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Ecological Appraisal

Old Eldon, Durham

October 2023

Ms Dugdale



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Summary

OS Ecology Ltd were commissioned by Keith Ryder Architects c/o Ms Dugdale in September 2023 to undertake an Ecological Appraisal of land at Old Eldon. The site is proposed for a single bungalow.

Summary Table	
Habitat Assessment	<p>The site comprises a small, grazed paddock with two small horse shelters. In the east of the site is a fenced area of other neutral grassland with tall forbs, trees and shrubs.</p> <p>The modified grassland habitat on site is considered to be of low value.</p> <p>The other neutral grassland with scattered trees is considered to be of local value. This area will be retained under the current proposals.</p>
Bats	<p>The site is considered to be of low value for foraging and commuting bats and there are limited potential bat roosting features within the shelters.</p> <p>No further emergence or activity surveys are considered appropriate given the small size of the site and the low suitability of the site to support foraging, commuting and roosting bats.</p> <p>As a precaution a Method Statement for bats is recommended if works to the shelters is proposed.</p>
Birds	<p>The site provides suitable nesting habitat for a variety of farmland and urban fringe species within the scattered trees and within the shelters.</p> <p>The site is considered to be of low value to birds with better suitability habitat likely to be provided within woodland in the wider area.</p>
Other Protected and Notable Species	<p>Due to the nature of the site badger and brown hare may occasionally commute across the site. The site is considered to be of low value to these species.</p> <p>Hedgehog are likely to be present on occasion and the site is considered to be of local value to the species.</p>
Designated Sites	<p>The site is within 1.7km of Byerley Local Nature Reserve. There is not considered to be a significant impact on the LNR as a result of the proposals.</p>
Further Survey	<p>Based on the habitats within the site and the nature of the proposals no further surveys are recommended.</p>
Impact Assessment	<p>The following initial impact assessment is based on survey completed to date,</p> <ul style="list-style-type: none"> Loss of modified grassland of low habitat value. Harm and/or disturbance to nesting birds, if vegetation removal or shelter demolition is required and is undertaken in the breeding bird season (March to August inclusive). Loss of bird nesting opportunities if the shelters and trees/shrubs are removed. Very low risk of harm to roosting bats if the shelters are removed.

	<p>Loss of potential low value foraging and commuting habitat for bats and impacts due to increased lighting of the site.</p> <p>Damage to the crowns and roots of retained trees and hedgerows during works on site through severance or asphyxiation.</p> <p>Potential harm to badger and small fauna if they fall into excavations during site works.</p> <p>Potential harm to hedgehog during site clearance/construction and loss of connectivity across the site.</p>
<p>Recommendations</p>	<p>The following avoidance, mitigation and/or compensation measures are recommended:</p> <p>External lighting that may affect the site’s suitability for bats or nocturnal birds will be avoided. If required this will be limited to low level, avoiding use of high intensity security lighting.</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>A precautionary Method Statement for bats is required if the shelters are to be demolished.</p> <p>To retain connectivity for hedgehog through the site any close-board fencing is to have gaps suitable for hedgehogs.</p> <p>Landscape planting shall include berry or fruit bearing tree, shrub or hedge species to provide increased foraging opportunities in the local area.</p> <p>Integrated swift boxes will be provided within 50% of residential properties¹.</p> <p>A bat box installed on a retained tree to increase roosting opportunities for bats.</p>

¹ 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/>)

1. Introduction

Site Location

- 1.1 The site is located in Old Eldon, Durham at an approximate central grid reference of NZ 2464 2746. The site location is illustrated within figure 1 in the appendices.

Site Description

- 1.2 The site is small, approximately 0.2ha in size and comprises a small field of modified grassland with a small patch of scattered trees with tall ruderal.

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:

A single bungalow.

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 County Durham 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 website² 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.

² Multi Agency Geographic Information for the Countryside (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 Manual³. 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 the following table.

Abundance		Percentage Cover
D	Dominant	50-100%
A	Abundant	30-50%
F	Frequent	15-30%
O	Occasional	5-15%
R	Rare	<5%

- 2.10 Mandatory Secondary Codes within the UK Habitat Classification have been used as defined within the User Manual.
- 2.11 During the survey the site was checked for evidence of protected species and habitats were assessed for their potential to support such species.
- 2.12 Survey was undertaken by Gemma Cone ACIEEM, an experienced surveyor who holds protected species licences for a range of species including bats and great crested newts.
- 2.13 The following equipment was utilised during survey:

Binoculars
Tablet

- 2.14 The survey was undertaken on the 21st September 2023 in the following weather conditions:

Date	Temperature	Cloud Cover	Precipitation	Wind Conditions
21.09.23	14°C	10%	None	F2

Limitations to Survey

- 2.15 Survey was undertaken in the edge of the core botanical survey period (April to September) when some species will not be apparent. Based on the nature of the habitats

³ UKHab Ltd (2023) UK Habitat Classification Version 2.0 (at <http://www.ukhab.org>)

present within the site (modified grassland, tall forbs and trees) this is not considered to be a significant constraint.

Assessment Methodology

- 2.16 Guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) is utilised to provide habitat valuations.
- 2.17 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).
- 2.18 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 quality⁴/diversity of habitats are used to guide that valuation
- 2.19 Assessment methods for bats have been undertaken with reference to Wray et al. (2007)⁵, which correlates with the geographic frame of reference. Within which they define the relative rarity of each species based on the known distribution⁶ 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.
- 2.20 Examples of ecological receptors at various levels of value are provided within Appendix 3.

⁴ Quality can be subjective and vary in different geographic areas. Reasoned professional judgement is therefore used to inform the assessment.

