survey to establish the type and mix of habitats and species present and any likely impacts;</li> <li>2. For any habitats or species adversely affected, undertake an extended Phase 1 Habitat Survey and identify appropriate mitigation if possible;</li> <li>3. Where protected species are present (including species protected under the Conservation &amp; Habitats Regulations, and Wildlife and Countryside Act), further survey work will be required to comply with Habitats Regulations including fulfilling the three derogation tests; and</li> <li>4. Take account of, and reflect the detailed advice set out in, Darlington's Green Infrastructure Strategy and the revised Design of New Development SPD or successor documents.</li> <li>5. Provide a masterplan, management and maintenance plan for applications of 100 dwellings or more where relevant showing how the quality of biodiversity features will be maintained in the long term. Maintenance contributions where required will be secured via a Section 106 agreement.</li> </ol> <p>Where a development proposal cannot avoid significant harm to biodiversity following the consideration of avoidance measures and mitigation, as a last resort, suitable compensatory measures must be incorporated, including the creation of priority habitats (57), with the first priority being on-site provision. Only with adequate reasoned justification will any off-site compensatory measures be permitted, with any such provision, agreed to be adequate and appropriate, secured by Section 106</p>

Ecologically Relevant Policies of the Darlington Borough Local Plan <sup>21</sup>	
Policy No.	Policy
	<p>contribution or Community Infrastructure Levy (or any other future delivery mechanism).</p> <p>Where adequate compensation measures cannot be provided, and significant harm avoided, planning permission will be refused.</p> <p>Where developers identify the presence of non-native invasive species on-site, measures will be required to contain the species and ensure it is effectively managed, or where possible, eradicated during development.</p>

Government Circular ODPM 06/2005 Biodiversity and Geological Conservation<sup>22</sup> (England only)

This Circular provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England.

Part IV - Conservation of Species protected by Law details that the presence of a protected species is a material consideration when considering a development proposal that may result in harm to the species or its habitat and that planning authorities must have regard to species protected under the Habitat Regulations.

It goes on to say that: *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. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted.*

Natural Environment and Rural Communities (NERC) Act 2006<sup>23 24</sup>

*Section 40 – To conserve biodiversity*

This section puts a duty on public authorities to conserve biodiversity when undertaking its duties and functions.

*Section 41 – Biodiversity list and Action*

Requires the Secretary of State to *publish a list of the living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity. They must also take such steps as appear to the Secretary of State to be reasonably practicable to further the*

<sup>22</sup>ODPM Circular 06/2005 Office of the Deputy Prime Minister Eland House, Bressenden Place, London SW1E 5DU  
Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System

<sup>23</sup> <https://www.legislation.gov.uk/ukpga/2006/16/section/40>

<sup>24</sup> <https://www.legislation.gov.uk/ukpga/2006/16/section/41>

conservation of the living organisms and types of habitat included in any list published under this section or promote the taking by others of such steps.

The 2007 lists were superseded by the UK Post-2010 Biodiversity Framework.

