

PENNINE



ecological

PRELIMINARY ECOLOGICAL APPRAISAL

- Land at Ribblesdale Hall, Chatburn, Lancashire -

PRELIMINARY ECOLOGICAL APPRAISAL

- Land at Ribblesdale Hall, Chatburn, Lancashire -

A report for

Peter Hitchen
Architects

Peter Hitchen Architects Ltd

Marathon House
The Sidings Business Park
Whalley
Clitheroe
BB7 9SE

Report authors



PENNINE Ecological

24 The Highgrove
Heaton
Bolton
BL1 5PX

Tel/Fax. (01204) 844545

email: bob@pennineecological.co.uk

web: www.pennineecological.co.uk

Robert N. Leatham B.Sc. (Hons.), P. dip.

February 2020

PRELIMINARY ECOLOGICAL APPRAISAL

- Land at Ribblesdale Hall, Chatburn, Lancashire -

CONTENTS	PAGE NO.
PART 1	INTRODUCTION:
1.1	Reasons for Survey.....1
1.2	Site Location1
1.3	Site Status.....2
1.4	Survey Constraints3
PART 2	SURVEY RESULTS:
2.1	Vegetation / Habitat Survey.....4
2.2	Protected Species Surveys.....8
PART 3	ECOLOGICAL EVALUATION & RECOMMENDATIONS:
3.1	Evaluation of Survey & Recommendations.....12
PART 4	REFERENCES:
4.1	References.....15
APPENDIX 1:	<i>Site Photographs</i>
	<i>Map 1: Extended Phase 1 Habitat Survey</i>

PART 1 INTRODUCTION:

1.1 REASONS FOR SURVEY:

PENNINE *Ecological* have been commissioned to undertake a Preliminary Ecological Appraisal and protected species surveys / assessment of land at Ribblesdale Hall, Chatburn, Lancashire.

The study includes a vegetation, badger, water vole survey and a daytime bat roost assessment of the current garage on site and site trees. The survey also includes assessment for other potential protected species issues.

The report includes a full evaluation of the ecological significance of the survey findings.

The surveys are required due to proposals for six holiday lodges and associated access, parking and landscaping. The proposed site plan is shown below;



1.2 SITE LOCATION:

The site is located approximately 670m north of Chatburn, between Sawley Road and the River Ribble which is approximately 200m to the west. The sites central National Grid Reference is SD 7744 0570.

A Google Earth image of the site/survey area is shown below;



1.3 SITE STATUS:

A desk top consultation study with Lancashire County Council was not undertaken for this study. However searches for statutory sites were undertaken as follows;

Statutory Sites:

Details of statutory sites were sought from the Natural England web site search:

<http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx>

Clitheroe Knoll Reefs Site of Special Scientific Interest (SSSI) is located approximately 290m to the south east of the site along a railway cutting. This is a geological SSSI. Further information can be found via the following link;

<https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000894.pdf>

The site falls within distant SSSI Impact Risk Zones (IRZ's) associated with the above SSSI. However the nature / size and scale of the development does not require notification to Natural England.

There are no other statutory wildlife sites within 500m of the site.

1.3.2 Non-Statutory Sites:

There are no known County Biological Heritage Sites (*BHS*) associated with the site. There may be sites within 500m of the site's boundaries however this would require verification by a desk top consultation with LCC.

1.4 SURVEY CONSTRAINTS:

The survey was conducted on 24th January 2020 which is a sub-optimal time for Extended Phase 1 Habitat Survey, however given the nature of the habitats present on site (mainly improved grassland), this is not regarded as a significant constraint, albeit some plant species will have been missed due to seasonal die back.

There were no constraints to other protected species surveys / assessments and the site was fully accessible.

PART 2 SURVEY RESULTS:

2.1 EXTENDED PHASE 1 HABITAT SURVEY:

2.1.1 Extended Phase 1 Habitat Survey Methodology:

An Extended Phase 1 Habitat Survey (*Nature Conservancy Council 1990*) of the study area was undertaken on January 24th 2020. The site's habitats were mapped and higher vascular plant species were recorded and given abundance values according to the standard DAFOR scale, where:

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

Where appropriate these values can be prefixed by the letter L (locally) or V (very), to provide more subtle biogeographical data.

