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Preliminary Ecological Appraisal

June 2021

Land off Preston Road,
Ribchester.
Lancashire,

PR3 3XL

National Grid Ref: SD647356

Document Title	Preliminary Ecological Appraisal
Issue no.	1.0
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Prepared by	Tyrer Ecological Consultants Ltd

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Survey Date	24/05/2021
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Review date	09/06/2021
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Date of Issue	09/06/2021

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This report aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey; it is not intended that this report should be submitted with a planning application for development of the site, unless supported by the results of further surveys and a detailed assessment of the effects of the proposed development

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Executive Summary

As part of a planning application regarding a plot of Land off Preston Road, Ribchester, a Preliminary Ecological Appraisal was undertaken by Tyrer Ecological Consultants Ltd during May 2021, in accordance with the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017) and other best practice guidance. It is understood that proposals involve the development of part of the sheep-grazed pasture to accommodate a series of buildings to be used for heliciulture (see Figures 1.1 - 1.2).

Extensive findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following Key recommendations.

Habitats & Flora: The appraisal identified no notable flora communities of conservation-significant habitats to warrant specific measures for avoidance or minimisation or mitigation within the site boundary, as such no recommendations need be applied at this time for species. *The grassland is a good example of priority habitat 'Lowland meadows' - impacts to this habitat should be offset through native species planting / landscaping recommended in Appendix III.*

One invasive species has been identified within the survey area in the form of Himalayan Balsam (*Impatiens glandulifera*) (see Figure 8.1). *It is recommended that this species is eradicated on site prior to the commencement of operations by mechanical means (e.g. hand pulling at an appropriate time of year), as opposed to using herbicides. Any spoil removed from the area is to be treated as controlled waste and disposed of at a landfill authorised to accept such refuse.*

Bats: From the survey results it can be concluded that all trees contained within the survey area are absent of bat roost suitability, although their value to bats as commuting features should not be undermined. Installation of lighting as part of any development that exceeds current levels may have a negative impact upon foraging/commuting bats. At the land off Preston Road, lighting must not illuminate boundary features, particularly to the north and east. Increased light spillage should be avoided in areas likely to be used by bats as a foraging resource such as the parameters of the site boundary. *If inappropriate and ill designed lighting is implemented across the site, then there is likely to be an adverse impact upon bats. There are many measures that can be used, where lighting is unavoidable to reduce potential impacts. These include, however are not limited to, the light source used and luminaire design and accessories to direct light at its intended target. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site. Refer to the Bat Conservation Lighting Guidelines for further information.*

Enhancement for bats has been recommended within Appendix III.

Biodiversity Enhancement: Recommended measures to enhance the site and ensure no net loss in accordance with Chapter 15 of the National Planning Policy Framework (Conserving and Enhancing the Natural Environment) are presented in Appendix III.

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1.0 Introduction & Scope

1.1 As part of a planning application regarding a plot of Land off Preston Road, Ribchester, a Preliminary Ecological Appraisal was undertaken by Tyrer Ecological Consultants Ltd during May 2021, in accordance with the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017) and other best practice guidance. It is understood that proposals involve the development of part of the sheep-grazed pasture to accommodate a series of buildings to be used for heliciulture (see Figures 1.1 - 1.2).

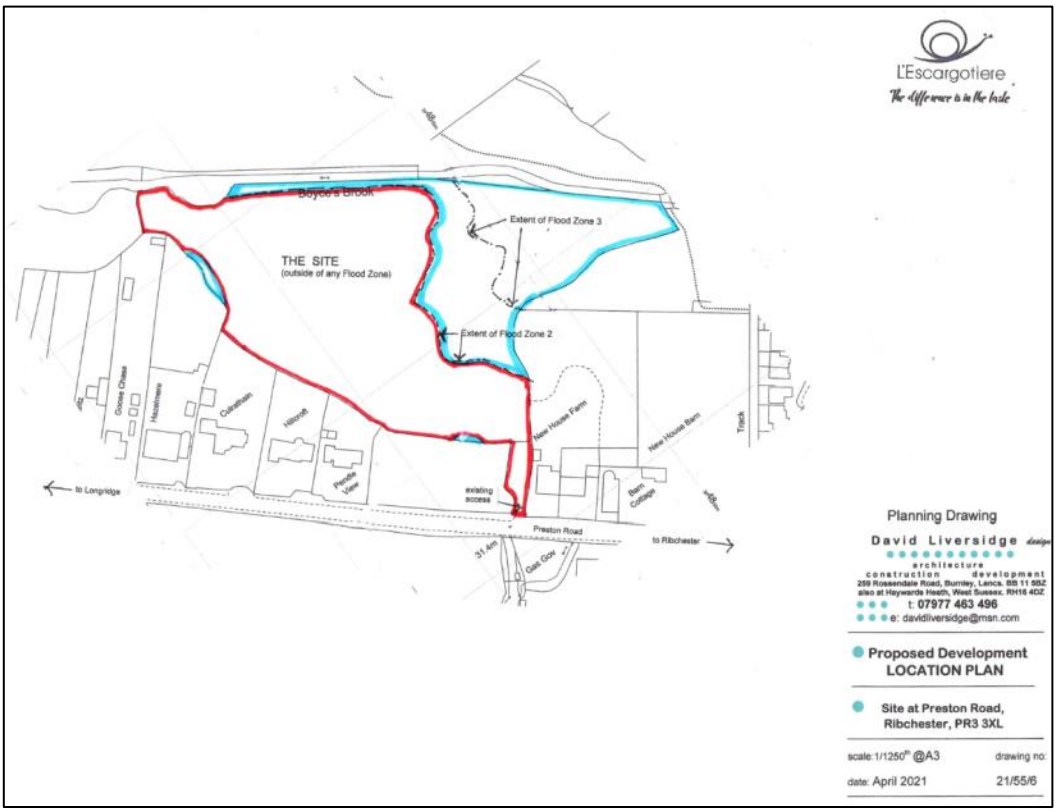

Figure 1.1 - Red line survey boundary

1.2 This PEA was carried out in accordance with the '*Guidelines for Preliminary Ecological Appraisal*, *2nd Edition'* (CIEEM, 2017) and all site associated '*CIEEM Competencies for Species Survey* (CSS)', whilst this report has been presented in accordance with the British Standard 42020:2013.

Aims & Objectives

1.3 The aim of the survey was to ascertain the nature of the land, and where possible obtain information on any priority wildlife habitats, or species, that may be present and if so determine if they will be affected by the proposals.

The survey therefore includes the following objectives:

- Gather and present baseline ecological information on site/off site (as necessary) within a suitable report,
- Identify any likely ecological constraints associated with the proposals for the site (i.e. the presence of protected/priority habitats or species that exist within the confines of the application boundary, or zone of influence (ZOI),

- Identify measures likely to be required in line with the mitigation hierarchy (i.e. impact avoidance > minimisation > mitigation > compensation),
- Identify additional survey requirements to form an impact assessment,
- Identify a series of enhancement opportunities for biodiversity in line with national and local planning policy following '*Biodiversity Net Gain: Good practice principles for development*' (CIEEM *et. al.*, 2019).

