

PRELIMINARY ECOLOGICAL APPRAISAL

October 2022

Hogshaw Farm,
Fairfield,
Buxton,
SK17 7HN

U R B A N
G R E E N



QUALITY MANAGEMENT

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NON-TECHNICAL EXECUTIVE SUMMARY

Barratt Homes are proposing to develop land at Hogshaw Farm in Fairfield, Buxton (hereafter referred to as ‘the site’). The proposals include the development of the site into a residential estate with associated hard and soft landscaping.

Urban Green have been appointed to complete a Preliminary Ecological Appraisal of the site. The objectives of the assessment are to identify habitats on site and determine the suitability for any ‘protected and/or notable’ species that may occur on site. Further ecological surveys and mitigation are recommended to aim to minimise potential impacts on ecology, due to the proposed development.

Following the survey work, the key recommendations are summarised in the following table

Current Site Use and Adjacent Site Use	The site is currently used as agricultural grazing land for the majority, with part of Hogshaw Railway LWS on site which is used by the local community and extends to the west of the site. A golf course is present to the east of the site with residential housing to the south and more agricultural land to the north.
Potential Impacts on Designated Sites	The site lies within the Nutrient Impact Area of the Peak District Dales SAC and therefore adverse impacts may affect the site if not considered. Hogshaw Railway Land LWS site is present on site which may be impacted by the development if not considered within the scheme.
Habitats	The site comprised predominantly modified grassland and broadleaved woodland with blackthorn scrub, a watercourse, artificial unvegetated; unsealed surface, buildings, multiple lines of trees and built linear features also present.
Ecological Constraints	The following potential ecological constraints were identified during the assessment: • T1, and T2 were assessed as having low bat roosting potential. • T3 was assessed as having moderate bat roosting potential. • Suitable habitats for notable invertebrates, common amphibians, nesting birds, bats, hedgehogs, brown hare, and badger. • Nun Brook may provide suitable habitat for white-clawed crayfish. • Himalayan balsam and Japanese knotweed were present on site. • Hogshaw Railway LWS is present on site
Recommended Ecological Mitigation	The following mitigation measures are recommended to minimise potential impacts due to the proposed development: • Precautionary Working Methods during the construction phase for common amphibians, badgers, bats, brown hare, and hedgehog. • If any vegetation requires removal, it should be completed outside of the breeding bird season (March to September, inclusive). If this is not feasible, a Nesting Bird Check is to be completed by a qualified ecologist within 48 hours before removal is completed. • Removal of invasive flora species on site.
Recommended Further Surveys and Reports	The following ecological surveys and reports are recommended to further assess the sites suitability for protected/notable fauna and/or flora: • eDNA survey for the presence of white-clawed crayfish in Nun Brook. • Updated aerial tree surveys/nocturnal bat surveys. • Bat activity surveys • Updated badger survey • Production of a CEMP. • Production of an HRA • Homeowner packs to be provided to new residents regarding the LWS present on site.
Recommended Ecological Enhancements	The National Planning Policy Framework (NPPF) (2021) highlights the requirement for planning policies and decisions to conserve and enhance the natural environment. The proposed development provides the opportunity to enhance the site and ecological enhancements have been recommended.

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1 Introduction

1.1 Background to the Scheme

Barratt Homes are proposing to develop land at Hogshaw Farm in Fairfield, Buxton (hereafter referred to as ‘the site’). The proposals include the development of the site into a residential estate with associated hard and soft landscaping. Urban Green have been appointed to undertake a Preliminary Ecological Appraisal (PEA) of the site.

The author of the report is Jake Healy, MSc, Qualifying CIEEM, Ecologist at Urban Green. Jake has experience providing ecological consulting services for a range of development schemes across the UK, including residential and commercial schemes.

1.2 Site Context

The site is located at National Grid Reference SK 06584 74409 and comprises a total area of approximately 5.6ha (see Figure 1).