2.1.2 Habitats Present:

- A1.1.2 Mixed plantation woodland
- A2.2 Scattered scrub
- A3.1 Scattered broad-leaved tree
- A3.2 Scattered coniferous tree
- B4 Improved grassland
- G2 Running water (stream / ditch)
- J1.2 Amenity grassland
- J2.2.1 Defunct species-rich hedge
- J2.2.2 Defunct species-poor hedge
- J3.6 Building
- J4 Bare ground (tarmac)

2.1.3 General Description:

This surveyed site area is approximately 190m by 190m in maximum dimensions. However the actual site development footprint is much smaller as shown on Page 1 of this report. A larger area was surveyed for context purposes.

The site is almost entirely dominated by improved grassland, with boundary hedgerows along the southern and northern boundaries. The driveway of Ribblesdale Hall includes a narrow belt of mixed woodland including; ash, Scot's pine, rhododendron horse chestnut and yew.

A short section of hawthorn dominated hedge is present at the site entrance on Sawley Road. The entrance leads to a damp improved pasture dominated by Yorkshire-fog, common bent and creeping buttercup. A short length of a small stream runs across the corner of this field close to the site entrance. The stream was diverted from its original course approximately two years ago to prevent flooding of the field. The stream now runs along the sites southern boundary on adjacent land ownership following the line of a species-rich hedgerow (*Target Note 3*). This hedgerow has been recently re-stocked by the adjacent landowner with native species and includes; hawthorn, ash, alder, hazel, field maple and holly.

The sites northern boundary is defined by the edge of the mixed woodland alongside the driveway to the hall. A hedgerow is also present comprising species such as; hawthorn, blackthorn, hazel and holly.

A large garage is present within the formal grounds of the hall with an area of amenity grassland and planted mature trees to the south east.

The remainder of the site is dominated by improved sheep grazed pasture, a line of pedunculate oak trees are present with two mature specimens at either end.

A single isolated mature pedunculate oak is also present within the field towards the southern end. This tree has bat roost potential.

A number of the boundary trees have bat roost potential, although none of these are affected by the proposed development.

2.1.4 Target Notes:

Target Note 1: Diverted stream:

A short length of a small stream runs across the corner of the improved field close to the site entrance off Sawley Road. The stream was diverted from its original course approximately two years ago to prevent flooding of the field.

The stream has earth banks recently constructed to re-direct it from its previous course which flooded the field. The stream supports in channel stands of water-cress.

The stream then follows a course outside the sites southern boundary on the other side of a hedge on adjacent land ownership.

Target Note 2: Former hedge line on southern boundary (*now scattered scrub with occasional mature trees*):

Species present include; hawthorn, elder, ash and holly. The hedge bottom is grazed out and includes coarse grasses and ruderal herbs such as common nettle.

Target Note 3: Species-rich defunct hedgerow (*recently re-stocked*):

The sites southern boundary supports a species-rich defunct hedge which has been recently re-stocked as part of the planning consent for the adjacent polytunnel development. A stream runs along the base of the hedge within the adjacent land ownership. The ground flora is dominated by coarse grasses and ruderal species.

The following species were recorded;

<u>Species:</u>	<u>Abundance:</u>
Hazel	A
Hawthorn	A
Yorkshire-fog	A
Alder	F
Common bent	F
Perennial rye-grass	F
Ivy	LF
Field maple	LF
Blackthorn	VLF
Rose species	VLF
Dog's mercury	VLF
Holly	O
Ash	O
Foxglove	O
Crab apple	R

Target Note 4: Mature ash tree with bat roost potential (*marginally outside survey area*):

A mature ash tree just off the southern site boundary has a knot hole on the main trunk at approximately 6m above ground level. This feature is potentially suitable for supporting bat roosts, although no evidence was observed.

Target Note 5: Mature pedunculate oak tree with potential for bat roosts:

A mature pedunculate oak tree towards the southern boundary has two knot holes, on the main trunk. One hole on the eastern elevation and one on the western elevation. Both holes are at approximately 2m above ground level. These features are potentially suitable for supporting bat roosts, although no evidence was observed.

Target Note 6: Mature pedunculate oak tree with potential for bat roosts:

A mature pedunculate oak tree at the end of a line of oaks in the central part of the site has two knot holes, on the main trunk. One hole on the northern elevation and one on the eastern elevation. Both holes are at approximately 2m above ground level. These features are potentially suitable for supporting bat roosts, although no evidence was observed.