Figure 1.2 - Proposed site plans

1.4 As a functioning component of this specific ecological appraisal:

- Habitats on site were identified and mapped using the '*Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Handbook'* (JNCC, 2010),
- Trees were subject to a preliminary roost assessment (PRA) for bats.

1.5 This report therefore provides <u>baseline</u> information as derived from the diurnal appraisal process outlined above and recommends any necessary additional surveys, or work, where applicable, to provide a conclusive ecological impact assessment.

1.6 The Applicant should be aware then that if during the appraisal:

- The application site/area was found to be suitable for any European Protected Species (EPS), otherwise protected, or priority habitats/species, or,
- Signs of use by particular protected species were found, or suspected, or,

- Seasonal constraints significantly limit the gathering of ecological information to arrive at an accurate conclusion on which the planning application can proceed,

Then more detailed surveys may be recommended where necessary, to allow the ecologist to arrive at a conclusive impact assessment.

1.7 As part of the Local Planning Authorities (LPA) planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted, particularly where protected/priority species are, or may be present, that could be affected by the proposals for which the application seeks consent.

1.8 If any protected species was subsequently found either during appraisal or during detailed further surveys and / or may be affected by the development proposals, then a European Protected Species Mitigation Licence (EPSML) may be required to proceed with the development.

1.9 Where more detailed surveys are recommended by the Ecologist, following ecological appraisal, then Local Planning Authorities (LPA's) on the advice of their ecological advisors, may not grant permission until such time that all relevant material information is gathered in accordance with their obligations to the legislature.

1.10 Protected/priority species omitted from this report have been discounted due to factors including obvious absence/isolation of suitable habitats, and/or distributional aspects negating the necessity to survey for them, and/or the proposed works were not considered to negatively impact the species or encroach on areas where the species may be present.

2.0 Legislation & Policy

2.1 The legislature considered for the purposes of this report includes the following:

- Conservation of Habitats and Species Regulations (amendment) (2019) (EU Exit),
- Wildlife and Countryside Act (1981) (as amended),
- Countryside Rights of Way (CRoW) Act (2000),
- Natural Environment and Rural Communities (NERC) Act (2006),
- Protection of Badgers Act (1992),
- The Hedgerow Regulations (1997),
- Town and Country Planning Act (1990),
- Wild Mammals Protection Act (1996)

2.2 These acts entail relevance to both protected and invasive species. The degree of protection offered to taxa provided within existing UK and EU legislature often varies depending on species/group, for example, some species may purely be protected during one of its life stages (e.g. common species of breeding bird whilst nesting/with eggs/young); some species may receive full protection within the EU (e.g. otter), whereas others may be protected solely on a national basis (e.g. grass snake).

2.3 Table 2.1 contains appropriate legislature to each species/group specifically respective to the site, and provides the relevance of said legislation.

Table 2.1 - Relevant Legislation

Species Group/Species	Relevant Legislature	Level of Protection
Badger	Protection of Badgers Act (1992), Wildlife and Countryside Act (1981) (as amended)	Illegal to wilfully kill, injure or take a badger (or attempt to do so). Cruelly ill-treat a badger. Dig for a badger. Intentionally or recklessly damage or destroy a badger sett, or obstruct access to it. Cause a dog to enter a badger sett. Disturb when it is occupying a sett.
Bats	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	All British bats and their roosts are afforded full protection from damage/destruction and bats may not be injured/killed/taken at any life stage. Once identified, roosts are protected whether the bat is in occupation or not.
Birds (Breeding)	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended)	All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected. Birds listed on Schedule 1 Wildlife & Countryside Act (1981) (as amended) are afforded a greater level of protection.
Invasive Plant Species	Wildlife and Countryside Act (1981) (as amended)	Species listed within Schedule 9 as invasive, including Japanese Knotweed (*Reynoutria japonica*) and Himalayan Balsam (*Impatiens glandulifera*), for example, carry notoriety regarding development. The Act makes it an offence for any person to grow or cause to grow in the wild any plants listed as invasive.
Water Vole	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended)	Water voles (*Arvicola amphibius*) are protected from killing, injuring, disturbance and possession; it is also an offence to obstruct or disturb their burrows.

Policy

2.4 Guidance for Local Authorities: Extract from Office of the Deputy Prime Minister - Circular 06/2005:

"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 planning permission is

granted, otherwise all relevant material considerations may not have been addressed in making the decision".

2.5 Paragraph 175 of the National Policy Planning Framework (as revised in 2019) stipulates:

"*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*".

2.6 Paragraph 174 also makes the following reference relative to biodiversity enhancement and net gain:

"To protect and enhance biodiversity and geodiversity, plans should… 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."

2.7 Policy ENV10 of Ribble Council's Local Plan goes onto say *"Where permission is granted for development affecting the nature conservation value of sites… conditions may be imposed or agreements sought:*

(a) to avoid damage to wildlife habitats or physical features of the nature conservation interest;
(b) to secure the retention or enhancement of wildlife habitats; and
(c) in appropriate cases, to require the re-creation of habitats once the development has ceased."

3.0 Priority Habitats & Species

National context

3.1 In the United Kingdom, legal protection and otherwise legislative recognition is afforded to particular habitats and species. Certain habitats and species are considered to hold nature conservation importance and are thus protected due to factors such as their ecological functionality, their rarity, their vulnerability, environmental importance or declining population/status. They are referred to as priority habitats and priority species.

3.2 The UK Biodiversity Action Plan (UKBAP) provided a statutory basis for lists of habitats and species of national conservation importance - now transposed under section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act).

3.3 The following Priority habitats and species are considered relevant to the survey area:

Habitats:

- 'Lowland meadows' and 'hedgerows'

Species:

- Bats: Brown long-eared (*Plecotus auritus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Noctule (*Nyctalus noctula*),
- S.41 Bird species that include: House Sparrow (*Passer domesticus*), Dunnock (*Prunella modularis*), Song Thrush (*Turdus philomelus*), Skylark (*Alauda arvensis*) and Lapwing (*Vanellus vaneullus*) for e.g.,
- Land mammals that include: Water Vole (*Arvicola amphibius*), Brown Hare (*Lepus europaeus*), Hedgehog (*Erinaceus europaeus*) for e.g.,

- Herpetofauna: Common toad (*Bufo bufo*), Common lizard (*Zootoca vivipara*), Slow-worm (*Anguis fragilis*) for e.g.,
- Botanical species that includes Purple ramping-fumitory or Bluebell (*Hyacinthoides non-scripta*) for e.g.

District context

3.4 Local Biodiversity Action Plans (LBAP's) are a way of encouraging people to work together and deliver a program of continuing action for biodiversity at a local level. LBAPs also embrace the idea of 'local distinctiveness'; habitats and species which are not considered UK conservation priorities can be catered for by LBAPs if they are of particular local significance.