⁵ Wray et al (2007) Valuing Bats in Ecological Impact Assessment. In Practice. Based on a presentation at the Mammal Society – Specific Issues with Bats

⁶ 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 the village of Old Eldon to the south and east. To the north and in the wider area is grazed pasture and arable. To the west approximately 80m from the site boundary is an area of woodland and scrub.

Designated Sites

3.2 A search of the Multi Agency Geographic Information for the Countryside Website⁷ indicated that the following designated sites for nature conservation lie within 2km of the site.

Table 3.1: Designated Sites Within 2km			
Designation	Site Name	Reason for Designation	Distance from Survey Area (Closest point)
Special Area of Conservation	None present		
Special Protection Area	None present		
National Nature Reserve	None present		
Site of Special Scientific Interest	None present		
SSSI Impact Risk Zone (IRZ)			
The site lies within an identified SSSI Impact Risk Zone relating to designated sites in the wider area, however development of the nature proposed does not meet the identified impact risk triggers.			
Local Nature Reserve	Byerley	Due to the history of the site, the grassland meadows are semi-improved. During 2005 two seasonal ponds were created within the marshy grassland meadow, to encourage local wildlife and improve the diversity of the reserve. Further funding has been received from CDENT to create a wildflower meadow to	1.7km

⁷ Multi Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk (Accessed September 2023)

Table 3.1: Designated Sites Within 2km			
Designation	Site Name	Reason for Designation	Distance from Survey Area (Closest point)
		further enhance the reserve for wildlife. Old hedgerows, ditches and woodland rides dissect the grassland stretches creating a pleasant mosaic of habitats which encourages a range of birdlife to the site. ⁸	

Priority Habitats

3.3 A search of the MAGIC website and results from ERIC NE identified areas of habitat within 2km of the site identified within the Priority Habitat Inventory as the following habitat types:

- Lowland heathland
- Deciduous woodland
- Traditional orchard
- Wood-pasture and parkland

3.4 Of the identified areas of habitat, the closest is an area of deciduous woodland which lies approximately 670m north-east of the site.

3.5 The locations of the Priority Habitats are shown on Figure 3.

Ancient Woodland

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

European Protected Species Licensing

3.7 The MAGIC website identified no Natural England European Protected Species licenses within 2km of the site⁹.

Data Search

Local Records Centre

3.8 The following table summarises the data search results from ERIC NE (provided 03.10.23) 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.

⁸ <https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1083214>

⁹ The dataset is noted as having been last updated in January 2022.

Table 3.2: Records from LRC Data Search			
Taxon	Species	No. of Records within Search Area	Records of Particular Note
Amphibians	Great crested newt	8	Closest record is 1.1km from the site in 2014.
Mammals (excluding bats)	Water vole	1	-
	Hedgehog	16	-
	Brown hare	7	-
	██████████	██████████	██████████
Bats	Red squirrel	1	-
	Bat	4	-
	Natterer's bat	1	-
	Common pipistrelle	6	-
	Soprano pipistrelle	1	-
Butterflies	Pipistrelle sp.	1	-
	Green hairstreak	1	-
	Small heath	10	-
	Dingy skipper	7	-
	Wall	6	-

3.9 In addition, the records centre returned over 400 records for birds within 2km of the site, the closest being a long-eared owl record approximately 800m from the site.

3.10 The records centre also provided information regarding the following Local Wildlife Sites (LWS) which lie within 2km of the site (Figure 4):

- Eldon Grassland LWS
- Eldon Lane Heath LWS

Field Survey

Habitats

Table 3.3: Habitat Descriptions
<p>Overview of habitats</p> <p>The site comprises a small grazed paddock with two small shelters. In the east of the site is a fenced area with tall forbs, trees and shrubs. Along the southern boundary of the site are felled trees. A trench has been recently dug through part of the grassland.</p> <p>The site is bound by a stone wall and post and rail fence in the north and south and a brick wall to the west.</p> <p>The habitats within the site are illustrated within Figure 5.</p>

Habitat Description			Habitat Category
<p>Grassland</p> <p>The grassland meets the UK Habs criteria for modified grassland being species poor (<9 species per m²). The grassland is dominated by perennial rye-grass <i>Lolium perenne</i> with additional species indicative of modified grassland present, including white clover <i>Trifolium repens</i>, creeping buttercup <i>Ranunculus repens</i> and broadleaved dock <i>Rumex obtusifolius</i>.</p>			<p>Primary Code</p> <p>g4 – modified grassland</p>
Species/m ² : 5	Sward Height: 10-15cm	Bare ground (%): 0	<p>Secondary Codes</p> <p>103 – horse grazed 206 – felled (along southern boundary)</p>
<p>Species List</p> <p>The species list and DAFOR scale is provided below:</p> <p>Dominant: Perennial rye-grass</p> <p>Abundant: Cleavers <i>Galium aparine</i>, white clover</p> <p>Frequent: Nettle <i>Urtica dioica</i>, ribwort plantain <i>Plantago lanceolata</i></p> <p>Occasional: Broad-leaved dock, creeping buttercup</p> <p>Rare: Common hogweed <i>Heracleum sphondylium</i>, pineapple weed <i>Matricaria discoidea</i>.</p> <p>Along the wall at the southern aspect of the site where trees have been recently felled are additional species including colt's-foot <i>Tussilago farfara</i>, wood aven <i>Geum urbanum</i>, dandelion <i>Taraxacum agg.</i>, sycamore saplings <i>Acer pseudoplatanus</i> and bramble <i>Rubus fruticosus</i>. The grassland is a similar sward height to the remainder of the grassland.</p>			
Schedule 9/Undesirable species present (Y/N): Y		Further Survey Needed (Y/N): N	