<b>UK Priority Habitats (excl. marine habitats)<sup>25</sup></b>	
<b>UK BAP Broad Habitat</b>	<b>UK BAP Priority Habitat</b>
Rivers and Streams	<ul style="list-style-type: none"> <li>• Rivers</li> </ul>
Standing Open Waters and Canals	<ul style="list-style-type: none"> <li>• Oligotrophic and Dystrophic Lakes</li> <li>• Eutrophic Standing Waters</li> <li>• Ponds</li> <li>• Aquifer Fed Naturally Fluctuating Water Bodies</li> <li>• Mesotrophic Lakes</li> </ul>
Arable and Horticultural	<ul style="list-style-type: none"> <li>• Arable Field Margins</li> </ul>
Boundary and Linear Features	<ul style="list-style-type: none"> <li>• Hedgerows</li> </ul>
Broadleaved, Mixed and Yew Woodland	<ul style="list-style-type: none"> <li>• Traditional Orchards</li> <li>• Upland Mixed Ashwoods</li> <li>• Wood-Pasture and Parkland</li> <li>• Wet Woodland</li> <li>• Upland Oakwood</li> <li>• Lowland Mixed Deciduous Woodland</li> <li>• Lowland Beech and Yew Woodland</li> <li>• Upland Birchwoods</li> </ul>
Coniferous Woodland	<ul style="list-style-type: none"> <li>• Native Pine Woodlands</li> </ul>
Acid Grassland	<ul style="list-style-type: none"> <li>• Lowland Dry Acid Grassland</li> </ul>
Calcareous Grassland	<ul style="list-style-type: none"> <li>• Lowland Calcareous Grassland</li> <li>• Upland Calcareous Grassland</li> </ul>
Neutral Grassland	<ul style="list-style-type: none"> <li>• Lowland Meadows</li> <li>• Upland Hay Meadows</li> </ul>
Improved Grassland	<ul style="list-style-type: none"> <li>• Coastal and Floodplain Grazing Marsh</li> </ul>
Dwarf Shrub Heath	<ul style="list-style-type: none"> <li>• Lowland Heathland</li> <li>• Upland Heathland</li> </ul>
Fen, Marsh and Swamp	<ul style="list-style-type: none"> <li>• Upland Flushes, Fens and Swamps</li> <li>• Purple Moor Grass and Rush Pastures</li> <li>• Lowland Fens</li> <li>• Reedbeds</li> </ul>
Bogs	<ul style="list-style-type: none"> <li>• Lowland Raised Bog</li> <li>• Blanket Bog</li> </ul>
Montane Habitats	<ul style="list-style-type: none"> <li>• Mountain Heaths and Willow Scrub</li> </ul>
Inland Rock	<ul style="list-style-type: none"> <li>• Inland Rock Outcrop and Scree Habitats</li> <li>• Calaminarian Grasslands</li> <li>• Open Mosaic Habitats on Previously Developed Land</li> <li>• Limestone Pavements</li> </ul>
Supralittoral Rock	<ul style="list-style-type: none"> <li>• Maritime Cliff and Slopes</li> </ul>

<sup>25</sup> <http://jncc.defra.gov.uk/page-5706>



<b>UK Priority Habitats (excl. marine habitats)<sup>25</sup></b>	
<b>UK BAP Broad Habitat</b>	<b>UK BAP Priority Habitat</b>
Supralittoral Sediment	<ul style="list-style-type: none"> <li>• Coastal Vegetated Shingle</li> <li>• Machair</li> <li>• Coastal Sand Dunes</li> </ul>

**Protected Species Legislation**

European Protected Species

European Protected Species (EPS) are species of plants and animals (other than birds) protected by law throughout the European Union. They are listed in Annexes II and IV of the European Habitats Directive and receive full protection under The Conservation of Species and Habitats Regulations 2017 (as amended). This make it an offence to:

- deliberately capture, injure or kill any European Protected Species (EPS)
- deliberately disturb any European Protected Species (EPS);
- damage or destroy a breeding site or place of rest or shelter used by any European Protected Species (EPS).

The Wildlife and Countryside Act 1981 (as amended) adds further protection by making it an offence to intentionally or recklessly<sup>26</sup> disturb an EPS while it is occupying a structure or place which it uses for shelter or protection, or to obstruct access to any structure or place the species uses for shelter or protection.

<b>European Protected Species Relevant to the UK</b>			
<b>Animals</b>		<b>Plants</b>	
All bat species	Great Crested Newt	Yellow saxifrage	marsh Creeping marshwort
Large blue butterfly	Otter	Shore dock	Slender naiad
Wild cat	Smooth snake	Killarney fern	Fen Orchid
Dolphins, porpoises and whales (all species)	Sturgeon fish	Early gentian	Floating-leaved water plantain
Dormouse	Natterjack toad	Lady's slipper	
Sand lizard	Pool Frog		
Fisher's Estuarine Moth	Snail, Lesser Whirlpool Ram's-horn		
Marine turtles			

Other Protected Species

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<sup>26</sup> Under the Countryside and Rights of Way Act 2000 (CROW Act) extended the protection to cover reckless damage or disturbance

<b>Other Protected Species Legislation</b>		
<b>Species</b>	<b>Legislation</b>	<b>Level of Protection</b>
<b>Birds</b>	Wildlife and Countryside Act 1981 (as amended)	<p>Under the Wildlife and Countryside Act (1981) it is an offence if any person:</p> <ul style="list-style-type: none"> <li>intentionally kills, injures or takes any wild bird</li> <li>intentionally takes, damages or destroys the nest of any wild bird whilst that nest is in use of being built;</li> <li>intentionally takes, damages or destroys eggs of any wild bird;</li> </ul> <p>Wild birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are protected from:</p> <ul style="list-style-type: none"> <li>intentional or reckless disturbance whilst it is building a nest or is in, on or near a nest containing eggs or young;</li> <li>disturbance of dependent young</li> </ul>