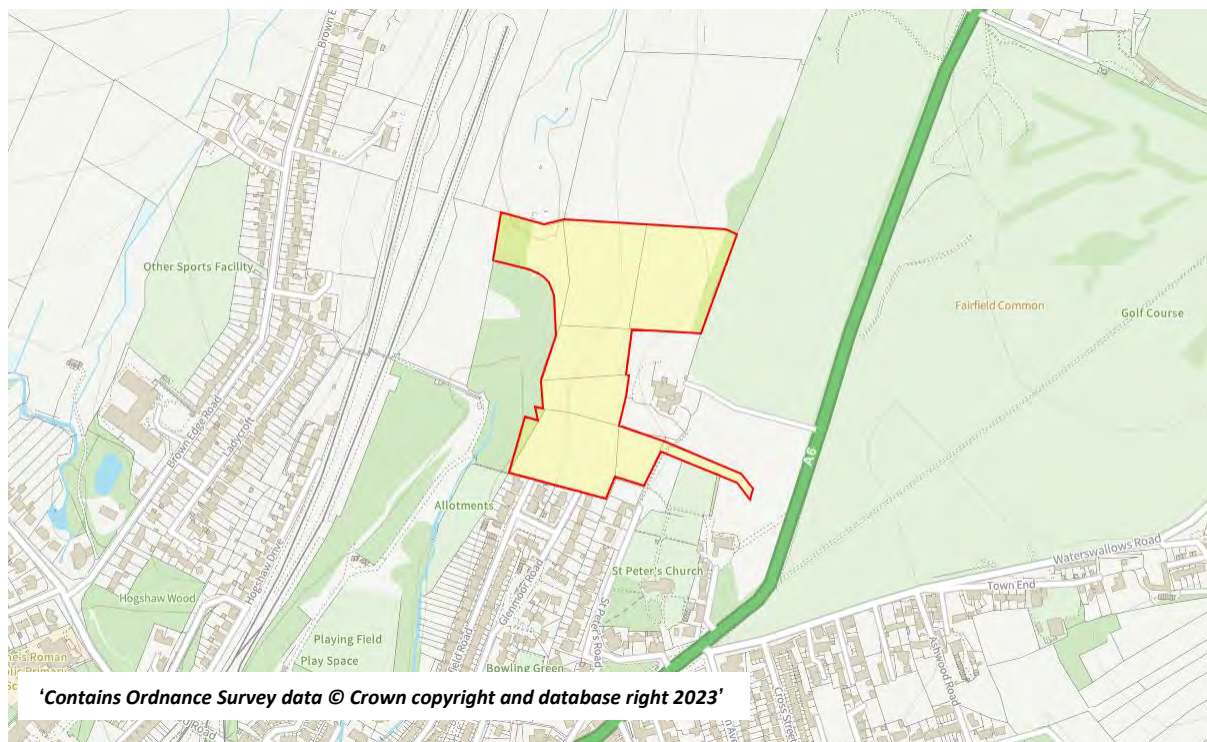


Figure 1 – Site Extent

The site is located in the rural-urban fringe of Buxton, approximately 1.5km north-east of the town centre. The A6 lies approximately 50m east of the site, with Nun Brook located adjacent to the northern the site boundary and approximately 35m west of the southwestern site boundary. Residential housing lies immediately south of the site, with areas of recreational green space to the east and west and agricultural land to the north. An industrial unit is present along the central aspect of the eastern boundary of the site.

1.3 Purpose of this Report

This report has been produced to set out the methods, results, and conclusions of a PEA. The purpose of the PEA report is to identify habitats on site and determine the sites potential value for protected and/or notable fauna and flora, with the addition of potential impacts on designated sites. This will inform the need for any further ecological surveys and/or mitigation to minimise the potential impacts on ecology on site and within the local area.

Further information and details of UK legislation for those species which are formally protected is defined in Appendix 1, which are considered throughout the assessment.

The National Planning Policy Framework (NPPF) (2021) and other Local Planning Policies are considered with the PEA. Ecological enhancements are advised to be in line with relevant Planning Policies.

2 Methods

The PEA assessment and Report follows the good practice methodology as detailed within the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2019).

2.1 Desk Study

2.1.1 Online Resources and Local Records Centre

Due to the size and low impact of the proposed development and being located in the rural-urban fringe of Buxton, a 1km Local Data Search was conducted as it is deemed an appropriate distance for the Zone of Influence.

Sources of information used in the desk study are presented in Table 1.

Table 1 – Desk Study Sources of Information

Source	Date Consulted	Information Sought
MAGIC website (www.magic.gov.uk)	30/09/2022	Locations of statutory designated sites within 1km of the site boundary. Locations of Natura 2000 sites (Ramsar, Special Area of Conservation (SAC) and Special Protection Area (SPA)) within 5km of the site boundary. Locations of European Protected Species Licences (EPSL) and Class Licences within 1km.
Natural England (https://designatedsites/.naturalengland.org.uk/)	30/09/2022	Relevant statutory designated site citations.
JNCC (https://jncc.defra.gov.uk/)	30/09/2022	Information on European wildlife sites. Details of relevant Section 41 species and habitats.
Derbyshire Biological Records Centre (DerBRC)	03/10/2022	Locally designated wildlife sites within 1km of site boundary. Records of protected and notable species within 1km of the site boundary.
Derbyshire Local Biodiversity Action Plans	03/10/2022	Species and habitats which are given special conservation status at the local level.
Main River Map (Environment Agency)	03/10/2022	The main river map shows which rivers in England are designated as 'main rivers.' Other rivers are called 'ordinary watercourses.'