Habitat Description	Habitat Category
	

Habitat Description			Habitat Category
<p>Grassland</p> <p>The area along the eastern boundary is characterised by tall ruderal with scattered trees, shrubs and some scrub. It best fits the UK Habs category of other neutral grassland with secondary codes including scattered scrub, tall forbs and trees.</p>			<p>Primary Code</p> <p>g3c – other neutral grassland</p>
Species/m ² : 5	Sward Height: 10-15cm	Bare ground (%): 0	<p>Secondary Codes</p> <p>10 – scattered scrub</p> <p>16 – tall forbs</p> <p>200 - tree</p>
<p>Species List</p> <p>The species list and DAFOR scale is provided below:</p> <p>Dominant: N/A</p> <p>Abundant: Spear thistle <i>Cirsium vulgare</i>, common nettle</p> <p>Frequent: N/A</p> <p>Occasional: Broad-leaved dock, false oat grass <i>Arrhenatherum elatius</i>.</p> <p>Rare: N/A</p>			
Schedule 9/Undesirable species present (Y/N): Y		Further Survey Needed (Y/N): N	

	
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Target Notes

Table 3.4: Target Notes (see Figure 6)

Target Note 1

Horse shelter/storage areas

Two small shelters with corrugated metal roofs and frames with partial stone walls.

See section on bats below for bat roosting potential.



Target Note 2

Trench recently dug through the site.



Target Note 3

Piles of brush and logs.



Protected Species

Bats

- 3.11 Habitats within the site may be used by small numbers of foraging bats although due to its small size and limited suitability of foraging habitats (modified grassland and scattered trees) it is considered to be of low suitability to foraging bats.
- 3.12 Commuting habitats within the site are limited to trees along the eastern boundary. There is limited connectivity from these trees to other areas of suitable commuting and foraging habitat therefore the site is considered to be of low suitability to commuting bats.
- 3.13 Habitats in the wider area, particularly off-site to the west where woodland/scrub are present are likely to be of high suitability to support foraging and commuting bats.
- 3.14 The shelters within the site are of negligible to low suitability to support roosting bats. Some gaps are present in the stonework where the mortar has worn away although these do not have sufficient depth to support roosting bats and are generally damp. No field evidence of roosting bats was recorded, and no further surveys are required although a precautionary Method Statement is recommended if works to the shelters are proposed.
- 3.15 None of the trees within the site boundary contain suitable bat roosting features.

Birds

- 3.16 The site contains suitable nesting habitat for birds within the areas of scattered trees and tall forbs in the east of the site.
- 3.17 Ground nesting habitat is unlikely given the small size of the field and poor sight lines.
- 3.18 The shelters provide suitable bird nesting habitat for a variety of species on the metal supports. No evidence of nesting material was recorded during the survey.

Great Crested Newts

- 3.19 There are no ponds within the site boundary and the majority of the site comprising the grassland is of low suitability to support terrestrial great crested newts (GCN).
- 3.20 ERIC records return no records for GCN within 1km of the site.
- 3.21 A single pond within an arable field is visible on aerial maps and Google Earth Imagery approximately 326m east of the site boundary (see Figure 7).
- 3.22 The Natural England Risk Assessment Tool (within the GCN licence documents) shows the likely risk of an offence based on the size of the site and distance from the pond to be 'highly unlikely.'

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.005
Individual great crested newts	No effect	0
	Maximum:	0.005
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Other protected and notable species

- 3.23 No field evidence of badger was recorded within the site during the survey. There is suitable habitat for sett creation and foraging and [REDACTED] may occasionally commute across the site.
- 3.24 Common toads are unlikely to be present within the site due to lack of adjacent ponds and watercourses.
- 3.25 Brown hare, if present in the wider area may occasionally commute across the site.
- 3.26 Hedgehogs are likely to use the site on occasion for commuting and foraging.

4. Site Assessment

Assessment of Survey Findings

Habitats

- 4.1 The modified grassland habitat on site is considered to be of low value. The other neutral grassland with scattered trees is considered to be of local value.

Bats

- 4.2 The site is considered to be of low value for foraging and commuting bats and there are limited potential bat roosting features within the shelters.
- 4.3 No further emergence or activity surveys are considered appropriate given the small size of the site and the low suitability of the site to support foraging, commuting and roosting bats.
- 4.4 As a precaution a precautionary Method Statement for bats is recommended if works to the shelters is proposed.

Birds

- 4.5 The site provides suitable nesting habitat for a variety of farmland urban fringe species within the scattered trees and within the shelters.
- 4.6 The site is considered to be of low value to birds with better suitability habitat likely to be provided within woodland areas in the wider area.

Other Protected Species

- 4.7 Due to the nature of the site badger and brown hare may occasionally commute across the site. The site is considered to be of low value to these species.
- 4.8 Hedgehogs are likely to be present on occasion and the site is considered to be of local value to the species.

Designated Sites

- 4.9 The site is within 1.7km of Byerley Local Nature Reserve. There is not considered to be a significant impact on the LNR as a result of the proposals.

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:

A single bungalow

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 modified grassland of low habitat value

Harm and/or disturbance to nesting birds, if vegetation removal or shelter demolition is required and is undertaken in the breeding bird season (March to August inclusive).

Loss of bird nesting opportunities if the shelters and trees/shrubs are removed.

Low risk of harm to roosting bats if the shelters are removed.

Loss of potential low value foraging and commuting habitat for bats and impacts due to increased lighting of the site.

Damage to the crowns and roots of retained trees and hedgerows during works on site through severance or asphyxiation.

Potential harm to badger and small fauna if they fall into excavations during site works.

Potential harm to hedgehog during site clearance/construction and loss of connectivity across the site.