LBAP's set out practical steps that aim to:

- Help protect biodiversity,
- Enhance and improve biodiversity where possible, and,
- Promote biodiversity at a local level

3.5 The Local Biodiversity Action Plan (LBAP) serving Lancashire lists key local species / habitats considered to be rare or declining in the area. Some may be of national concern, while others may only be locally rare. Some are statutorily protected, although the great majority are not. There is potential for a number of LBAP priority species to be affected by the development.

4.0 Survey Methods

4.1 As part of the Preliminary Ecological Appraisal report, a desk-top and field-based study is conducted. Methods for both components of the appraisal are given below.

Desktop Study

4.2 Prior to a site visit a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations within 2.0km of the site boundary. To do so, the 'Multi Agency Geographic Information for the Countryside (MAGIC – provided by Defra)' along with data from the 'Natural England Open Data Geoportal' and Geology of Britain viewer was accessed to gather such information; this particular interactive mapping service was also used to locate any European Protected Species Mitigation Licenses (EPSML) and species records to further inform conclusions concerning protected species in the context of the study site and its proposed development.

4.3 Historic satellite imagery was reviewed using sources such as Google Earth (© 2020/21) to help establish past land use/cover and determine the nature of adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.

4.4 In addition, the National Biodiversity Network (NBN) Atlas was studied for commercially available species data (OGL/CC0/CC-BY filtered) that might help inform the survey, and the Council Planning Portal 'Search for planning applications' function was utilised to help inform the desktop study by analysis of existing publicly accessible and freely available ecological survey results that have been carried out locally within the previous five years.

4.5 A commercial data request to the Local Environment Records Centre serving the area, West Yorkshire Ecology, has not been sourced during this preliminary appraisal assessment and is justified through application of the following recent guidance:

1) The Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2020) states:

"It is generally expected that a desk study, including a data search, will be a key part of the ecological surveys or reports produced to inform a planning application. Freely available web-based sources of data and contextual information should always be used; in some cases, it may be acceptable to not undertake a data search with the LERC or other relevant NSS or local interest groups, for example:

ii) Situations where the data search would be extremely unlikely to provide information needed to inform the assessment; due to the scale and location of the proposed development. The appropriateness of excluding a data search will need to be judged on a case-by-case basis as, in most situations, it will be essential to carry out such a search even if the development is very small or is likely to have a low impact. It can be very difficult to demonstrate that a data search would not have provided relevant information without obtaining and reviewing those data.

iii) In some cases for Preliminary Roost Assessments of buildings in low impact / small-scale scenarios, such as an extension to a residential property, loft conversions (full or partial), installation of Velux/dormer windows, single modern agricultural or similar building conversion or demolition; however, it should not be assumed that data searches are never required for such scenarios and this must be judged on a case by case basis and justified accordingly.

2) The Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) states:

"*Very occasionally it might be possible to carry out a robust PEA without obtaining LERC/NBDC/CEDaR data; this will usually only apply to* ***low impact or small-scale projects*** *(e.g. by virtue of size, extent, duration of works, magnitude and locality), and should be determined on a case-by-case basis*."

Given the small scale, low impact nature of the proposals, as exemptions as made bold above can be applied for the proposed works at Land off Preston Road in good practice, at this time it is considered unnecessary to conduct a commercial data request, however, if a data search is considered to be necessary by the Local Authority or ecological advisory body to better inform the appraisal, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued/updated report.

Field Survey

4.6 A daytime preliminary ecological appraisal was conducted on 24th May 2021 in drizzly conditions (8ºC), wind 4/12 (Beaufort scale), average 99% cloud, by the following surveyor (Table 4.1).

Table 4.1 - Site Surveyor

Name	Description of most relevant credentials
Mr. Mark Pritchard ACIEEM (Senior Ecologist)	Five years professional consultant experience & training; Licenced in Bats: (2020-5039-CLS-CLS) (Class 1) and accredited agent on the (Class 2) Natural England bat licence of Mrs. K. Wilding (CLS-14227); Licensed for Great Crested Newt: CL08 (Great Crested Newt Survey Level 1) - 2018-34062-CLS-CLS (England); Licensed for Sand Lizard & Natterjack Toad (2020-48549-SCI-SCI);

Floristic assessment

4.7 The survey followed UK industry standard Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology standards (JNCC, 2010) with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series "*Guidelines for Preliminary Ecological Appraisal*, *2nd Edition"* (CIEEM, 2017).

4.8 During the survey walkover, botanical assemblages were assessed, and the land was inspected for the presence of red-listed (Stroh *et al*, 2014; Hodgetts, 2011), s.41 and LBAP species alongside specially protected species as listed under Schedule 8 of the Wildlife and Countryside Act (WCA) (1981) (as amended) and / or Schedule 5 The Conservation of Habitats and Species (amendment) (EU exit) Regulations (2019). Species nomenclature follows Stace, C. (2019) – definitive English names.

4.9 Additional to attributing ecological value to red-listed / BAP species, in accordance with existing CIEEM guidance, a geographic frame of reference is also adopted. Plant species and habitats may be recognised for their ecological value on a geographical scale which is adopted on a site-to-site basis (see Figure 4.1 below).

4.10 In combination with assessing the area in relation to flora and habitats of conservation importance, the land was also assessed in relation to the presence of invasive non-native species (INNS) as listed under Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) (as amended).

For the site-relevant botanical species list, see Appendix II.

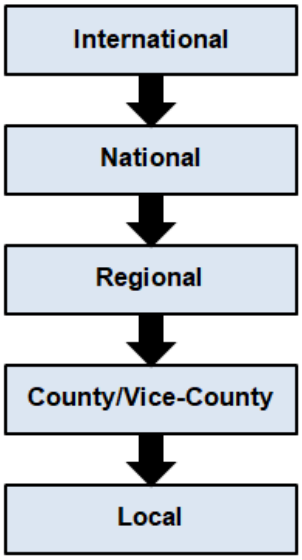

Figure 4.1 - Geographic Frame of Reference entailing degrees of conservation importance

Faunal assessment

4.11 During site walkover the identification and/or evidence of fauna encountered was documented whilst in tandem the area was assessed for the potential to support the priority species in section 3.0. The walkover also aimed to identify any ephemeral pools or unmapped waterbodies.

Bats

4.12 The site would be assessed for bats; buildings (where present) would be inspected for potential places that may be of value to bats and to determine evidence of use. This typically involves a search for potential roost features (PRF) both internally (investigation of loft spaces/upper floors/internal elevations) as well as externally, comprising an investigation of features (roof material, building components) using a high powered torch. Field signs of bats typically comprise bat droppings, incidental animal presence, dead specimens, claw marks and/or prey items. The surrounding habitat was also considered in terms of general suitability.

Breeding Birds

4.13 The site was checked for evidence of nesting birds and suitability for relevant species. Bird species observed and heard were recorded on site, and a search was made for nest material, or areas suitable for nesting - this can take the form of buildings, woody vegetation,

semi-aquatic vegetation such as reeds and/or the ground. Additional to the site's capacity to support generally common species for breeding, the area was also subject to an assessment for wider capacity to support species with extra protection under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended), for example Barn owl (*Tyto alba*) and other priority species.