2.2 Field Survey

2.2.1 Vegetation

The site was subject to a field survey on the 5th of October 2022, by Jake Healy Ecologist and Shannon Brady Biodiversity Net Gain Consultant. The weather conditions were 15°C, overcast (8/8 oktas), with a wind speed of 2 on the Beaufort scale and consistent rain throughout.

The methods were based on the standard methodology as detailed by The UK Habitat Classification User Manual (Butcher et al, 2020). A UKHab Habitat Plan has been produced to demonstrate habitats within the proposed development and the surrounding area. The mapping techniques are based on The UK Habitat Classification User Manual (Butcher et al, 2020) guidance.

Flora species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and/or uncommon habitats, were searched for during the survey.

Species abundance is described using the DAFOR scale as shown in Table 2. Percentages are an approximate indication rather than a quantitative measure.

Table 2 – Key to Species Abundance

		Description	Indicative Percentage Ranges
D	Dominant	Covers most of the area	90% or greater
A	Abundant	Very common throughout the area.	50 – 90%
F	Frequent	Common or with many individuals.	20 – 50%
O	Occasional	Occurs in several places but not throughout. Populations are not large.	5 – 20%
R	Rare	Occurs in low numbers in relation to size of area.	Less than 5%
“L” will be used to indicate abundance in a localised area, e.g., LA = Locally abundant			

Any invasive species, including those listed on the revised (April 2010) Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) were noted during the field survey when sighted.

2.2.2 Fauna

A site search for field signs of protected and notable fauna was undertaken, and incidental sightings are detailed. The searches completed were as follows:

- Suitability of any ponds to support notable and protected amphibians, and the suitability of the site’s terrestrial habitats to support amphibians.
- Suitability of the site to support reptiles by way of habitat structure and refuge piles, as well as links to the wider landscape.
- Search of any watercourses for signs or suitability for white clawed-crayfish (*Austropotamobius pallipes*), water vole (*Arvicola amphibius*) and otter (*Lutra lutra*) by way of burrows, resting places, holts, and foraging signs.
- Suitability of the site to support notable bird species. Bird nests and droppings of notable and protected bird species.

- Suitability of the site to support notable invertebrates.
- Search of the site for any invasive species.
- Badger (*Meles meles*) field signs such as setts, mammal, paths, snuffle holes and latrines.
- Suitability of the site to support notable terrestrial mammals including harvest mouse (*Micromys minutus*) and brown hare (*Lepus europaeus*).

2.3 Bat Assessment

2.3.1 Preliminary Roost Assessment

A Preliminary Roost Assessment (PRA) was carried out on the site buildings and trees using a high-powered torch and close-focussing binoculars.

The PRA methodology is based on information contained within the Bat Conservation Trust (BCT) guidelines, 3rd edition (Collins, 2016). The categorisation within this report is based on that set out in Table 3, which is used as a basis for determining the requirement for further surveys.

Table 3 – Suitability of Buildings and Trees for Roosting Bats (adapted from Collins, 2016)

Category of Suitability	Typical Characteristics	Further Survey Requirements
High Roost Suitability	A structure/tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. Surveys can be undertaken between May and September, with at least two surveys between May and August.
Moderate Roost Suitability	A structure/tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but are unlikely to support a roost of high conservation status.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. Surveys can be undertaken between May and September with at least one survey between May and August.
Low Roost Suitability	A structure/tree 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 condition and/or suitable surrounding habitat to be used on a regular basis by larger numbers of bats.	Structures: one emergence/re-entry survey between May and August. Trees: No further survey required but precautionary methods of felling recommended.
Negligible Suitability	Negligible habitat features on site likely to be used by roosting bats.	No further work required.

2.3.2 Commuting and Foraging Bats

The site was assessed for its suitability for use by commuting and foraging bats.

The commuting and foraging assessment methodology is based on information contained within the Bat Conservation Trust guidelines 3rd edition (Collins, 2016). The categorisation within this report is based on that set out in Table 4, which is used as a basis for determining the requirement for further surveys.

Table 4 – Suitability of Site for Foraging and Commuting Bats (adapted from Collins, 2016)

Category of Suitability	Typical Characteristics
High Suitability	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting or foraging bats such as; river valleys, streams, hedgerows, lines of trees or woodland edge. Site is close to or connected to known roosts.
Moderate Suitability	Continuous habitat connected to the wider landscape that could be used by commuting bats such as lines of trees, scrub or linked back gardens. Habitat connected to wider landscape that could be used for bats for foraging such as; trees, scrub, grassland, or water.
Low Suitability	Habitat that could be used by small number of commuting bats such as; defunct hedgerow, isolated features not well connected to surrounding habitat or Isolated habitat that could be used by a small number of foraging bats such as a lone tree or patch of scrub.
Negligible Suitability	No features on site suitable for use by commuting and foraging bats.