6. Recommendations

Further Survey

6.1 Based on the nature of the site no further survey is recommended.

Avoidance Measures

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

External lighting that may affect the site's suitability for bats will be avoided. If required this will be limited to low level, avoiding use of high intensity security lighting.

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.

A precautionary Method Statement for bats is required if the shelters are to be demolished.

Compensation/Mitigation Scheme

6.3 The following is recommended:

To retain connectivity for hedgehog through the site any close-board fencing will have gaps suitable (13 x 13cm) for hedgehogs.

Landscape planting shall include berry or fruit bearing tree, shrub or hedge species to provide increased foraging opportunities in the local area.

Integrated swift boxes will be provided within 50% of residential properties¹⁰.

A bat box installed on a retained tree to increase roosting opportunities for bats.

¹⁰ 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 Guidelines¹¹, with the table below taken from page 35 of the guidelines (table 4.1).

Guidelines for Assessing the Potential Suitability of Proposed Development Sites for Bats (based on the presence of habitat features within the landscape, to be applied using professional judgement)		
Suitability	Description	
	Roosting Habitats	Commuting and foraging habitats
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. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions^a 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^b).</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^c.</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 ^a 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 ^a 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>a. For example in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.</p> <p>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.</p> <p>c. The system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015)</p>		

¹¹ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

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

Survey Effort and Timing Depending on Suitability of the Structure or Tree (Tables 7.1-7.3 in the BCT Guidelines)			
	Low roost suitability	Moderate roost suitability	High roost suitability
Survey Effort	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.
Timings	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)
If bats are recorded	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)¹²

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.

Ecologically Relevant Paragraphs of the NPPF	
Paragraph	Statement
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"> 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; 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 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
174	<p>Planning policies and decisions should contribute to and enhance the natural and local environment by:</p> <ul style="list-style-type: none"> 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); 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; c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; 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; 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,

¹² National Planning Policy Framework July 2021
(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf)

Ecologically Relevant Paragraphs of the NPPF	
Paragraph	Statement
	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 f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate
175	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
179	To protect and enhance biodiversity and geodiversity, plans should: 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 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.
180	When determining planning applications, local planning authorities should apply the following principles: 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; 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; 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 ⁶³ and a suitable compensation strategy exists; and 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.
181	The following should be given the same protection as habitats sites: a) potential Special Protection Areas and possible Special Areas of Conservation; b) listed or proposed Ramsar sites ⁶⁴ ; and 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
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.

Ecologically Relevant Policies of the County Durham Plan¹³	
Policy No.	Policy
Policy 40	<p>Trees, Woodlands and Hedges</p> <p>Proposals for new development will not be permitted that would result in the loss of, or damage to, trees of high landscape, amenity or biodiversity value unless the benefits of the proposal clearly outweigh the harm. Where development would involve the loss of ancient or veteran trees it will be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.</p> <p>Proposals for new development will be expected to retain existing trees where they can make a positive contribution to the locality or to the development, maintain adequate stand-off distances between them and new land-uses, including root protection areas where necessary, to avoid future conflicts, and integrate them fully into the design having regard to their future management requirements and growth potential.</p> <p>Where trees are lost, suitable replacement planting, including appropriate provision for maintenance and management, will be required within the site or the locality.</p> <p>Where applications are made to carry out works to trees in Conservation Areas or that are covered by a Tree Preservation Order, they will be determined in accordance with the council's Tree Management Policy Document (or any subsequent revisions).</p> <p>Proposals for new development will not be permitted that would result in the loss of, or damage to, woodland unless the benefits of the proposal clearly outweigh the impact and suitable replacement woodland planting, either within or beyond the site boundary, can be undertaken.</p> <p>Proposals for new development resulting in the loss or deterioration of ancient woodlands as shown on the policies map, will be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists. Proposals affecting ancient woodland (including planted ancient woodland sites) not previously identified as such, will be subject to the same considerations.</p> <p>Proposals for new development will be expected to maintain adequate stand-off distances between woodland and new land-uses to avoid future conflicts, and integrate them fully into the design having regard to their future management requirements and growth potential.</p> <p>Proposals for new development will not be permitted that would result in the loss of hedges of high landscape, heritage, amenity or biodiversity value unless the benefits of the proposal clearly outweigh the harm.</p> <p>Proposals for new development will be expected to retain existing hedgerows where appropriate and integrate them fully into the design having regard to their management requirements.</p> <p>Where any hedges are lost, suitable replacement planting or restoration of existing hedges, will be required within the site or the locality, including appropriate provision for maintenance and management.</p>
Policy 41	<p>Biodiversity and Geodiversity</p> <p>Proposals for new development will not be permitted if significant harm to biodiversity or geodiversity resulting from the development cannot be avoided, or appropriately mitigated, or, as a last resort, compensated for.</p> <p>Proposals for new development will be expected to minimise impacts on biodiversity by retaining and enhancing existing biodiversity assets and features and providing net gains for biodiversity including by establishing coherent ecological networks(152) . Measures should be appropriate, consistent with the biodiversity of the site and contribute to the resilience and coherence of local ecological networks.</p> <p>Proposals for new development will be expected to protect geological features and have regard to Geodiversity Action Plans, the Durham Geodiversity Audit and where appropriate promote public access, appreciation and interpretation of geodiversity.</p>