## Appendix 3 – UK Habitat Classification

UK Habitat Classification Habitat Definitions (Broad Habitats) <sup>27</sup>	
Broad Habitat	Definition
Grassland (g)	Vegetation, not on waterlogged soils, with <u>more than 75% cover of herbaceous species</u> (grasses, sedges, rushes, herbs, forbs) with halophytic species absent or occasional.  Includes pasture and semi-natural grasslands not on waterlogged soils and vegetation dominated by bracken.
Woodland and Forest (w)	Land with <u>more than 25% cover of trees more than 5m in height</u> . Includes recently felled woodland (but not clear felled forestry plantations unless re-planted), coppice, coppice-with-standards, lines of trees (but not hedgerows), wet woodland and bog woodland.
Heathland and Shrub (h)	Vegetation with <u>more than 25% cover of dwarf shrub species &lt;1.5metres high or woody species up to 5m high</u> . Includes hedgerows of any height. Excludes lines of trees (w1g6), scattered scrub (secondary code (s.c.)10) and young trees (s.c. 56, 57).
Wetland (f)	Any habitat that is waterlogged (water table at surface with standing water for between 50% and 70% of the year). Excludes wet woodland/carr (w1d), wet habitats where the water table is always within 40cm of the surface and soil containing free water for most of the year and seasonally wet habitats, inundated for part of the year but becoming mesic in the summer.
Cropland (c)	Regularly or recently cultivated agricultural, horticultural and domestic habitats. Includes ploughed land and intensive orchards.
Urban (u)	Constructed, industrial and other artificial habitats. Includes constructed, industrial and other artificial habitats in rural areas. Excludes grasslands, woodlands, heathlands, wetlands, rivers, lakes and sparsely vegetated land in urban areas.
Sparsely Vegetated Land (s)	Unvegetated, disturbed (regularly or drastically periodically) or sparsely vegetated habitats (permanently or periodically natural unvegetated areas) inhabited by stress tolerating vegetation. Includes inland rock, supralittoral rock, supralittoral sediment and coastal habitats (including dunes).
Rivers and Lakes (r)	Inland surface waters (freshwater ecosystems)
Marine Inlets and Transitional Waters (t)	Pelagic habitats: low/reduced salinity water (of lagoons), variable salinity water (of coastal wetlands, estuaries and other transitional waters) and marine salinity water (of other inlets). Benthic habitats: littoral rock and biogenic reef, littoral sediment, shallow sublittoral rock and biogenic reef and shallow sublittoral sediment.

<sup>27</sup> The UK Habitat Classification, Habitat Definitions Version 1.1, UKHab, September 2020