2.4 Habitat Suitability Index

No ponds were present on site; however, one pond (P1) was identified within 250m of the site boundary (see Section 3.3.5 for further details). As great crested newts' upper dispersal limit is generally considered to be up to 250m from a waterbody (though occurrence of greater distances does exist), ponds beyond this distance were not assessed due to limited connectivity (English Nature, 2001).

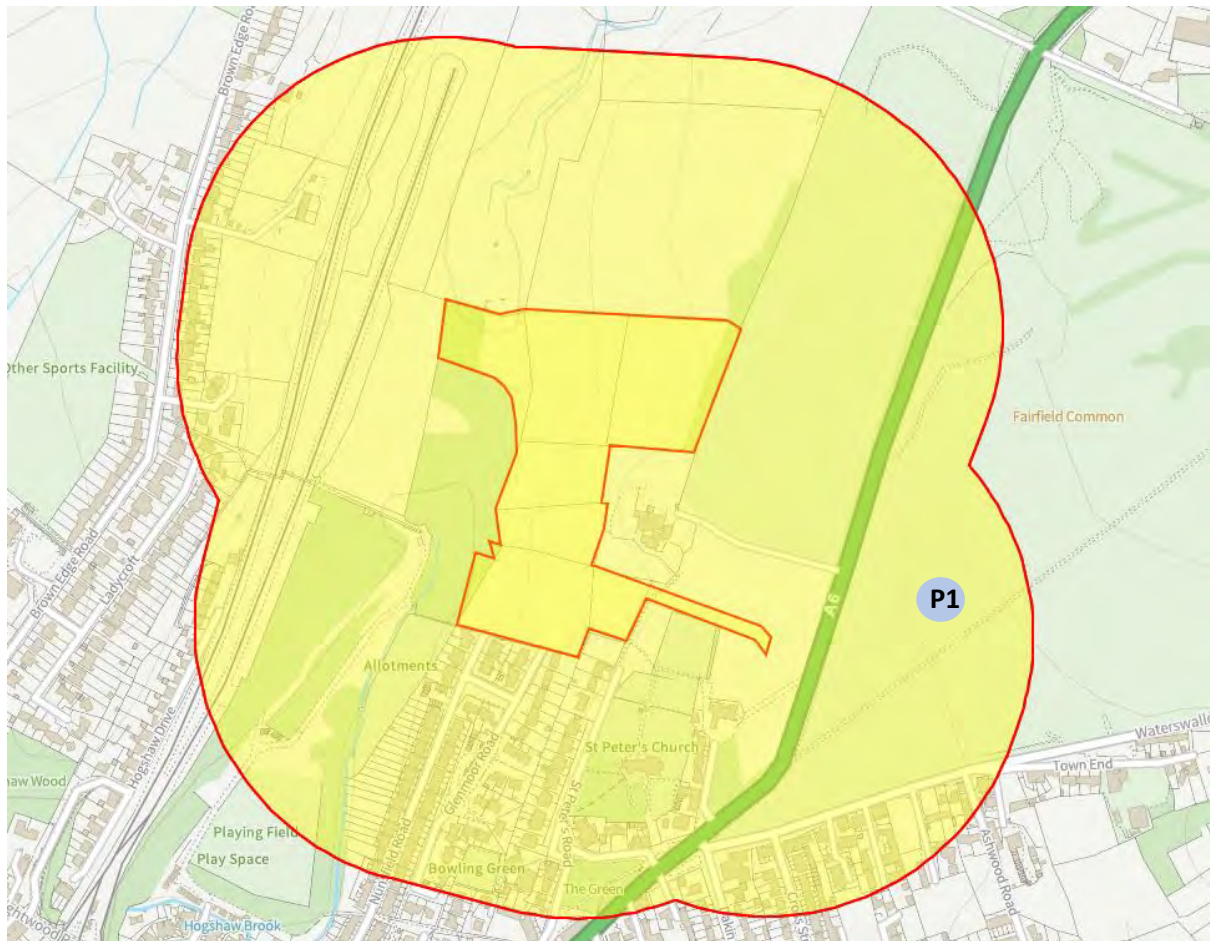


Figure 2. Location of ponds within 250m of the site.

These ponds were considered for their suitability to support great crested newts (*Triturus cristatus*) and they underwent a Habitat Suitability Index (HSI) assessment following the methodology set out in ARG UK Advice Notice 5 (Oldham *et al.*, 2010). Ten habitat suitability indices were assessed and inputted into the HSI equation, which generates a score between 0 and 1. The calculated score corresponds to the estimated pond suitability for great crested newt, as outlined in Table 5. Refer to Appendix 4 for further details.

Table 5 – Pond Suitability Scores for Great Crested Newts

HSI Score	Habitat Suitability
<0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

2.5 Constraints to the Survey

Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.