¹³ County Durham Plan, Adopted 2020, Durham County Council

Ecologically Relevant Policies of the County Durham Plan¹³	
Policy No.	Policy
	<p>Development proposals where the primary objective is to conserve or enhance biodiversity or geodiversity will be permitted, where they accord with other relevant policies in the Plan.</p> <p>Development proposals which are likely to result in the loss or deterioration of irreplaceable habitat(s) (such as peatlands or lowland fen) will not be permitted unless there are wholly exceptional reasons and a suitable compensation strategy exists.</p>
Policy 42	<p>Internationally Designated Sites</p> <p>Development that has the potential to have an effect on internationally designated site(s), (including all development within 0.4 kilometres of the sites, as shown on Map B of the policies map document), either individually or in combination with other plans or projects, will need to be screened in the first instance to determine whether significant effects on the site are likely and, if so, will be subject to an Appropriate Assessment.</p> <p>Development will be refused where it cannot be ascertained, following Appropriate Assessment, that there would be no adverse effects on the integrity of the site, unless the proposal is able to pass the further statutory tests of ‘no alternatives’ and ‘imperative reasons of overriding public interest’ as set out in Regulation 64 of the Conservation of Habitats and Species Regulations 2017. In these exceptional circumstances, where these tests are met, appropriate compensation will be required in accordance with Regulation 68.</p> <p>Where development proposals would be likely to lead to an increase in recreational pressure upon internationally designated sites, a Habitats Regulations screening assessment and, where necessary, a full Appropriate Assessment will need to be undertaken to demonstrate that a proposal will not adversely affect the integrity of the site. In determining whether a plan or project will have an adverse effect on the integrity of a site, the implementation of identified strategic measures to counteract effects, can be considered during the Appropriate Assessment.</p> <p>Land identified and/or managed as part of any mitigation or compensation measures should be maintained in perpetuity. Development proposals which have an adverse impact on mitigation or compensation measures will not be allowed.</p>
Policy 43	<p>Protected Species and Nationally and Locally Protected Sites</p> <p>All development proposals in, or which are likely to adversely impact upon (either individually or in combination with other developments), any of the following national designations (where not a component of an internationally designated site):</p> <ul style="list-style-type: none"> Sites of Special Scientific Interest National Nature Reserves <p>will only be permitted where the benefits of development in that location clearly outweigh the impacts on the interest features on the site and any wider impacts on the network of sites.</p> <p>All development proposals in, or which are likely to adversely impact upon, any of the following local designations:</p> <ul style="list-style-type: none"> Local Sites (Geology and Wildlife) Local Nature Reserves (LNRs) <p>will only be permitted when it can be demonstrated that the benefits of development in that location outweigh the impacts on the local nature conservation interest or scientific interest on the site and any wider impacts on the network of sites.</p> <p>In all cases where development impacts adversely on a designated site, mitigation, or as a last resort compensation, must be provided and it must be demonstrated that the proposed mitigation or compensatory measures are appropriate to the designations assigned to the site and deliver clear net gains for the habitats and/or species assemblages the site is designated for.</p> <p>In relation to protected species and their habitats, all development which, alone or in combination, has a likely adverse impact on the ability of species to survive, reproduce and maintain or expand their current distribution will not be permitted unless:</p> <ol style="list-style-type: none"> a. appropriate mitigation, or as a last resort compensation, can be provided, which maintains a viable population and where possible provides opportunities for the population to expand; and b. where the species is a European protected species, the proposal also meets the licensing criteria (the 3 legal tests) of overriding public interest, no satisfactory alternative and favourable conservation status.

Government Circular ODPM 06/2005 Biodiversity and Geological Conservation¹⁴ (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^{15 16}

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 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.

UK Priority Habitats (excl. marine habitats) ¹⁷	
UK BAP Broad Habitat	UK BAP Priority Habitat
Rivers and Streams	Rivers
Standing Open Waters and Canals	Oligotrophic and Dystrophic Lakes Eutrophic Standing Waters Ponds Aquifer Fed Naturally Fluctuating Water Bodies Mesotrophic Lakes
Arable and Horticultural	Arable Field Margins
Boundary and Linear Features	Hedgerows

¹⁴ODPM 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

¹⁵ <https://www.legislation.gov.uk/ukpga/2006/16/section/40>

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

¹⁷ <http://jncc.defra.gov.uk/page-5706>

UK Priority Habitats (excl. marine habitats) ¹⁷	
UK BAP Broad Habitat	UK BAP Priority Habitat
Broadleaved, Mixed and Yew Woodland	Traditional Orchards Upland Mixed Ashwoods Wood-Pasture and Parkland Wet Woodland Upland Oakwood Lowland Mixed Deciduous Woodland Lowland Beech and Yew Woodland Upland Birchwoods
Coniferous Woodland	Native Pine Woodlands
Acid Grassland	Lowland Dry Acid Grassland
Calcareous Grassland	Lowland Calcareous Grassland Upland Calcareous Grassland
Neutral Grassland	Lowland Meadows Upland Hay Meadows
Improved Grassland	Coastal and Floodplain Grazing Marsh
Dwarf Shrub Heath	Lowland Heathland Upland Heathland
Fen, Marsh and Swamp	Upland Flushes, Fens and Swamps Purple Moor Grass and Rush Pastures Lowland Fens Reedbeds
Bogs	Lowland Raised Bog Blanket Bog
Montane Habitats	Mountain Heaths and Willow Scrub
Inland Rock	Inland Rock Outcrop and Scree Habitats Calaminarian Grasslands Open Mosaic Habitats on Previously Developed Land Limestone Pavements
Supralittoral Rock	Maritime Cliff and Slopes
Supralittoral Sediment	Coastal Vegetated Shingle Machair Coastal Sand Dunes

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 recklessly¹⁸ 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.