Target Note 7: Species-poor defunct hedgerow:

The sites northern boundary supports a species-poor defunct hedge with a dry ditch at the southern end. The ground flora is dominated by coarse grasses and ruderal species.

The following species were recorded;

<u>Species:</u>	<u>Abundance:</u>
Hazel	A
Hawthorn	A
Yorkshire-fog	A
Blackthorn	LA
Common bent	LA
Commo nettle	LF
Rose species	LF
Garden privet	VLF
Holly	O
Copper beech	R
Scot's pine	R
Ash	R

Target Note 8: Mature ash tree with potential for bat roosts:

A mature ash tree on the northern boundary with the driveway to the hall has a large crack / fissure on a main limb at approximately 5m above ground level on the south eastern elevation. This feature is potentially suitable for supporting bat roosts, although no evidence was observed.

Target Note 9: Mixed plantation woodland:

A narrow linear strip of mixed plantation woodland is present alongside the driveway to the hall. Species present include; Yew, ash, rhododendron, horse chestnut and Scot's pine. The ground flora is largely bare.

2.2 PROTECTED SPECIES SURVEYS:

During the Habitat Survey additional surveys were undertaken where appropriate for the presence of other potential protected species. The following surveys were undertaken.

2.2.1 Badger Survey:

Method:

A badger survey was undertaken of the site. The badger survey used standard techniques for establishing the use of the site by badger, and includes searches for evidence of badgers including:

- Setts
- Pathways
- Footprints
- Latrines
- Foraging areas
- Scratching posts
- Boundary searches for runs, pathways and latrines.

The survey results are outlined below.

Results:

Sett Search:

The survey found no setts on site.

Search for Foraging Signs and Pathways:

The site was thoroughly searched for badger pathways and signs of foraging. No sign of badger activity was found therefore it can be concluded that the species is not using this area for foraging or commuting.

Boundary Search:

All of the boundaries of the site were walked and examined for potential runs, pathways and latrines. The search found no evidence to suggest badger activity along any of the site boundaries.

The absence of any activity signs indicates that badgers are not entering the site. The absence of latrines indicates a lack of territorial activity in the near vicinity of the site.

2.2.2 Bats:

During the survey an assessment of bat roost potential and foraging habitats was undertaken. Bats are comprehensively protected by European legislation.

All British bats and their ¹roosts are afforded protection under the 1981 Wildlife & Countryside Act (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2010 (as amended). When dealing with cases where a European Protected Species (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the 2010 Regulations and therefore has a statutory duty to have due regard to the provisions of the Regulations in the exercise of its functions.

Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance, climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

Up to ten bat species have been regularly recorded in Lancashire most of which use built structures, notably occupied residential properties for roosting, however cavities associated with trees can also support bat roosts. The most frequently encountered species is the Pipistrelle bat; its abundant status in Lancashire is reflected throughout the UK. All British bats and their roosts are afforded protection under the 1981 Wildlife & Countryside Act (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2010 (as amended). When dealing with cases where a European Protected Species (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the 2010 Regulations and therefore has a statutory duty to have due regard to the provisions of the Regulations in the exercise of its functions.

Survey Methodology:

A daytime survey was conducted on 24th January 2020. The only features on site capable of potentially supporting bat roosts are mature trees on site and along the boundaries together with the garage. All trees were inspected externally for evidence of bats and potential places / points of internal access that may be of value to bats. Investigations were done from ground level, with the aid of close focusing binoculars, for potential features that could be used by bats as roosts or as access into roost chambers. The trees were not in leaf and so were all visually accessible.

¹ *The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats & Species Regulations 2010 (Regulation 41) the term roost is not used but refers to “a breeding site or resting place of such an animal” and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.*

The daytime survey was conducted by Mr. Robert Leatham a highly experienced ecologist, the results and recommendations were also discussed with Mrs Kylee Wilding, a highly experienced bat surveyor who holds a Natural England Class 2 bat license (CLS -14227).

During the survey the surrounding habitat was evaluated in relation to bats as very often roost selection is closely correlated with the surrounding habitat.