Other terrestrial mammals

4.14 The walkover included a search for field signs of Badger (*Meles meles*) which includes signs of activity such as prints, hairs, digging, setts, 'runs' leading to and from a sett and the existence of latrines or 'snuffle' holes where badgers have foraged in the ground. The application site was also assessed for the presence/suitability of Brown hares.

4.15 A search of the Boyce Brook which exists immediately adjacent to the northern site boundary was undertaken where visibility was permitted and included a field search for evidence of Water vole (*Arvicola amphibius*). Much of the brook could not be viewed in full extending to 50 metres off site, due to its presence on privately-owned land though this did not affect the appraisal process. An assessment of suitability has been made of this brook.

Water vole field signs typically include the following:

- Sightings – confirmed sighting of a Water vole during the survey.
- Latrines – collections of droppings.
- Burrows – holes along the water's edge and in the bank above.
- Footprints – forefoot and hind foot.
- Pathways in vegetation – low runs or tunnels pushed through vegetation.
- Feeding remains – piles of chewed lengths of vegetation with 45 degree cuts to the ends.
- Cropped grass around tunnel entrances – grazed vegetation to form a 'lawn' around burrow.

4.16 The Water Vole survey methodology followed recommendations contained within the *Water Vole Conservation Handbook, 3rd Edition* (Strachan & Moorhouse 2011). Furthermore, the Mammal Society's *Water Vole Mitigation Handbook* (2016) was also referred too.

4.17 This brook was also searched for evidence of otter (*Lutra lutra*) in the form of:-

- dung (spraints)
- tracks (footprints)
- feeding remains
- otter slides (into water)
- holts (underground dens)
- couches (above ground sites where otters rest during the day)

4.18 Natural England and DEFRA (2014) give that:

"*Impacts to consider include:*

- *habitat loss or degradation in or near water bodies*
- *habitats being cut off and becoming fragmented*
- *holts and resting places being removed*
- *disturbance to resting and feeding places*
- *disturbing their usual routes, e.g. road bridge or culvert works forcing otters to use roads or bridges that might mean it's more likely that otters will be killed or injured on the road*
- *changes to water quality which could also affect food sources"*

Great Crested Newt (GCN) / common amphibians

4.19 A map and field search was undertaken in relation to the presence of ponds or waterways that may support Great Crested Newts (GCN). This search was extended to identify habitats of value to reptiles that may occur within the vicinity of the application area. The information gathered would then be used to establish if more detailed surveys are required.

4.20 No ponds have been identified within a 250 metre radius of the survey area. English Nature's (now Natural England) Great Crested Newt Mitigation Guidelines (2001) states ponds within 500m of a proposed development site should be considered for their respective potential to support GCN; however, in some instances this distance may be reduced to 250m due to the presence of physical barriers and obstructions, or based on the likely magnitude of impacts arising from the proposed development.

Reptiles

4.21 The site and its surroundings were assessed for suitability for use by reptiles, with particular attention paid to features that could be used as basking areas (*e.g.* south-facing slopes), hibernation sites (*e.g.* banks, walls, leaf litter, piles of hardcore) and opportunities for foraging (*e.g.* rough grassland and scrub). *Beebee & Griffiths* (2000) state specific habitat preferences of common UK reptiles:

- Common Lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to heaths, walls and pastures, as well as brownfield sites,

- Slow-worm (*Anguis fragilis*) use similar habitats to Common Lizards, and are often found in rank grassland, gardens and derelict land under refugia,

4.22 The results, conclusions and recommendations of this report are based on a number of factors i.e.

- Skills and experience of the surveyor,
- Knowledge of flora and fauna relevant to the site location and geographical range,
- Nature of the immediate and surrounding habitat in relation to shelter, foraging and commuting opportunities.

4.23 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, Director of Tyrer Ecological Consultants Ltd, and her assessment concurs with the findings and recommendations of the surveyor Mr. Pritchard.

5.0 Limitations

5.1 This report does not contain a comprehensive list entailing the totality of botanical taxa on site. Species listed within Appendix II were noted from incidental observation at the time of the inspection; many plant species are only evident at certain times of the year and so some plant species may have gone undetected.

5.2 A full investigation of the brook was not undertaken at the time of the survey due to its continuation via privately owned land. Nonetheless, a substantial portion of the brook extending off site was able to be fully appraised relative to water vole and otter extending to 135 metres upstream; a view of the brook was also ascertained through gaps in boundary hedgerow to the north of the application site. Furthermore, the prospective development is sited to a distance of over 10 metres from the brook, and therefore this limitation is not considered to pose a significant constraint to this ecological investigation, findings or recommendations.

5.3 Having considered the constraints in the context of the site, it is considered that on balance, there are no significant constraints that might otherwise hinder the gathering of ecological information.

6.0 Desk Study Results

6.1 The survey area is a modest plot of land of an approximate of 1.0 hectare and is sited off Preston Road, in Ribchester, at a distance of 385 metres to the west of the village centre. The application site primarily consists of an apparently permanent agricultural pasture for sheep, in similarity to fields in the immediate and contiguous landscape.

6.2 Immediate habitats consist of a network of a number of agricultural pasture fields, interconnected by a series of hedgerows and streams with a large number of scattered trees and tree lines within the immediate landscape providing connectivity to larger areas of woodland, much of which is ancient semi-natural.

6.3 The contiguous landscape continues to a similar nature as that of the immediate with the addition of further favourable environs, particularly including the River Ribble which is set at an approximate distance of 640 metres to the south-east. Furthermore, a large number of interconnected woodlands exist interspersed within the extending landscape. The previously identified immediate habitats can be considered as being of moderate value for many of the notable and protected species for which this survey was undertaken, subject to them being present in the locality (see Figure 6.1).

Figure 6.1: Location of the application site within the contiguous landscape (Source: Google)

6.4 The desktop study found four results for European Protected Species Mitigation Licences (EPSMLs) within a 2.0km radius of the study site. Three of these relate to the non-breeding roosts of common pipistrelle, brown long-eared and Natterer's bats, whilst the remaining EPSML relates to the destruction of a resting place for great crested newt.

The closest of these is sited at approximately 800 metres to the south, whilst most EPSML's lie on the periphery of the search radius (see Figure 6.2).

6.5 The application site is situated within the impact zone for one statutorily protected site (see Table 6.1 & Figure 6.2). This includes the following:-

Table 6.1: Designated sites in proximity to the survey area

Site name	Designation type	Interest features
Red Scar and Tun Brook Woods	Site of Special Scientific Interest	Rd Scar and Tun Brook Woods are areas of ancient woodland which contain particularly extensive examples of Ash-Wych Elm woodland and valley Alder woodland. The woodlands are host to a large number of important species, including Yellow Archangel (Lamiastrum galeobdolon subsp. montanum), nearing its northern limit in Britain. White letter hairstreak and hawfinch are also regularly seen in the SSSI.