European Protected Species Relevant to the UK			
Animals		Plants	
All bat species	Great Crested Newt	Yellow marsh saxifrage	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

Other Protected Species Legislation		
Species	Legislation	Level of Protection
Birds	Wildlife and Countryside Act 1981 (as amended)	Under the Wildlife and Countryside Act (1981) it is an offence if any person: intentionally kills, injures or takes any wild bird intentionally takes, damages or destroys the nest of any wild bird whilst that nest is in use of being built; intentionally takes, damages or destroys eggs of any wild bird; Wild birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are protected from: intentional or reckless disturbance whilst it is building a nest or is in, on or near a nest containing eggs or young; disturbance of dependent young
Badger	Protection of Badgers Act 1992 Wild Mammals (Protection) Act 1996	The Protection of Badgers Act (1992) makes it an offence to wilfully or attempt to: kill or injure a badger possesses a dead badger or any part of, or anything derived from a dead badger; digs for badgers; damages a badger sett or any part of it; destroys a badger sett obstructs access to, or any entrance of, a badger sett;

¹⁸ Under the Countryside and Rights of Way Act 2000 (CROW Act) extended the protection to cover reckless damage or disturbance

Other Protected Species Legislation		
Species	Legislation	Level of Protection
		causes a dog to enter a badger sett; disturbs a badger whilst it is occupying a badger sett. Under the Wild Mammals (Protection) Act, badgers are protected from unnecessary suffering by a number of methods.

Appendix 3 – UK Habitat Classification

UK Habitat Classification Habitat Definitions (Broad Habitats) ¹⁹	
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 <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.

¹⁹ The UK Habitat Classification, Habitat Definitions Version 1.1, UKHab, September 2020

UK Habitat Classification Habitat Definitions (Commonly Recorded Habitat Types) ¹⁹	
Habitat Type	Definition
Grassland (g)	
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 ²) 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</i> spp. and white clover <i>Trifolium repens</i> . <u>Species poor <9 species/m². Grass cover usually over 75%. Dominated by palatable grass species.</u>
Woodland (w)	
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 percentage cover of these trees in the stand exceeds 20% of the total cover 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</i> spp. and willows <i>Salix</i> spp. as the predominant tree species, but sometimes including ash <i>Fraxinus excelsior</i> , oak <i>Quercus</i> spp., 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.
Heathland and Shrub (h)	
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.
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.

UK Habitat Classification Habitat Definitions (Commonly Recorded Habitat Types) ¹⁹	
Habitat Type	Definition
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)
Wetland (f)	
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.
Cropland (c)	
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.
Urban (u)	
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 Developed/Natural Surface	Small-scale mosaic of developed and natural surfaces, as in housing and gardens in suburban areas.
u1e Built Linear Features	Roads, railways, walls, fences, surfaced paths.
Rivers and Lakes (r)	

UK Habitat Classification Habitat Definitions (Commonly Recorded Habitat Types) ¹⁹	
Habitat Type	Definition
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 gravel 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

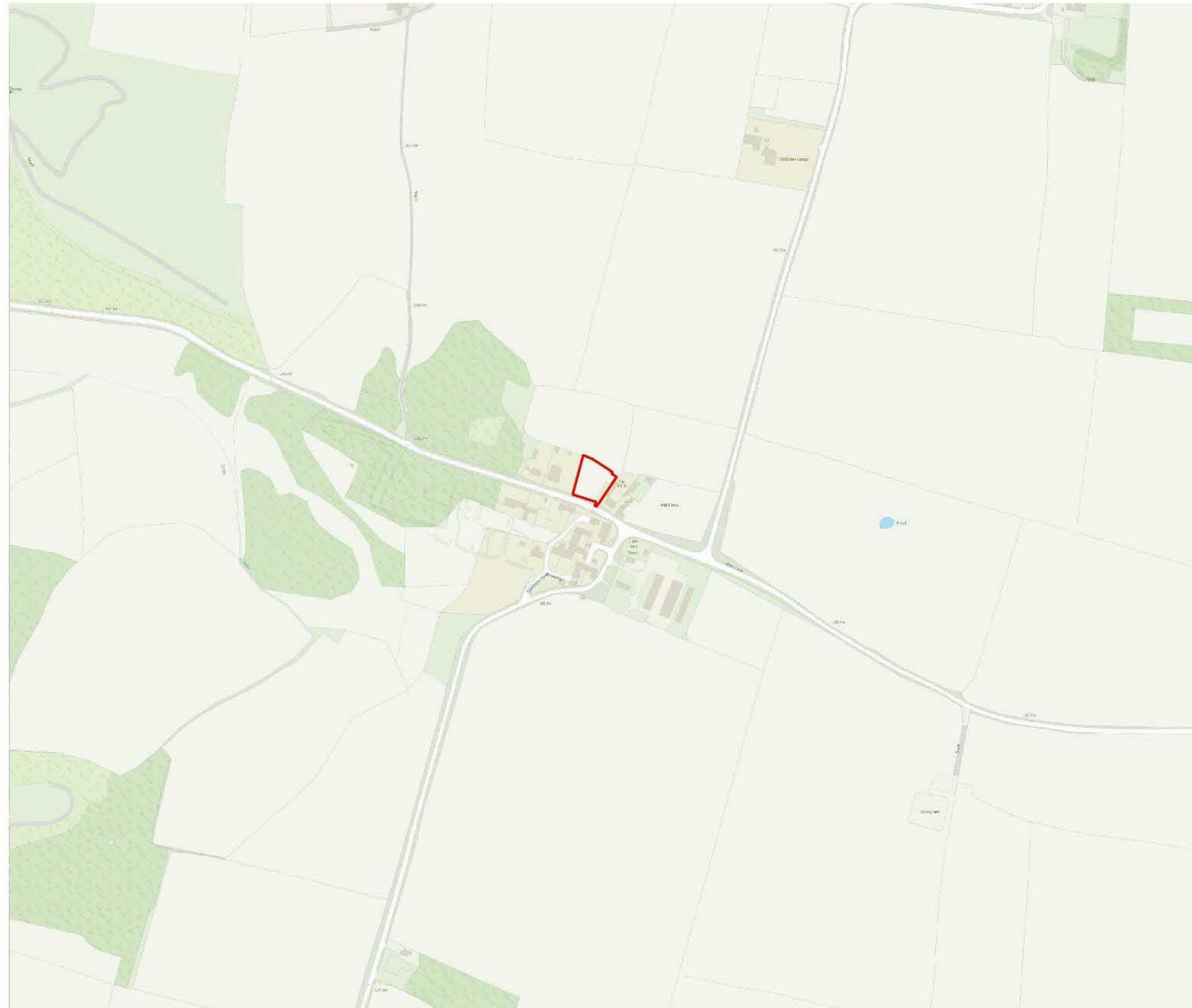
The importance of ecological features is considered within a defined geographic context, examples of which are provided within the table below. The valuation of features is a complex process and, in many cases, requires the application of expert judgement. Valuation considers a range of factors including 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.