This PEA does not constitute a full botanical survey. The protected species assessment provides a view of the likelihood of protected species occurring on the site based on the known distribution of species in the local area and the suitability of the habitat.

October is a suboptimal time for carrying out a UKHab Habitat Surveys due to being outside of the optimal plant growing season. Therefore, it is likely that some plants are present on the site but were not evident at the time of the survey and were not recorded. This is not considered to be a significant constraint with regards to the general UKHab Habitat Survey results as the habitats remained consistent with previous surveys, and due to the size and location of the site and limited extent of the habitats, it is considered very unlikely that any rare or priority plant species were missed.

It should not, however, be taken as providing a full and definitive survey of any protected species group.

Where a lack of records is found during the desk search for a defined geographical area, it does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

The conclusions and recommendations detailed in this report are based upon the site redline boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.

The findings of this report represent the professional opinion of qualified ecologists and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited within this document.

2.6 Lifespan of Report

In accordance with CIEEM's Advice Note on the Lifespan of Ecological Reports and Surveys (CIEEM, 2019), the details of this report will remain valid for a period of **18 months** from the date of the survey (i.e., until 5th April 2024). After this date, this assessment should be reviewed to determine whether any updated surveys are required.

2.7 Definitions

For the purposes of this report, the term 'protected and notable species' relates to:

- Species included on Schedules 2 and 4 of *The Conservation of Habitats and Species Regulations 2017*;
- Species included on Schedules 1, 5 and 8 of the *Wildlife and Countryside Act 1981* (as amended), excluding species that are only protected in relation to their sale (see section 9[5] and 13[2]);
- Invasive non-native species included on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended);
- Species of principal importance for the conservation of/maintaining and enhancing biodiversity as required under: Section 41 of the *Natural Environment and Rural Communities Act 2006*

(England), Section 7 of the *Environment (Wales) Act 2016*, Section 2[4] of the *Nature Conservation (Scotland) Act 2004*;

- Local species of importance as identified within various local biodiversity action plans; and,
- Badgers, which are protected under the *Protection of Badgers Act 1992*.

3 Baseline Ecological Conditions

3.1 Desk Study

3.1.1 Site Location

The site is located in the rural-urban fringe of Buxton, approximately 1.5km north-east of the town centre. The A6 lies approximately 50m east of the site, with Nun Brook located adjacent to the northern the site boundary and approximately 35m west of the southwestern site boundary. Residential housing lies immediately south of the site, with areas of recreational green space to the east and west and agricultural land to the north. An industrial unit is present along the central aspect of the eastern boundary of the site. Various habitats such as woodland, grassland and a brook are present within the vicinity of the site.

It is anticipated these habitats will provide suitable foraging, resting, and commuting resources within the local area for a variety of wildlife, such as birds, bats, and other terrestrial and aquatic mammals.

3.1.2 Designated Sites

Two sites that form part of the National Site Network were located within 5km of the site boundary. No further statutory sites were present within 1km of the site. However, one non-statutory designated site was located within 1km of the site. All sites are detailed within Table 6.

Table 6 – Designated Sites within the Search Areas

Designated Site	Approx. Distance from Site	Details
Statutory designated sites		

Designated Site	Approx. Distance from Site	Details
Peak District Dales Special Area of Conservation (SAC)	1.3km south-east	A large site (2336.91ha) with various features that contribute to its designation. Annex I habitats that are a primary reason for its selection: • Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Important orchid sites) • Tilio-Acerion forests of slopes, screes, and ravines (Priority feature). Annex I habitats present as a qualifying feature but not a primary reason for selection: • European dry heaths • Calaminarian grasslands of the <i>Violetalia calaminariae</i> • Alkaline fens • Calcareous and calcshist screes of the montane to alpine levels • Calcareous rocky slopes with chasmophytic vegetation Annex II species that are a primary reason for selection: • White-clawed crayfish Annex II species that are present as a qualifying feature but not a primary reason for selection: • Brook lamprey (<i>Lampetra planeri</i>) • Bullhead (<i>Cottus gobio</i>)
South Pennine Moors SAC / Peak District Moors Special Protection Area (SPA)	2.6km west	A large site (65024.32 ha) with various features that contribute to its designation. Annex I habitats that are a primary reason for selection: • European dry heaths • Blanket bogs • Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles Annex I Habitat present as qualifying feature but not a primary reason for selection of the site: • Northern atlantic wet heaths with <i>Erica tetralix</i> • Transition mires and quaking bogs
Non-statutory designated sites		
Railway Land Hogshaw Local Wildlife Site (LWS)	Onsite	A site of 7 hectares comprising a mosaic of habitats along a railway line.