Constraints:

The daytime survey was conducted outside of the main active period and breeding season of bats. Full external inspection / assessment of the trees / garage was achievable in relation to assessing the level of bat roost potential that may exist. The garage was also inspected internally.

There are therefore no significant constraints to the survey.

Survey Results:

There are four mature trees (*Target Notes 4, 5, 6 and 8*) including three pedunculate oaks and one ash that have features potentially suitable for roosting bats. These features include a combination of knot holes and / or main trunk cavities, as detailed in the Target Note descriptions. These features are potentially suitable of supporting bat roosts, although no evidence such as black staining was observed.

The garage is of stone and slate construction with no internal loft space. The garage is very well maintained with no potential points of ingress for bats.

The site is located in a lowland farmland location with many surrounding hedgerows, the River Ribble and open farmland providing high quality bat foraging habitats. In terms of the site the hedge lined / mixed woodland boundaries and stream corridor along the southern boundary provide very good bat foraging habitat.

2.2.3 Water Vole:

Survey Methodology:

A water vole survey (burrow survey) was undertaken of the ditch / stream close to the site entrance. The survey was based on the standard methodology as outlined in the Dean, M., Strachan, R. Gow, D. and Andrews, R. (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series).

Searches were made for the following signs;

- Sightings of individual animals
- Latrines
- Feeding stations

- Burrows
- Runs

Survey Constraints:

The survey was undertaken at a time when the species is largely inactive. However winter is a good time to identify water vole burrows, all areas were visually accessible with no masking vegetation cover. There are therefore constraints to the survey, however for various reasons detailed in the following section, these are not considered significant. The survey was restricted to the watercourse within the clients land ownership. It was not possible to survey additional downstream lengths of the stream outside the clients ownership.

Survey Results:

No evidence in terms of; burrows, feeding stations/remains, latrines, runs etc. was found in any of the survey areas.

Survey Evaluation:

Whilst the survey is constrained by seasonality issues, this section of watercourse has only been in existence for 2 years following stream diversion. The artificially constructed earth and stone banks were completely visible for burrow searches.

Given the recent creation of the stream course and a lack of burrows, the species is considered to be absent from the survey area.

2.2.4 Other Protected Species:

Issues in relation to other potential protected species where no specific survey was undertaken are assessed in the following section.

PART 3 ECOLOGICAL EVALUATION & RECOMMENDATIONS:

3.1 EVALUATION OF SURVEY & RECOMMENDATIONS:

The following section evaluates the site in relation to statutory/non-statutory sites, protected species and species/habitats listed on the former UK Biodiversity Action Plan Priority List, Section 41 Species/Habitats of Principal Importance in England (NERC) Act 2006, and the Lancashire Biodiversity Action Plan.

3.1.1 Statutory Sites:

There is one statutory wildlife site within 500m of the site.

Clitheroe Knoll Reefs Site of Special Scientific Interest (SSSI) is located approximately 290m to the south east of the site along a railway cutting. This is a geological SSSI.

3.1.2 Biological Heritage Sites/non statutory designations:

There are no known non-statutory sites (*Biological Heritage Sites*) within 500m of the site. This would require verification from a desk top study.

3.1.3 Sites Habitats & Higher Plant Species:

The following habitats are affected by the development:

- Improved grassland
- Approximately 2m of hedge removal at the existing site entrance on Sawley Road, to achieve required highway visibility splays. No other hedgerows, trees or scrub are affected.

The hedgerows on the sites boundaries are all Section 41 NERC Act habitats and Lancashire BAP Habitats.

None of the hedgerows surveyed on the site are classified as '**important hedgerow**' in relation to the **Hedgerow Regulations Act (1997)**. The hedgerows either fail to meet the woody species diversity criteria and / or the required number of 'scoring' associated features. However the hedge on the southern boundary is close to meeting the regulations criteria and is species-rich, having been recently re-stocked by the adjacent landowner.

All the hedgerows on the site are retained as part of the development as are all trees and scrub.

Recommendations: Habitats & Higher Plant Species:

There are no requirements for further surveys.

It is understood that the client intends to undertake significant native landscaping. This will include re-stocking of the former hedge line associated with Target Note 2 and a new hedge with trees along the remaining lengths of the southern boundary (running parallel to the species-rich hedge / stream Target Note 3).