6.6 Notwithstanding the area's proximity to the aforementioned statutory designated site, the proposed works are highly unlikely to have an effect on neither it nor the qualifying species, features or habitats for which they have been designated for.

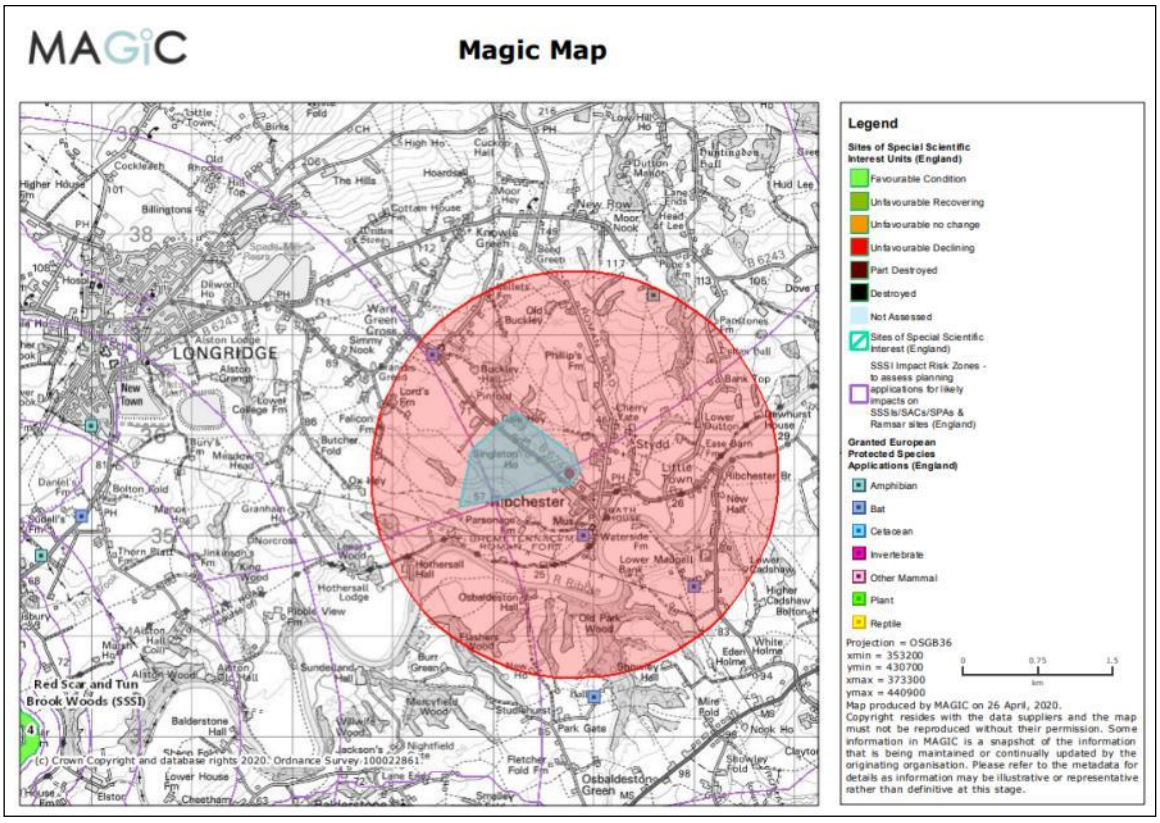

Figure 6.2: MAGIC Map search function results

7.0 Field Survey Results

7.1 Habitat Survey

7.1.1 See Table 7.1 (below) for habitat descriptions. Refer to Appendix IV - Phase 1 Habitat Map for the location of described habitats & Target Notes (TN). Species nomenclature follows Stace, C. (2019) – definitive English names; scientific names for given flora are presented in Appendix II. Refer to Appendix I for supporting imagery.

Table 7.1 - Phase 1 habitat types within the survey area with target notes

Broad Habitat	Description
A3.1 - Broadleaved scattered trees	A row of mature hybrid willow (*Salix x fragilis*) occurs in the north of the site adjacent to Boyce's Brook with Stinging Nettle (*Urtica dioica*) and grassland understorey. A mature Pedunculate Oak (*Quercus robur*) is also present to the south between hedgerows.
B2.2 - Neutral grassland - semi-improved	Much of the heavily sheep-grazed grassland consists of a relatively species poor assemblage, dominated by Sweet Vernal Grass (*Anthoxanthum odoratum*), Common Bent (*Agrostis capillaris*) and Meadow Foxtail (*Alopecurus pratensis*), with forbs such as Cuckooflower (*Cardamine pratensis*), White Clover (*Trifolium repens*) and Meadow Buttercup (*Ranunculus acris*).
B5 - Marshy grassland	Areas of marshy grassland, dominated by Soft Rush (*Juncus effusus*) and Glaucous Sedge (*Carex flacca*) exist to the south of the site, continuing off site. These areas are host to a range of herbaceous plants, namely including Cuckooflower (*Cardamine pratensis*).
C3.1 - Tall ruderal herbs & fern	Stands of mature Stinging Nettle occur to the west of the site boundary below the shade of the adjacent treelines.
J2.1.2 - Intact hedge - species poor	A mature Hawthorn (*Crataegus monogyna*) hedgerow part-forms the south-western boundary.
J2.2.2 - Defunct hedge - species poor	A short stretch of gappy hedgerow comprised of Hawthorn in the south of the site.
J5 - Other habitat	Hardstanding forming the access to site in the southern region.

7.2 Vegetation

Notable species

7.2.1 No notable plant species were encountered. The species and floral communities present are common within the county.

Invasive Species (INNS)

7.2.2 One species listed as 'invasive' under Schedule 9 (Part II) of the Wildlife & Countryside Act (1981) (as amended) was identified upon inspection of the survey area. This was in the form of Himalayan Balsam (*Impatiens glandulifera*) whose seedlings were located across much of the northern boundary, adjacent to Boyce's Brook (see Figure 7.2.1).

Figure 7.2.1: Approximate extent of Himalayan Balsam (Yellow) within the survey boundary

7.3 Bats

7.3.1 All trees contained within the survey area consist of semi-mature to mature broadleaved species, primarily including Sycamore (*Acer pseudoplatanus*), Pedunculate Oak (*Quercus robur*) and hybrid Willow (*Salix x fragilis*). These were all assessed to pertain to a 'negligible' categorisation in regard to existing bat roost suitability, owing to the absence of potential roost features such as cracks, crevices/fissures that might otherwise present roosting opportunities to bats.

7.4 Other Terrestrial Mammals

Badger

7.4.1 No evidence of badger (*Meles meles*) occurs across the extent of the site; their presence is considered to be very unlikely.

Hedgehog

7.4.2 Areas that constitute suitable habitat for hedgehog (*Erinaceus europaeus*) breeding / refuge are limited to the site boundaries (hedgerows), which will remain unaffected by the prospective development.