The site also falls within the Impact Risk Zone of the following Statutory Sites, based on consultation with MAGIC:

- Waterswallows Quarry SSSI – Located 1.4km east of the site.
- The Wye Valley SSSI – Located 1.3km south-east of the site.

- Topley Pike and Deep Dale SSSI – Located 3.4km south-east of the site.
- Poole’s Cavern and Grin Low Wood SSSI – Located 2.2km south of the site.
- Goyt Valley SSSI – Located 2.6km west of the site.
- Leek Moors SSSI – Located 3.9km south-west of the site.

3.1.3 Flora and Fauna

The following section summarises protected and/or notable species records that have been recorded within 1km of the site.

Vascular Plant

The data search returned seven records notable vascular plant species that are of local and national importance and are recommended to be included in ecological Assessments by Derbyshire Wildlife Trust.

The species returned include marsh cinquefoil (*Potentilla palustris*), wall whitlowgrass (*Draba muralis*), spring cinquefoil (*Potentilla tabernaemontani*), jacob’s ladder (*Polemonium caeruleum*), water violet (*Hottonia palustris*), narrow-leaved bitter-cress (*Cardamine impatiens*), and pale willowherb (*Epilobium roseum*). The closest record was located approximately 100m west of the site related to Jacob’s-ladder in 2003.

All species are Derbyshire Red Data Book plant Species, including Category 2 – Nationally threatened, Category 3 – Nationally scarce, and Category 5 – Locally scarce or declining.

Invertebrates

One record of notable invertebrate was received within the data search comprising small heath (*Coenonympha pamphilus*).

Small heath are listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Amphibians

Three records of great crested newt were returned within the data search with the closest record located approximately 600m south from 2018.

No other records of amphibians were returned within the data search.

Great crested newts are a European Protected Species (EPS) protected through The Conservation of Habitats and Species Regulations (2017), the Wildlife and Countryside Act (1981), Section 41 of the NERC Act (2006) and an LBAP species for Derbyshire.

A MagicMap search returned no granted EPSL relating to great crested newts present within 1km of the site.

Birds

A total of 11 records of protected or notable birds were returned within 1km of the site as detailed in Table 7.

Table 7 – Protected or notable birds recorded within 1km

Scientific Name	Common Name	Protection	Closest Record to Site	
			Approx. Min. Distance (m)	Date
<i>Pyrrhula pyrrhula</i>	Bullfinch	BoCC5**, S41****, LBAP	230m	2020
<i>Prunella modularis</i>	Dunnock	BoCC5**, S41****, LBAP	0m	2020
<i>Passer domesticus</i>	House sparrow	BoCC5*, S41****, LBAP	90m	2020
<i>Turdus philomelos</i>	Song thrush	BoCC5**, S41****, LBAP	Within 1km	2007
<i>Sturnus vulgaris</i>	Starling	BoCC5*, S41****, LBAP	170m	1991
<i>Apus apus</i>	Swift	BoCC5*	Within 1km	2016

* Red list of BoCC5 (2021)

** Amber list of BoCC5 (2021)

*** Black list BoCC5 (2021)

**** Section 41 of the NERC Act (2006)

***** Schedule 1 or 5 of the WCA (1981)

Bats

Twenty-four records of bats were returned within the data search including unidentified bat species (*Chiroptera sp.*) unidentified pipistrelle species (*Pipistrellus sp.*), unidentified myotis species (*Myotis sp.*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), and noctule (*Nyctalus noctula*).

Two records were related to bat roosts, the closest being approximately 500m south of the site relating to an unidentified pipistrelle in 1999.

The remaining records were related to field signs of bats with the closest record located approximately 300m south-east of the site relating to common pipistrelle, soprano pipistrelle, and noctule in 2012.

All species of bat are EPS protected through The Conservation of Habitats and Species Regulations (2017), the Wildlife and Countryside Act (1981). The soprano pipistrelle and noctule are also listed on Section 41 of the NERC Act (2006) and the LBAP.

A MagicMap search returned no granted EPSL relating bats present within 1km of the site.

Hedgehog

Four records of hedgehog were returned with 1km of the site, with the closest record located approximately 400m south-west of the site from 2016.

Hedgehog are listed on Section 41 of the NERC Act (2006) and the LBAP.

Fish

Three records of brown trout (*Salmo trutta*) were returned within the data search, all located approximately 750m south of the site with the most recent from 2015.

Brown trout are listed on Section 41 of the NERC Act (2006) and the LBAP.

Brown hare

One record of brown hare (*Lepus europaeus*) was returned within the data search located approximately 160m east of the site from 2016.

Brown hare are protected through the WCA (1981) and Section 41 of the NERC Act (2006) and the LBAP.

Water vole

One record of water vole was returned within the data search located approximately 800m south of the site from 2013

Water vole are protected through the WCA (1981) and on the LBAP.