<b>UK Habitat Classification Habitat Definitions (Commonly Recorded Habitat Types)<sup>27</sup></b>	
<b>Habitat Type</b>	<b>Definition</b>
<b>Grassland (g)</b>	
g1c Bracken	Land with bracken <i>Pteridium aquilinum</i> at >95% canopy cover at the height of the growing season. Excludes patches of bracken <0.04ha which are included in the broad habitat type with which they are associated (s.c. 12)
g3c Other Neutral Grassland	Neutral grassland that does not meet the definition of either g3a (Lowland Meadow) or g3b (Upland Hay Meadow). Perennial rye-grass <i>Lolium perenne</i> is likely to be present at <30% with between 9 and 15 further species (/m <sup>2</sup> ) also present.
g4 Modified Grassland	Vegetation dominated by a few fast-growing grasses on fertile, neutral soils. Frequently characterised by an abundance of rye-grass <i>Lolium spp.</i> and white clover <i>Trifolium repens</i> . <u>Species poor &lt;9 species/m<sup>2</sup>. Grass cover usually over 75%. Dominated by palatable grass species.</u>
<b>Woodland (w)</b>	
w1 Broadleaved Mixed and Yew Woodland	Vegetation dominated by trees that are <u>more than 5m high</u> when mature, which form a distinct although sometimes open canopy with a <u>canopy cover of greater than 25%</u> . Includes stands of both native and non-native broadleaved tree species and Yew <i>Taxus baccata</i> , where the <u>percentage cover of these trees in the stand exceeds 20% of the total cover</u> of the trees present.
w1d Wet Woodland	Wet woodland occurs on poorly drained or seasonally wet soils, usually with Alder <i>alnus glutinosa</i> , birch <i>Betula spp.</i> and willows <i>Salix spp.</i> as the predominant tree species, but sometimes including ash <i>Fraxinus excelsior</i> , oak <i>Quercus spp.</i> , Scots pine, <i>Pinus sylvestris</i> and beech <i>Fagus sylvatica</i> on the drier riparian areas.
w1f Lowland Mixed Deciduous Woodland	Lowland mixed deciduous woodland includes woodland growing on the full range of soil conditions, from very acidic to base-rich. Occurs largely within enclosed landscapes, usually on sites with well defined boundaries, at relatively low altitudes, although altitude is not a defining feature.
w1g Other Woodland; Broadleaved	Broadleaved mixed and yew woodland not meeting the definition of w1a to w1f (Upland Oakwood, Upland Mixed Ashwoods, Lowland Beech and Yew Woodland, Wet Woodland, Upland Birchwoods and Lowland Mixed Deciduous Woodland).
w1g6 Line of Trees	A line of trees <u>at least 20 metre in length</u> with open habitat on each side. Includes grow out hedgerows, avenues, narrow windbreaks, willows and alders along watercourses. Excludes overgrown hedgerows still capable of being laid into a stockproof hedge.
w1h Other Woodland; Mixed	A mixture of broadleaved and coniferous trees in which neither make up more than 80% of the tree cover.
w2 Coniferous Woodland	Vegetation dominated by trees that are <u>more than 5m high</u> when mature, which form a distinct, although sometimes open canopy which has a <u>cover of greater than 20%</u> , with stands of both native and non-native coniferous trees species (with the exception of yew <i>Taxus baccata</i> ) where the <u>percentage cover of these trees in the stand exceeds 80% of the total cover</u> of the trees present.
<b>Heathland and Shrub (h)</b>	
h2 Hedgerows	A boundary line of shrubs, provided that at one time the shrubs were stock proof and more or less continuous. Includes where gaps between trees and shrubs <20m and any tree or herbaceous vegetation <2m from the hedgerow centre.

<b>UK Habitat Classification Habitat Definitions (Commonly Recorded Habitat Types)<sup>27</sup></b>	
<b>Habitat Type</b>	<b>Definition</b>
h2a Hedgerow (Priority Habitat)	Hedgerows consisting predominantly (ie 80% or more cover) of at least one woody UK native species. Climbers such as honeysuckle and bramble are not included in the definition of woody species.
h2b Other Hedgerows	Hedgerows that do not consist predominantly (ie 80% or more cover) of at least one woody UK native species.
h3 Dense Scrub	Patches of shrubs less than 5 metres tall with continuous (>90%) cover. Includes patches with occasional trees more than 5 metres tall (s.c. 11) and tree species less than 5m tall. Sub categories dependent on dominant species: h3d Bramble Scrub, h3e Gorse Scrub, h3f Hawthorn Scrub, h3h Mixed Scrub (no single species dominant)
<b>Wetland (f)</b>	
f2e Reedbeds	Wetlands dominated by stands of the common reed <i>Phragmites australis</i> , with the water table at or above ground level for most of the year.
<b>Cropland (c)</b>	
c1a Arable Field Margins	Herbaceous strips or blocks around arable fields that are managed specifically to provide benefits for wildlife. Usually sited on the outer 2-12m margin of the arable field.
c1c Cereal Crops	Crops in the cereal group of domesticated grasses: wheat, barley, oats and maize.
c1d Non-Cereal Crops	Crops other than those defined in c1c.
<b>Urban (u)</b>	
u1a Open Mosaic Habitats on Previously Developed Land	Each of the following five criteria must be met. 1) Open mosaic habitat at least 0.25ha in size. 2) Known history of disturbance or evidence that soil has been removed or severely modified by previous uses(s). Extraneous materials/substrates such as industrial spoil may have been added. 3) Site contains some vegetation. This will comprise early successional communities consisting mainly of stress-tolerant species (e.g. indicative of low nutrient status or drought). Early successional communities are composed of a) annuals, or b) mosses/liverworts, or c) lichens, or d) ruderals, or e) inundation species, or f) open grassland, or g) flower-rich grassland, or h) heathland. 4) Contains unvegetated, loose bare substrate and pools may be present. 5) The site shows spatial variation, forming a mosaic of one or more of early successional communities a-h above (criterion 3) plus bare substrate, within 0.25ha.
u1b Developed Land; Sealed Surface	Soil surface sealed with impervious materials as a result of urban development and infrastructure construction.
u1b5 Buildings	A relatively permanent enclosed construction over a plot of land, having a roof and usually windows and often more than one level, used for any of a wide variety of activity, as living, entertaining or manufacturing.
u1c Artificial Unvegetated, Unsealed Surface	Land cleared for development, infrastructure construction or other purpose, currently unvegetated, but the soil surface is not sealed with impervious materials.
u1d Suburban/Mosaic of	Small-scale mosaic of developed and natural surfaces, as in housing and gardens in suburban areas.