Water vole

7.4.3 The Boyces Brook immediately off site to the north consists of a slow-flowing water course, with generally well-developed marginal vegetation on its hard clay embankments, with the exception of where sheep have been allowed to graze through some portions. Marginal vegetation on embankments is noted to be varied, and consisted of a range of graminaceous and herbaceous plants, such as Hemlock Water-dropwort (*Oenanthe crocata*), Hairy Brome (*Brompsis ramosa*), Greater Wood-rush (*Luzula sylvatica*) and Crosswort (*Cruciata laevipes*).

7.4.4 In-channel vegetation appears to be entirely absent throughout the stream.

7.4.5 A search throughout the survey area revealed no evidence of use by this species, although that does not discount their presence. As the development is sited at a distance of over 10 metres from the stream embankment, predicted impacts to this species or habitats are deemed to be absent.

Otter

7.4.6 No evidence of otter or potential holts were located upon inspection and the Boyces Brook, although use for commuting/foraging by this species is considered to be possible.

7.5 Breeding Birds

7.5.1 A number of possible nesting platforms for a variety of nesting bird species are available through the site including areas with trees and hedgerow. The presence of any nesting bird including ground-nesting species within the breeding season (March-August) on this basis is therefore considered to be possible. No historic evidence of nesting was found upon appraisal of the area.

7.5.2 In relation to Schedule 1 birds, it is highly unlikely that the site is used for breeding purposes by Schedule 1 species such as kingfisher (*Alcedo atthis*) and no evidence of use or nesting opportunities were located within the survey boundary or nearby across portions of the Boyces brook.

7.5.3 For a list of bird species identified during the visit, see Table 7.2 below. One species of conservation concern was identified close to the site in the form of Curlew, which were identified by their call, as opposed to by visual means.

Table 7.2: Species identified during the inspection of the Land at off Preston Road

Common name	Scientific name	Conservation Designations
Blackbird	*Turdus merula*	-
Blackcap	*Sylvia atricapilla*	-
Blue Tit	*Cyanistes caeruleus*	-
Curlew	*Numenius arquata*	RL
Goldfinch	*Carduelis carduelis*	-
Great Tit	*Parus major*	-
Jackdaw	*Corvus monedula*	-
Magpie	*Pica pica*	-
Mallard	*Anas platyrhynchos*	-
Wood Pigeon	*Columba palumbus*	-

Conservation designations key

RL – Bird of Conservation Concern – Red status

7.6 Herpetofauna

Great Crested Newt (GCN)

7.6.1 No ponds exist within a 250 metre radius of the survey area. Furthermore, no suitable habitats for GCN refuge exist across the application site, with the exception of boundary hedgerows and associated vegetation which are to be retained as part of the prospective development. This absence in suitable terrestrial habitats is due to the heavily sheep-grazed nature of the field as it stands.

7.6.2 In order to assess risk to the species, a number of factors need to be considered. These include:

- Site proximity to potential breeding pond and to any additional ponds
- Habitat linkage / barriers between potential breeding ponds and the site
- Nature and extent of available terrestrial habitat around the pond
- Area of site habitat loss
- Nature of habitat to be lost and its potential value to GCN as refuge/ overwintering habitat.

Research by Natural England has shown that where favourable habitat exists around GCN ponds, the vast majority of the population is likely to be contained within 100m of the breeding pond, creating a 'terrestrial sponge' effect. Natural England's Rapid Risk Assessment has been conducted below (Table 7.3).

7.6.3 Given the absence of suitable terrestrial habitats that stand to be impacted by the prospective development, and absence of ponds within a 250 metre radius of the survey area, the presence of GCN is considered to be highly unlikely.

Other Amphibians

7.6.4 Given the quality of on-site habitats the presence of other, more generalist amphibian species such as the common toad (*Bufo bufo*) is considered to be likely.

Reptiles

7.6.6 No suitable habitats suited to any indigenous reptile species exists across the extent of the survey area.

Table 7.3: NE Rapid Risk Assessment

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)	0.5 - 1 ha lost or damaged	0.03
Individual great crested newts	No effect	0
	Maximum:	0.03
Rapid risk assessment result:	**GREEN: OFFENCE HIGHLY UNLIKELY**	

8.0 Conclusions & Recommendations

Habitats & Vegetation

8.1 The appraisal identified no notable flora communities of conservation-significant habitats to warrant specific measures for avoidance or minimisation or mitigation within the site boundary, as such no recommendations need be applied at this time for species. The grassland is a good example of priority habitat 'Lowland meadows' - impacts to this habitat should be offset through native species planting / landscaping recommended in Appendix III.

8.2 One invasive species has been identified within the survey area in the form of Himalayan Balsam (*Impatiens glandulifera*) (see Figure 8.1). It is therefore recommended that this species is eradicated on site prior to the commencement of operations by mechanical means (e.g. hand pulling at an appropriate time of year), as opposed to using herbicides. Any spoil removed from the area is to be treated as controlled waste and disposed of at a landfill authorised to accept such refuse.

Bats

8.3 From the survey results it can be concluded that all trees contained within the survey area are absent of bat roost suitability, although their value to bats as commuting features should not be undermined.

8.4 Installation of lighting as part of any development that exceeds current levels may have a negative impact upon foraging/commuting bats. At the land off Preston Road, lighting must not illuminate boundary features, particularly to the north and east. Increased light spillage should be avoided in areas likely to be used by bats as a foraging resource such as the parameters of the site boundary.

If inappropriate and ill designed lighting is implemented across the site, then there is likely to be an adverse impact upon bats. There are many measures that can be used, where lighting is unavoidable to reduce potential impacts. These include, however are not limited to, the light source used and luminaire design and accessories to direct light at its intended target. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site. Refer to the Bat Conservation Lighting Guidelines for further information.

8.5 Enhancement for bats has been recommended within Appendix III.

Other Terrestrial Mammals

8.6 A precautionary approach is to be adopted during clearance works; in the event that any hedgehogs are encountered, they are to be left in place unless they're at an immediate risk of harm – in which case, they are to be moved to an area of like-for-like habitat.

If and when future development transpires then provision of low angle sloping boards of approximately 300 mm wide should be placed within any excavations at the end of each working day to facilitate a means of escape for mammals such as hedgehogs.

Badger

8.7 No evidence of badger use was identified at the time of the survey and the possible presence of this species within the confines of the survey area at the time of proposed works is considered unlikely.

Water vole

8.8 Whilst suitability for water vole has been identified at the Boyce's Brook, despite the identified ecological limitation (see section 6.2), the prospective development is sited at over 10 metres from the brook. Therefore, possible impacts to this species are considered to be absent.

Otter

8.9 No evidence of otter or potential holts were located across the surveyed portion of the Boyce's Brook and use by this species is likely to be restricted to commuting/foraging purposes.

Breeding Birds

8.10 There are no implications in relation to Schedule 1 specially protected bird species e.g. kingfisher and no evidence of use was located upon inspection of the site.

8.11 The presence of other common bird species within the application site and within the application boundary for nesting purposes, primarily within areas of hedgerow and trees is considered to be likely. It is therefore recommended that any clearance works commence outside the breeding season for birds (broadly March-August inclusive), unless it can conclusively be demonstrated by a suitably qualified and competent ecologist [1] that nesting birds are absent.