Examples of Importance of Ecological Features (Geographic Context) ²⁰			
Importance	Designated Site	Habitat	Species
International and European	Special Protection Area/Proposed Special Protection Area	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)
	Special Area of Conservation/Proposed Special Area of Conservation		
	Ramsar Site		
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 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 Priority Species within the relevant local Biodiversity Action Plan, which is present in significant numbers within the geographic context.
Local (District/ Borough of Parish)	Local Wildlife Site designated at a district or borough level		

²⁰ Based on information provided within Guidelines for Ecological Impact Assessment in the UK and Ireland (2018) CIEEM

Examples of Importance of Ecological Features (Geographic Context) ²⁰			
Importance	Designated Site	Habitat	Species
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 – Figures



Key

 Site Boundary

North 

Figure No: 1
Figure Name: Site Location
Project Name: Old Eldon
Project Ref. No: 23293
Date: September 2023
Author: GC

0 100 200 m





Key

 Site Boundary

North 

Figure No: 2
Figure Name: Site Boundary
Project Name: Old Eldon
Project Ref. No: 23293
Date: September 2023
Author: GC

0 10 20 m



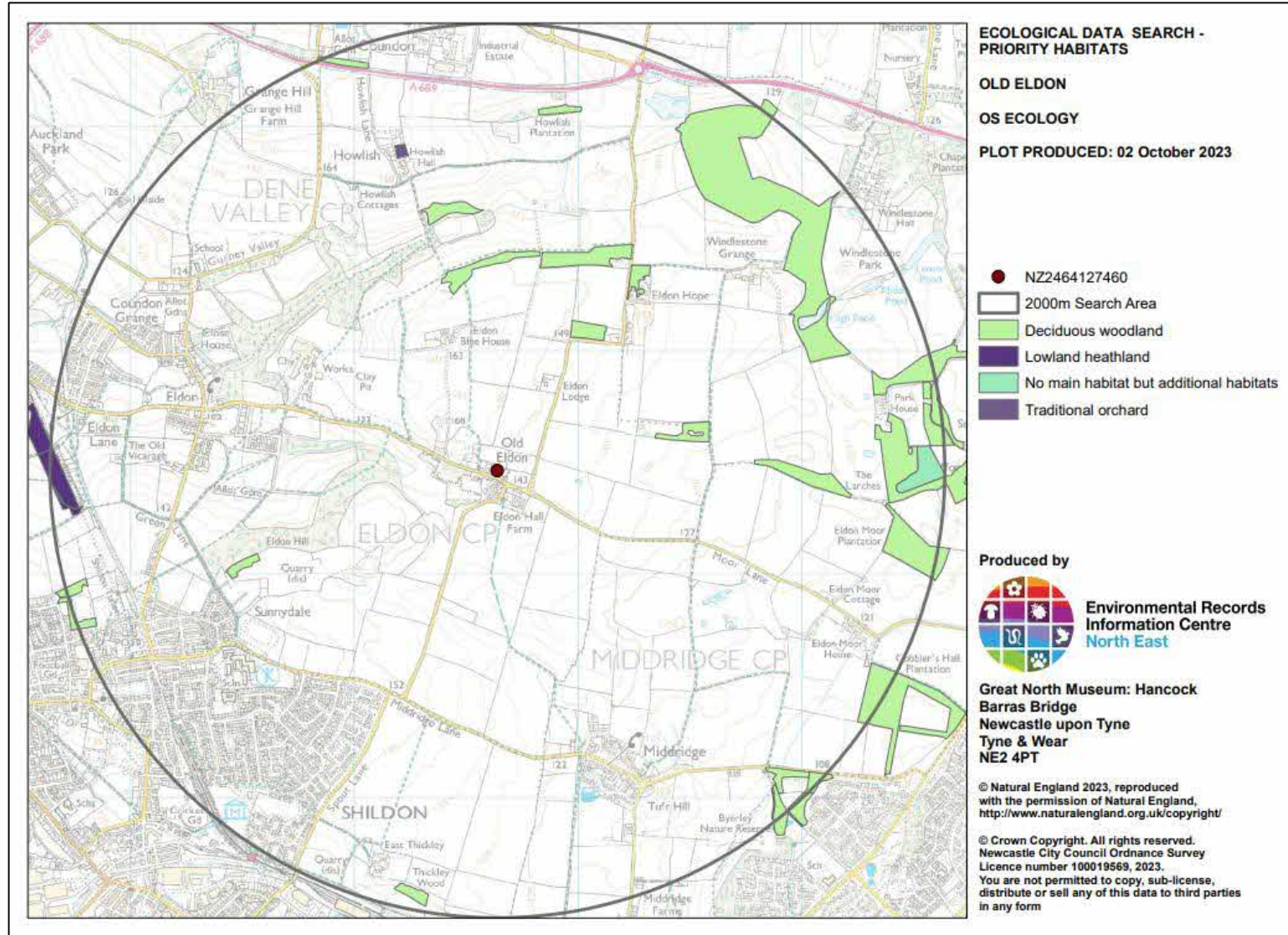


Fig 3: Priority Habitats within 2km of the site (from ERIC NE)