Badger

Six records of badger relating to setts were returned within the data search. All records were located within 1km of the site and exact locations have been omitted from the report to protect the status of the setts. The most recent record was from 2013.

Badgers are protected the Protection of Badgers Act 1992 and are listed on the LBAP.

Invasive Non-native Species

Flora

Thirty-one records of invasive non-native plant species were returned within 1km of the site, comprising Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*), and Canadian waterweed (*Elodea canadensis*). The closest record to site was attributed to Japanese knotweed, located onsite in 2011.

No Records Returned

The data search returned no records for:

- Reptiles
- Hazel dormice (*Muscardinus avellanarius*)
- White-clawed crayfish
- Red squirrel (*Sciurus vulgaris*)
- Otter
- Beaver

3.2 Field Survey

The site habitats and accompanying Target Notes are presented in the UKHab Habitat Map in Appendix 4.

Secondary codes are added to confirm the identity of a habitat (when necessary), and also to provide information on management and the environment relating to that habitat parcel. The number and type of secondary codes added to a primary habitat will vary depending on the habitats present. There is no limit to the number of secondary codes that can be used for a single parcel.

3.2.1 Modified Grassland (g4)

The majority of the site comprised various areas of modified grassland in use as agricultural grazing land separated by a number of fence lines.

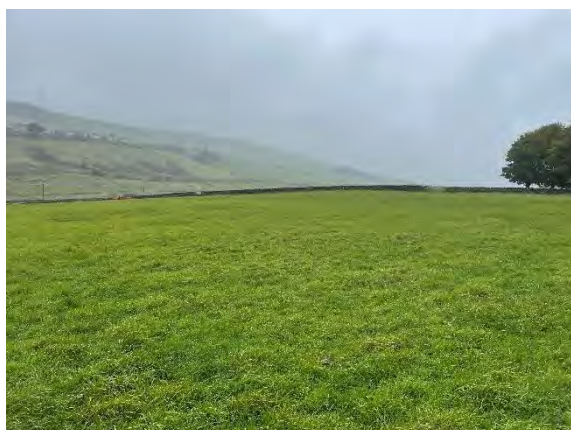
Parcel 1 (g4 16 58 60 75)

The first parcel is located in the north-eastern extent of the site and comprises a grazed grassland field.

The field comprised an abundance of perennial rye grass (*Lolium perenne*), with occasional cock's foot (*Dactylis glomerata*), dandelion (*Taraxacum agg.*), creeping buttercup (*Ranunculus repens*), ribwort plantain (*Plantago lanceolata*), common sorrel (*Rumex acetosa*), and creeping thistle (*Cirsium arvense*). The peripheries of this parcel exhibited a greater sward height and was more unmanaged around the fence lines and the eastern extent of this parcel. This more unmanaged area had a similar composition as the grazed section but was additionally comprised of abundant common nettle (*Urtica dioica*), curly dock (*Rumex crispus*), Yorkshire fog (*Holcus lanatus*) and occasional broad-leaved dock (*Rumex obtusifolius*).

The south-eastern corner of this parcel was segregated by a fence line that formed a chicken coop and had a tall stand of common nettle.

Stands of Japanese knotweed (*Reynoutria japonica*) and Himalayan balsam (*Impatiens glandulifera*) were also present within this parcel along its southern periphery, Target Note 1 and 2, respectively on the associated habitat map found in Appendix 4.



Photograph 1 – Modified grassland parcel 1, grazed area



Photograph 2 – Modified grassland parcel 2, ungrazed area



Photograph 3 – Stand of Japanese knotweed



Photograph 4 – Stand of Himalayan balsam

Parcel 2 and 3 (g4 58 60 75)

The second and third parcels are located in the centre of the site and the south of the site and are similar to the ungrazed section in Parcel 1 exhibiting a short sward height with a similar species composition. These parcels had a large presence of rabbit burrows and droppings.



Photograph 5 – Modified grassland parcel 2



Photograph 6 -Modified grassland parcel 3



Photograph 7 – Rabbit burrow

Parcel 4 (g4 16 11 80 86)

Parcel 4 is located at the western section of the site separated to Parcel 2 by a fence line and borders the woodland described in Section 3.2.2. This parcel is unmanaged and forms part of the Railway Land Hogshaw LWS. The majority of the parcel exhibits a tall sward height comprising dominant rosebay willowherb (*Chamaenerion angustifolium*), with abundant common nettle, curly dock, and hogweed (*Heracleum sphondylium*). Frequent occurrences of cocks foot, creeping thistle, and Yorkshire fog were also present with occasional creeping buttercup, bramble (*Rubus fruticosus* agg.), greater plantain (*Plantago major*), and cow parsley (*Anthriscus sylvestris*). Scattered trees were also present within the parcel comprising occasional cherry (*Prunus avium*), horse chestnut (*Aesculus hippocastanum*), and spruce (*Picea* sp.).