<b>UK Habitat Classification Habitat Definitions (Commonly Recorded Habitat Types)<sup>27</sup></b>	
<b>Habitat Type</b>	<b>Definition</b>
Developed/Natural Surface	
u1e Built Linear Features	Roads, railways, walls, fences, surfaced paths.
<b>Rivers and Lakes (r)</b>	
r1 Standing Open Water and Canals	Natural systems such as lakes, meres and pools, as well as man-made waters such as reservoirs, canals, ponds and gavel pits.
r2 Rivers and Streams	Rivers and streams from bank top to bank top, or, where there are no distinctive banks or banks are never overtopped, it includes the extent of the mean annual floor. Includes, the open channel, water fringe vegetation and exposed sediments and shingle banks.

## Appendix 4 - Receptor Valuation

The importance of ecological features is considered within a defined geographic context, examples of which are provided within the table below. The valuation of features is a complex process and, in many cases, requires the application of expert judgement. Valuation considers a range of factors including statutory designations, national biodiversity lists, biodiversity action plan lists and lists of declining, rare or legally protected species. Other factors to be considered include the 'naturalness' of habitats, the functional importance of features and whether habitats are irreplaceable.

<b>Examples of Importance of Ecological Features (Geographic Context)<sup>28</sup></b>			
<b>Importance</b>	<b>Designated Site</b>	<b>Habitat</b>	<b>Species</b>
International and European	Special Protection Area/Proposed Special Protection Area  Special Area of Conservation/Proposed Special Area of Conservation  Ramsar Site	A significant area of a Priority Habitat listed on Annex 1 of the Habitats Directive or a smaller area of such habitat that is thought to be functionally linked to a significant area of such habitat	An area that is functionally important to a species listed on Annexes II, IV or V of the Habitats Directive or Annex I of the Birds Directive which is present in internationally significant numbers (> 1% of the biogeographic population)
National	Site of Special Scientific Interest	A significant area of a Priority Habitat listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006 or a smaller area of such habitat that is thought to be functionally linked to a significant area of such habitat	An area that is functionally important to a species listed as a species of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006, which is present in nationally significant numbers (> 1% of the national population)
Regional	-	An area of a Priority Habitat listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006 which is not significant enough in extent to be considered of national importance but is considered to be of greater than metropolitan or county value.	An area that is functionally important to a species which is present in regionally significant numbers (> 1% of the regional population)
Metropolitan area or County	Local Wildlife Site designated at a metropolitan area or county level	A significant area of a Priority Habitat listed within the relevant local Biodiversity Action Plan or a smaller area	An area that is functionally important to a species listed as a Priority Species within the relevant local Biodiversity

<sup>28</sup> Based on information provided within Guidelines for Ecological Impact Assessment in the UK and Ireland (2018) CIEEM

<b>Examples of Importance of Ecological Features (Geographic Context)<sup>28</sup></b>			
<b>Importance</b>	<b>Designated Site</b>	<b>Habitat</b>	<b>Species</b>
Local (District/ Borough of Parish)	Local Wildlife Site designated at a district or borough level	of such habitat that is thought to be functionally linked to a significant area of such habitat	Action Plan, which is present in significant numbers within the geographic context.
Low	-	Habitats that are unexceptional in a local context and do not meet the above criteria.	Species populations that are unexceptional in a local context and do not meet the above criteria.