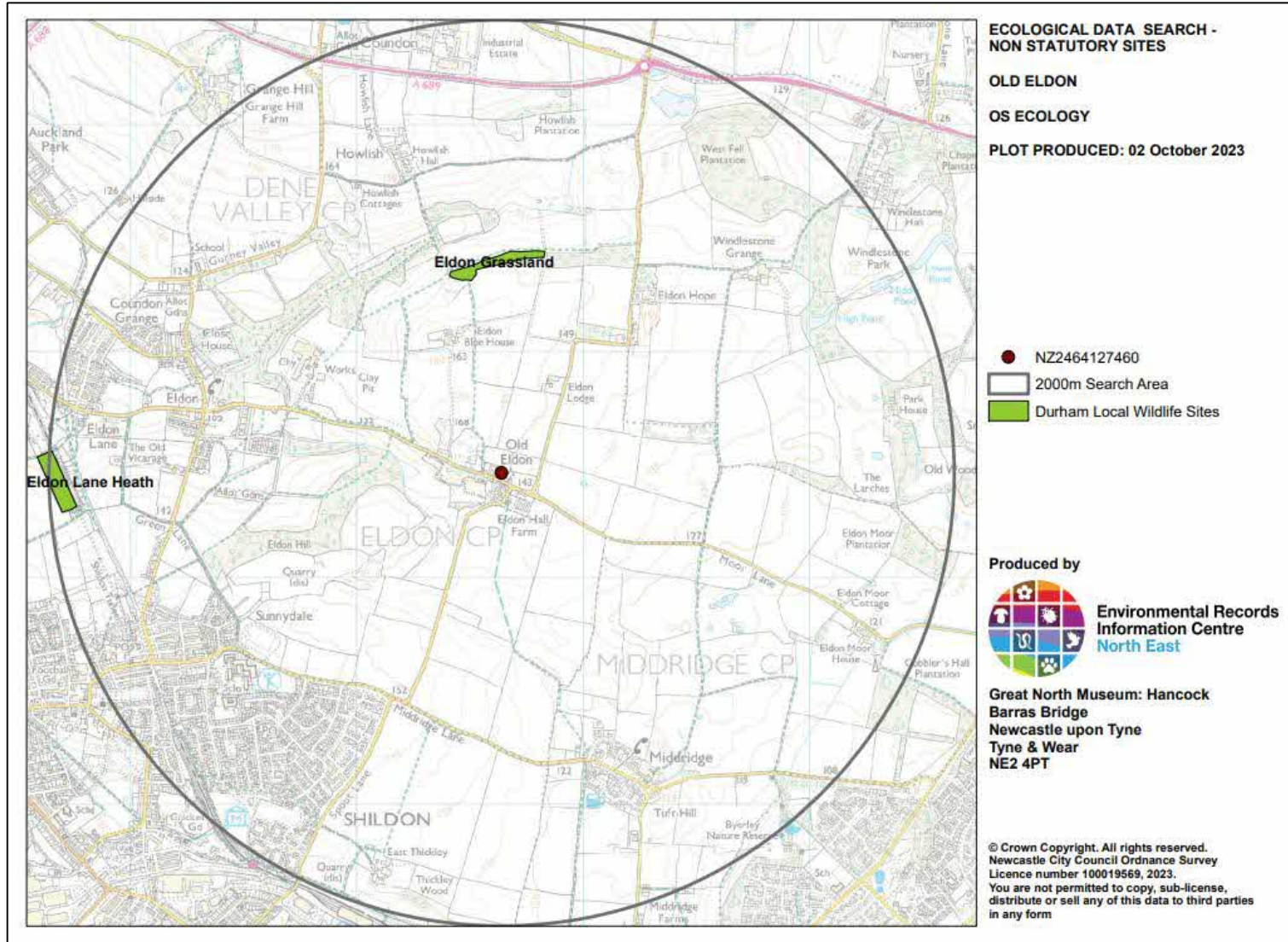


Fig 4: Local Wildlife Sites within 2km of the site (from ERIC NE)



Key

-  Mature Tree
-  Site Boundary
-  g3c - Other Neutral Grassland
-  g4 - Modified Grassland
-  u1b5 - Buildings

Secondary Codes
10 - scattered scrub
16 - Tall forbs
103 - horse grazed
200 - tree
206 - felled

Note: Tree locations are approximate

North ↑

Figure No: 5
Figure Name: UK Habs
Project Name: Old Eldon
Project Ref. No: 23293
Date: September 2023
Author: GC

0 5 10 15 20 (m)





Key

-  Site Boundary
-  Target Notes

North ↑





Figure No: 6
Figure Name: Target Notes
Project Name: Old Eldon
Project Ref. No: 23293
Date: September 2023
Author: GC

0 10 20 m





Key

-  Site Boundary
-  Pond
-  250m buffer from site boundary
-  500m buffer from site boundary

North ↑

Figure No: 7
Figure Name: Ponds within 250m and 500m
Project Name: Old Eldon
Project Ref. No: 23293
Date: September 2023
Author: GC

0 100 200 m