Two large stands of Japanese knotweed (TN1) were also present within this parcel.



Photograph 8 – Modified grassland parcel 4



Photograph 9 – Modified grassland parcel 4



Photograph 10 – Stand of Japanese knotweed



Photograph 11 – Stand of Japanese knotweed

Parcel 5 (g4 16 8o)

The fifth parcel was located in the south-eastern extent of the site and had a public footpath running through it. The grassland exhibited a tall sward height and was unmanaged comprising an abundance of rosebay willowherb, common nettle, and creeping thistle, with occasional Yorkshire fog, perennial rye grass, bramble, and ribwort plantain.



Photograph 12 – Modified grassland parcel 5

3.2.2 Other Woodland; Broadleaved (w1g 16 47)

The north-western corner of the site comprised successional broadleaved woodland, which was an extension of an established area of woodland to the south. Species composition includes occasional ash (*Fraxinus excelsior*), goat willow (*Salix caprea*), wych elm (*Ulmus glabra*), cherry, sycamore (*Acer pseudoplatanus*), crack willow (*Salix fragilis*), and silver birch (*Betula pendula*). The ground layer included frequent bramble and rosebay willowherb and rare Japanese knotweed. This area of woodland was furthermore located within the Railway Land Hogshaw LWS.



Photograph 6 – Other woodland, broadleaved

3.2.3 Other rivers and streams (r2b 8o)

Nun Brook is present off-site adjacent to the northern the site boundary and approximately 35m west of the southwestern site boundary. The brook is culverted through the majority of the woodland and comes to the surface just offsite and runs above ground in a southerly direction.

At the time of survey, the water levels within the brook were high and lots of silt was being carried within the brook. Vegetation was present on the embankments either side and within the brook itself comprising occasional pendulous sedge (*Carex pendula*), cocksfoot, Yorkshire fog, creeping buttercup, and curly dock.



Photograph 16 – Nun Brook, culvert



Photograph 17 – Nun Brook

3.2.4 Artificial Unvegetated, Unsealed Surface (u1c)

A single footpath runs through parcel 5 of the modified grassland and is comprised of compact gravel substrate that classes as artificial unvegetated, unsealed surface.



Photograph 18 – Footpath

3.2.5 Buildings (u1b5)

Two buildings/structures are present within the site boundary. Further details including descriptions and current use of the buildings can be found in Appendix 2.



Photograph 20 – Buildings 1 and 2

3.2.6 Line of Trees (w1g6)

Four lines of trees are present on site associated with the areas of modified grassland and generally confined to field boundaries.

Line of Trees 1 (w1g6)

The first line of trees is present within the north of the site adjacent the eastern boundary located in Parcel 1 of the modified grassland. It runs north to south for approximately 120m and is comprised of dominant sycamore with occasional ash and hawthorn (*Crataegus monogyna*). The majority of specimens are mature with some young mature trees also present.



Photograph 22 – Line of Trees 1

Line of Trees 2 (w1g6 47 80)

The second of line of trees is located in the south-western extent of the site adjacent the field boundary between parcel 2 and parcel 4 of modified grassland. It runs north to south for approximately 35m and is comprised of dominant silver birch and occasional cherry.



Photograph 23 – Line of Trees 2

Line of Trees 3 (w1g6)

The third line of trees is located just south of the second line of trees on site and is approximately 20m in length. Sycamore exclusively comprises the species composition.



Photograph 24 – Line of Trees 3

Line of Trees 4 (w1g6)

The fourth line of trees is located in the central extent of the site adjacent the eastern boundary. It runs north to south for approximately 50m and is comprised exclusively of sycamore.



Photograph 25 – Line of Trees 4

3.2.7 Built Linear Features (u1e)

Various built linear features were present on site that form the site boundary and separate the different parcels on site. The features comprise fence lines and dry-stone walls.



Photograph 27 – Dry-stone wall



Photograph 28 – Fence line

3.3 Site Suitability for Protected and Notable Species

3.3.1 Species Discounted from Assessment

Hazel dormouse (*Muscardinus avellanarius*) mainly occur in southern counties, especially in Devon, Somerset, Sussex, and Kent. There are few recorded localities north of the Midlands, though they are present in parts of the Lake District and in scattered Welsh localities (Matthews *et al.*, 2018). The species are not generally known to be present within the Buxton area (Wembridge *et al.*, 2016). The habitats on site are of limited value due to limited areas of extensive woodland and scrub. As such, the species are reasonably discounted from site.

Red squirrel have been discounted from the assessment. Red squirrel populations are limited to small areas of northern England and are not known to be present in the Buxton area; with no previous