# Appendix 5 – Bat Activity Survey Data Tables

Date	7th August 2023			Sunset	20:55
Start Time	20:40			End Time	22:25
Time	Surveyor 1 Gemma Cone	Surveyor 2 Linus Morton	Surveyor 3 Lucy Turner	Surveyor 4 Joe Jones	Surveyor 5 Ella Farley
20:40:00					
20:45:00					
20:50:00					
20:55:00					
21:00:00					
21:05:00					
21:10:00				21:13:17 55 HNS	
21:15:00	21:17:05 Silent batsx2 commuting over trees		21:17:55 55 HNS	21:15:04 55 HNS 21:19:14 55 foraging	
21:20:00	21:24:20 45 HNS	21:21:46 55 HNS	21:20:00 55 HNS 21:24:22 55 foraging		21:20:02 55 HNS
21:25:00	21:25:40 45 foraging 21:29:30 45x2 commuting, Noc HNS	21:25:26 45 foraging 21:27:48 45 Exiting barn 21:29:49 Noc HNS		21:22:12 45 HNS 21:23-21:28 45 foraging 21:29:21 Noc HNS	
21:30:00	21:31:15 55 commuting 21:33:10 45 commuting	21:30:56 45 exiting barn 21:34:14 55 foraging	21:25 - 22:09 Intermittent 45 and 55 activity 21:29 Noc HNS 22:07:03 BLE HNS		21:25 - 22:18 Intermittent foraging activity, 45 and 55, up to three bats, including entering shed to forage within interior 21:29:18 Noc HNS
21:35:00	21:38 45 foraging	21:39:17 55 foraging			
21:40:00		21:44:54 45 foraging			
21:45:00	21:48 45x2 HNS			21:30 - 22:20 Intermittent 45 and 55 activity up to two bats foraging	
21:50:00	21:52 55 HNS				
21:55:00					
22:00:00	22:01:50 55 HNS	22:01:35 55 foraging			
22:05:00					
22:10:00					
22:15:00			22:16-22:18 intermittent 45 HNS		
22:20:00		22:20:57 Myo HNS			
22:25:00					
	Flight Activity		Species		
	Potential Emergence		39 = Nathusius' pipistrelle		
	Confirmed Emergence		45 = Common pipistrelle		
HNS	Heard Not Seen		Noc = Noctule		
SNH	Seen Not Heard		Myo = Myotis sp.		
			55 = Soprano pipistrelle		
			BLE = Brown long-eared bat		