8.12 It is recommended that enhancement for birds are incorporated into the proposed development as per Appendix III.

Herptiles

8.13 The potential presence of reptiles or any protected amphibian species, namely Great Crested Newts within the application site is considered to be unlikely due to the sites' isolation from potential breeding ponds and absence of suitable terrestrial habitats.

[1] Point 3.24 of the British Standards Publication 42020:2013 defines a professional ecologist as "*a person who has, through relevant education, training or experience, gained recognised qualifications and expertise in the field of ecology and environmental management.*"

Biodiversity Enhancement

8.14 Recommended measures to enhance the site and ensure no net loss in accordance with Chapter 15 of the National Planning Policy Framework (Conserving and Enhancing the Natural Environment) are presented in Appendix III.

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Appendix I: Site Photographs

Plate 1 - View of intact hedgerow forming the south-west boundary

Plate 2 - View of the north-eastern most corner of the site adjacent to Boyce's Brook

Plate 3 - View of the centre of the site as photographed from the north looking south

Plate 4 - Marshy grassland in the middle of the site

Plate 5 - Willow hybrid treeline in the north of the site

Plate 6 - Semi-improved neutral grassland grades into marshy grassland in the central south

Plate 7 - Crosswort to the northern border

Plate 8 - Defunct hedge to the southern boundary

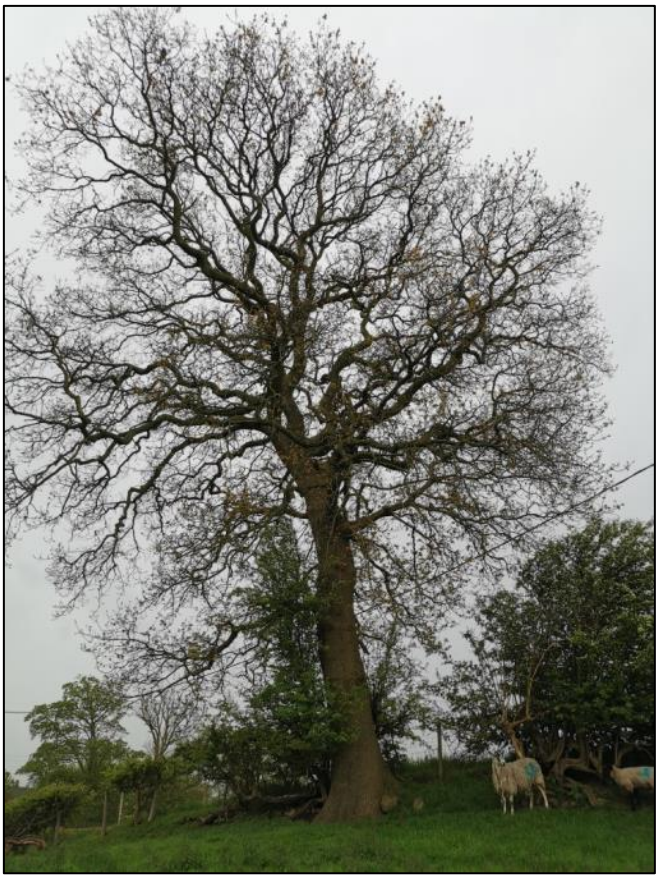

Plate 9 - Mature Oak in the south of the site

Plate 10 - Boyce's Brook adjacent to the northern boundary

Appendix II: Botanical Species List

Each species recorded was given an abundance value according to the standard DAFOR scale, where:

D = Dominant
A = Abundant
F = Frequent
O = Occasional
R = Rare

*These values can be prefixed by the letter L (locally), to provide more subtle biogeographical data.

Phylum	Common name	Scientific name	DAFOR
Bryophyta (Bryophytes)		*Kindbergia praelonga*	R
		Brachythecium rutabulum	R
		Rhytidiadelphus squarrosus	O
		Pellia sp.	R
		Conocephalum conicum	R
		Plagiomnium undulatum	R
Pteridophyta (Ferns)	Broad Buckler-fern	*Dryopteris dilatata*	R
	Hard Shield-fern	*Polystichum aculeatum*	R
	Hart's-tongue Fern	*Asplenium scolopendrium*	R
	Scaly Male Fern agg.	*Dryopteris affinis* agg.	R
Anthophyta (Flowering Plants)	a Dandelion	*Taraxacum* sect. Ruderalia	O
	Alder	*Anus glutinosa*	R
	Apple	*Malus pumila*	R
	Ash	*Fraxinus excelsior*	R
	Bog Stitchwort	*Stellaria alsine*	R
	Bokman's Dandelion	*Taraxacum boekmanii*	R
	Broad-leaved Dock	*Rumex obtusifolius*	R
	Bush Vetch	*Vicia sepium*	R
	Cleavers	*Galium aparine*	O
	Clustered Dock	*Rumex conglomeratus*	R
	Cock's-foot	*Dactylis glomerata*	R
	Common Bent	*Agrostis capillaris*	F
	Common Mouse-ear	*Cerastium fontanum*	O
	Common Nettle	*Urtica dioica subsp. dioica*	O
	Cow Parsley	*Anthriscus sylvestris*	R
	Creeping buttercup	*Ranunculus repens*	O
	Creeping Thistle	*Cirsium arvense*	O
	Crosswort	*Cruciata laevipes*	R
	Cuckooflower	*Cardamine pratense*	R
	Elder	*Sambucus nigra*	R
	English Bluebell	*Hyacinthoides non-scripta*	R
	False Brome	*Brachypodium sylvaticum*	R
	False Hook-lobed Dandelion	*Taraxacum pseudohamatum*	R

	Field Woodrush	*Luzula campestris*	O
	Foxglove	*Digitalis purpurea*	R
	Garlic Mustard	*Alliaria petiolata*	R
	Germander Speedwell	*Veronica chamaedrys*	R
	Glaucous Sedge	*Carex flacca*	O
	Hairy Brome	*Bromopsis ramosa*	R
	Hard Rush	*Juncus inflexus*	R
	Hawthorn	*Crataegus monogyns*	O
	Hazel	*Corylus avellana*	R
	Hemlock Water-dropwort	*Oenanthe crocata*	R
	Herb-Robert	*Geranium robertianum*	R
	Himalayan Balsam	*Impatiens glandulifera*	O
	Hogweed	*Heracleum sphondylleum*	R
	Hook-lobed Dandelion	*Taraxacum cf. hamatum*	R
	Hybrid Willow	*Salix x fragilis*	O
	Ivy	*Hedera helix*	R
	Ivy-leaved Speedwell	*Veronica hederifolia*	R
	Lesser Celandine	*Ficaria verna*	O
	Marsh Thistle	*Cirsium palustre*	R
	Meadow Buttercup	*Ranunculus acris*	O
	Meadow Foxtail	*Alopecurus pratensis*	F
	Meadow Vetchling	*Lathyrus pratensis*	R
	Moschatel	*Adoxa moschatellina*	R
	Nipplewort	*Lapsana communis*	R
	Opposite-leaved Golden-saxifrage	*Chrysosplenium oppositifolium*	R
	Pedunculate Oak	*Quercus robur*	R
	Perennial Dog's Mercury	*Mercurialis perennis*	R
	Perennial Rye-grass	*Lolium perenne*	O
	Ramsons	*Allium ursinum*	R
	Red Campion	*Silene dioica*	R
	Rosebay Willowherb	*Chamaenerion angustifolium*	R
	Slender Hook-lobed Dandelion	*Taraxacum cf. hamatulum*	R
	Soft Rush	*Juncus effusus*	F
	Spear Thistle	*Cirsium vulgare*	R
	Sweet Vernal Grass	*Anthoxanthum odoratum*	LA
	Sweet-grass sp.	*Glyceria* sp.	R
	Sycamore	*Acer pseudoplatanus*	R
	Thyme-leaved Speedwell	*Veronica serpyllifolia*	O
	Water Avens	*Geum rivale*	R
	Wavy Bitter-cress	*Cardamine flexuosa*	R
	White Clover	*Trifolium repens*	F
	White Dead-nettle	*Lamium album*	R
	Wood Anemone	*Anemone nemorosa*	R
	Wood Avens	*Geum urbanum*	R
	Yorkshire-fog	*Holcus lanatus*	O