Camera D



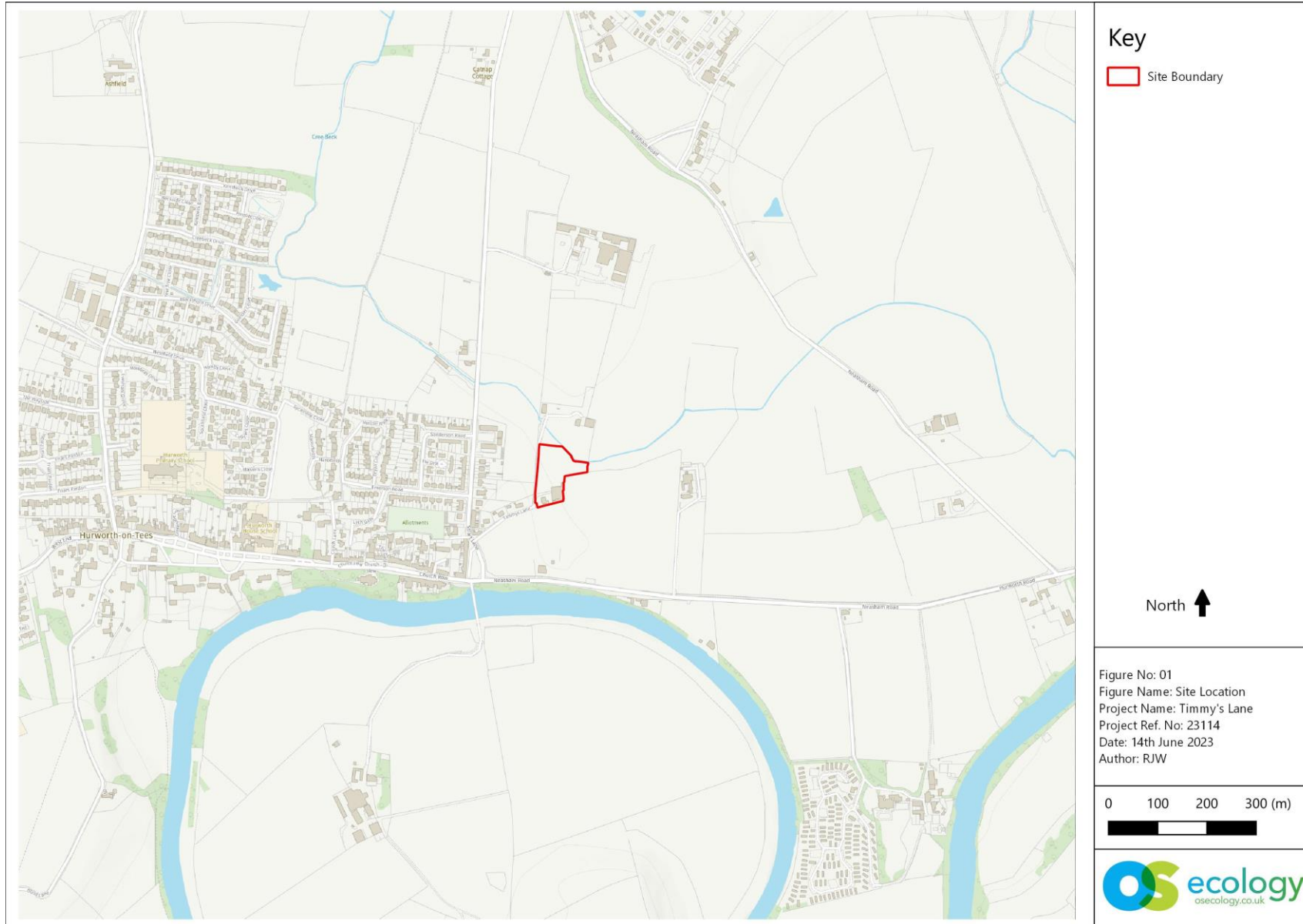
Camera H



Date	24th August 2023		Sunset	20:19			
Start Time	20:04		End Time	21:49			
Time	Surveyor 1 Mike Perkins	Surveyor 2 Matthew Iley	Surveyor 3 Rachel Thomson	Surveyor 4 Lucy Turner	Surveyor 5 James Atton	Surveyor 6 Rory Kavanagh	Internal Thermal Camera
20:00:00							
20:05:00							
20:10:00							
20:15:00							
20:20:00							
20:25:00							
20:30:00							
20:35:00							
20:40:00							
20:45:00	20:45:40 45 foraging within barn	20:45:13 55 HNS 20:47:08 45 HNS	20:47:03 45 HNS	20:47:06 45 HNS		20:45:48 55 and 45 HNS 20:46 - 20:49 45x4 emerged from lean to	Individual bats intermittently seen foraging within the interior of the barn from 20:49 onwards
20:50:00	20:51:40 45 foraging 20:53:31 45x2 foraging				20:53:34 45 foraging 20:54:33 45 HNS		
20:55:00	20:56 - 21:10 Intermittent 45 activity <b>21:05:37 BLE foraging within barn - likely emerged from roost</b> 21:08:14 45 and BLE HNS	20:51 - 21:45 Intermittent 45 and 55 activity, foraging in and around the site margins	20:51 - 21:38 Intermittent 45 and 55 activity, foraging around site	20:52 - 21:48 Intermittent 45 and 55 activity, foraging around site.	20:57 - 21:45 Intermittent 45 and 55 foraging activity, up to two bats seen at once	20:50 - 21:35 Intermittent 45 and 55 foraging activity	
21:00:00							
21:05:00							
21:10:00							
21:15:00							
21:20:00	21:21:05 BLE HNS						
21:25:00	21:27:08 45 HNS						
21:30:00	21:31:43 45 HNS						
21:35:00							
21:40:00	21:44:46 45 HNS						
21:45:00							
21:50:00							
	Flight Activity	Species					
	Potential Emergence	39 = Nathusius' pipistrelle		Myo = Myotis sp.			
	Confirmed Emergence	45 = Common pipistrelle		55 = Soprano pipistrelle			
HNS	Heard Not Seen	Noc = Noctule		BLE = Brown long-eared bat			
SNH	Seen Not Heard						



## Appendix 6 – Figures

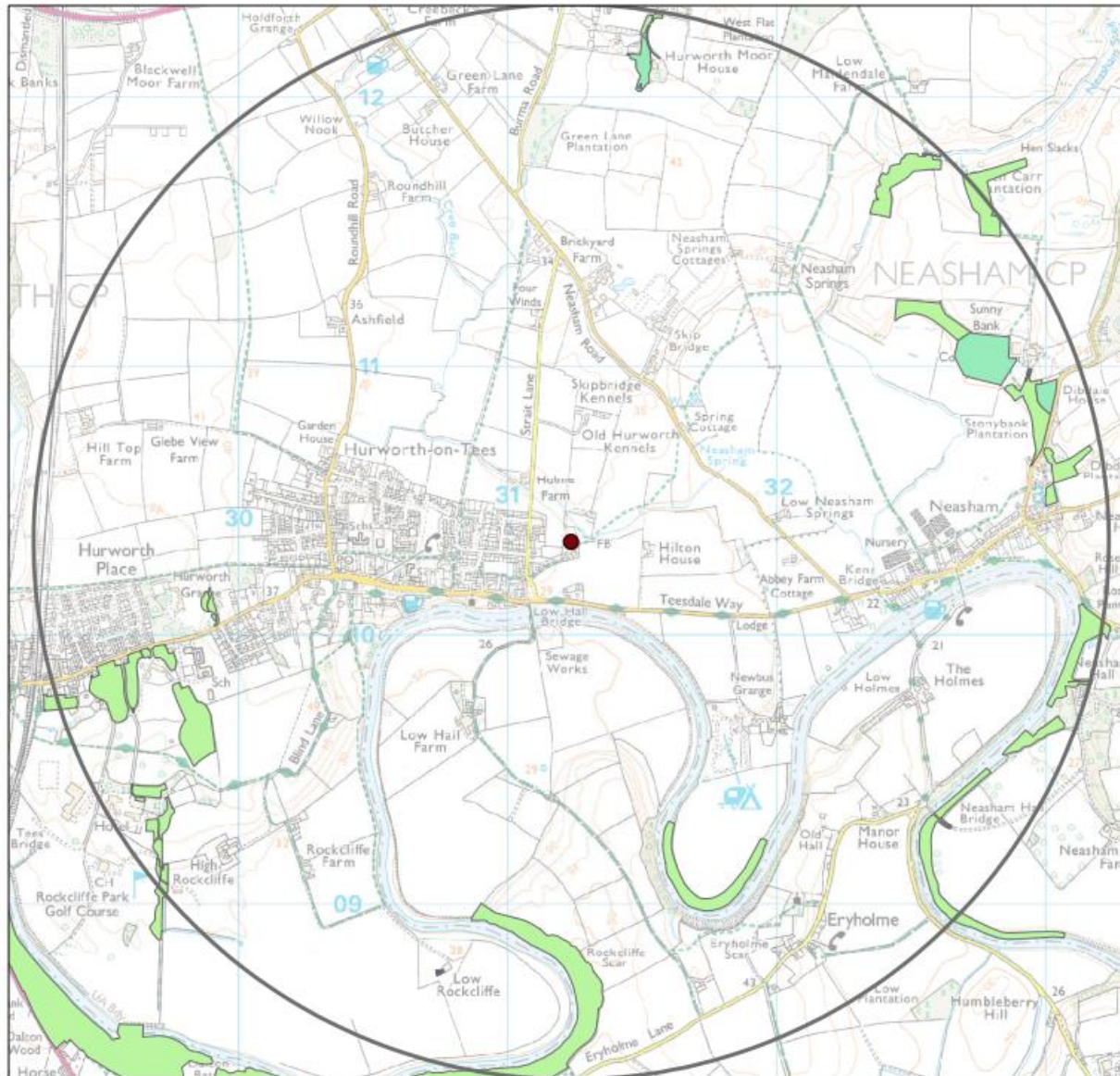

















**ECOLOGICAL DATA SEARCH -  
PRIORITY HABITATS**

**LAND OFF TIMMY'S LANE**

**OS ECOLOGY**

**PLOT PRODUCED: 14 June 2023**

-  NZ3123810344
-  2000m Search Area
-  Deciduous woodland
-  No main habitat but additional habitats
-  Traditional orchard

**Produced by**



**Environmental Records  
Information Centre  
North East**

**Great North Museum: Hancock  
Barras Bridge  
Newcastle upon Tyne  
Tyne & Wear  
NE2 4PT**

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