Appendix III: Biodiversity Enhancement: Recommendations

Native Planting and/or Landscaping

A series of trees, woody shrubs, climbers, herbaceous plants and ferns have been given within the table below which are suitable for incorporation into the scheme proposed at the land off Preston Road; the list of plants given below are readily commercially available.

	Common Name	Scientific Name	Planting Preference
Ferns	Male Fern	*Dryopteris filix-mas*	Semi-shade or shaded
	Soft Shied-fern	*Polystichum setiferum*	Semi-shade or shaded
	Maidenhair Fern	*Adiantum capillus-veneris*	Suitable for rockeries / walled gardens
	Royal Fern	*Osmunda regalis*	Full sun in moist-damp areas
Herbaceous plants	Bloody Crane's-bill	*Geranium sanguineum*	Dry soils - suitable for rockeries
	Columbine	*Aquilegia vulgaris*	Semi-shade or open areas
	English Bluebell	*Hyacinthoides non-scripta*	Moist soils in semi-shade or open areas
	Giant Bellflower	*Campanula latifolia*	Semi-shade or open areas
	Greater Knapweed	*Centaurea scabiosa*	Dry-moist soils. Suitable for borders
	Greater Woodrush	*Luzula sylvatica*	Moist soils in semi-shade or open areas
	Meadow Crane's-bill	*Geranium pratense*	Humid-moist soils. Suitable for borders
	Musk Mallow	*Malva moschata*	Dry-moist soils. Suitable for borders and rockeries
	Sea Campion	*Silene uniflora*	Dry soils - suitable for rockeries
	Stinking Hellebore	*Helleborus foetidus*	Semi-shade or open areas
Aquatic/marginal plants	Common Water-crowfoot	*Ranunculus aquatilis*	Ponds
	Marsh Marigold	*Caltha palustris*	Marginal vegetation
	Ragged Robin	*Silene flos-cucculi*	Marginal vegetation
	Water Mint	*Mentha aquatica*	Marginal vegetation
	Water-violet	*Hottonia palustris*	Ponds
	White Water-lily	*Nymphaea alba*	Ponds
Climbers	Honeysuckle	*Lonicera periclymenum*	Dry-moist soils
	Hops	*Humulus lupulus*	Dry-moist soils
	Ivy	*Hedera helix*	Dry-moist soils
	Sweet-briar	*Rosa rubiginosa*	Dry-moist soils
Woody Shrubs	Dogwood	*Cornus sanguinea*	-
	Guelder Rose	*Vibernum opulus*	-
	Hawthorn	*Crataegus monogyna*	-
	Hazel	*Corylus avellana*	-
	Holly	*Ilex aquifolium*	-
Trees	Alder Buckthorn	*Frangula alnus*	-
	Osier	*Salix viminalis*	-
	Pedunculate Oak	*Quercus robur*	-
	Purple Willow	*Salix purpurea*	-
	Rowan	*Sorbus aucuparia*	-
	Silver Birch	*Betula pendula*	-
	Wild Cherry	*Prunus avium*	-
	Wych Elm	*Ulmus glabra*	-

Bats

To enhance the biodiversity value of the site and in accordance with paragraph 174 of the National Planning Policy Framework (NPPF), enhancement for bats can be incorporated into the wider site in combination with a program of annual monitoring to establish the success of the scheme. The site will provide suitable commuting and foraging habitat for bats, and as such are the ideal location for situating new artificial bat roosts. A number of suitable bat boxes which might be installed on trees have been suggested below:

This box is designed to reproduce a natural roost site in a hollow tree and has 4 internal roosting compartments and 3 grooved wooden panels inside to accommodate a large number of bats. It is painted black to absorb the heat of the sun and provide the warmth that the bats need.

The Schwegler 2FN bat box is a general purpose box for woodland bat species such as the common noctule (*Nyctalus noctula*). It can be fitted against trees in woods, forests and parks, allowing the bat to land on the tree and then crawl in through the rear entrance

The Cardinal Bat Box incorporates three separate chambers with laddered entrance holes to each direction.

The Schwegler 1FF bat box is big enough to allow colonial bats to use either as a roost or a breeding site

Breeding Birds

Woodcrete Nest Box - Nesting sites have become rare for cavity nesting birds due to changes in woodland management practices, so you can provide much-needed space for rearing chicks and birds that are roosting overwinter with these durable, long-lasting nest boxes.

These 32mm hole nest boxes are suitable for blue tits, tree sparrows, house sparrows, great tits, crested tits, nuthatches, coal tits and pied flycatchers and they are available in brown, green or grey to complement both natural woodland and garden settings.

The best height for your nest box is between 1.5m and 3m high, and should be sited higher if your area has a particularly high cat population.

Invertebrates

Invertebrates - Bee bricks

The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive.

Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used.

Available in a choice of four colours: white grey, dark grey, yellow and red.

Specification
* Material: Concrete
* Origin: Cornwall, UK
* Dimensions: W 215mm x D 105mm x H 65mm
* Weight: 2.9kg
* Colours: White grey, yellow, dark grey and red

Appendix IV: Phase 1 Habitat Map

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Specialist in Protected Species

Phase 1 Habitat Map

- Site Boundary
- A3.1 - Broadleaved Parkland/scattered trees
- B2.2 - Neutral grassland - semi-improved
- B5 - Marsh/marshy grassland
- C3.1 - Other tall herb and fern - ruderal
- J2.1.2 - Intact hedge - species-poor
- J5 - Other habitat
- J2.2.2 - Defunct hedge - native species poor

Land off Preston Road, Ribchester

Survey Date: 25th May 2021
Drawn: MJP
Date Drawn: 4th June 2021
Checked & Approved: KW
Size: A3
Scale: 1:750.00

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