The new hedgerow will include the following native species, planted as follows;

A double staggered row of native hedgerow shrubs will produce a dense, solid hedge. 2 plants per metre will be planted, in two staggered rows about 25cm apart with plants at approximately 50cm apart in each row.

The hedge will comprise; 30% hawthorn (*Crataegus monogyna*), 25% blackthorn (*Prunus spinosa*), 30% hazel (*Corylus avellana*), 5% Crab apple (*Malus sylvestris*) and 5% holly (*Ilex aquifolium*). Trees planted as whips will account for the remaining 5% and will include; pedunculate oak, alder and ash.

Re-stocking of the former hedge associated with Target Note 2 will include similar species and proportions as above.

3.1.4 Protected Species:

Badgers:

Badgers are protected under Schedule 6 of the Wildlife and Countryside Act 1981, and under the Protection of Badgers Act 1992, which prohibits deliberate interference with the animal or its sett.

The survey found no evidence of historic, recent or current use of the site by badgers for foraging, commuting or occupation and the species is considered to be absent.

Recommendations: Badgers;

There are no issues in relation to badgers arising from the development. No further surveys are required.

Bats:

Bats are comprehensively protected by European legislation.

There are four mature trees (*Target Notes 4, 5, 6 and 8*) including two pedunculate oaks and two ash trees that have features potentially suitable for roosting bats. These features include a combination of knot holes and / or main trunk cavities, as detailed in the Target Note descriptions. These features are potentially suitable of supporting bat roosts, although no evidence such as black staining was observed.

The garage has no potential points of ingress for bats and is of negligible bat roost potential.

The site is located in a lowland farmland location with many surrounding hedgerows, the River Ribble and open farmland providing high quality bat foraging habitats. In terms of the site the hedge lined / mixed woodland boundaries and stream corridor along the southern boundary provide very good bat foraging habitat.

Recommendations: Bats;

All the trees with bat roost potential are retained and not affected by development, therefore no further action is required. However note the recommendations below in relation to lighting and hedgerow boundaries and trees / scrub.

In all cases illumination of the hedgerow boundaries / scrub and trees must be avoided. Where lighting is required this must be low level, directed downwards away from the boundary hedgerows / scrub and trees and of low intensity.

Great Crested Newt:

Great crested newt is comprehensively protected under European legislation. There are no ponds or suitable waterbodies within 250m of the site, the species accepted terrestrial range.

Recommendations: Great Crested Newt (GCN);

There are no issues in respect of GCN or any other amphibians.

Birds:

All breeding birds (*with only minor exceptions*) are protected under the Wildlife and Countryside Act (1981) as amended.

Apart from approximately 2m of hedge removal at the site entrance, none of the habitats affected by development (improved sheep grazed grassland) are suitable for supporting breeding birds. All other hedgerows / trees / scrub are retained.

Recommendations: Birds;

No strategic bird surveys are required. However before any development and in order to minimize impacts on birds any site disturbance affecting the hedge at the site entrance should take place outside of the breeding season, i.e. between September 1st and February 28th. Following the removal of any hedge sections, piles of brash should be removed from the site, failure to do so could provide potential nest sites if left in situ until the following breeding season. If removal of vegetation is envisaged during the breeding season (*March to August inclusive*), then checks should be made to establish any nesting or breeding activity, prior to removal.

PART 4 REFERENCES:

4.1 REFERENCES:

Nature Conservancy Council (1990) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*. Nature Conservancy Council.

Rose, F. (1981) *The Wildflower Key*. Warne.

Stace, C., (1997) *New Flora of the British Isles (Second edition)*. Cambridge University Press.

Web Sites:

Google Earth.

MARIO.

Natural England – Nature on the Map.

APPENDIX 1:

Map 1: Extended Phase 1 Habitat Survey

Site Photographs

Site Photographs: 24th January 2020



Driveway to hall, showing amenity grassland area and garage.



Garage internal area (no loft spaces) and negligible bat roost potential.



Garage with negligible bat roost potential.



Driveway to hall.



Garage with negligible bat roost potential.



Site entrance off Sawley Road.



Target Note 1: recently diverted stream course.



Target Note 9: Mixed plantation woodland on northern boundary.



Target Note 2: Former hedge on southern boundary, now scattered scrub and trees.



Target Note 9: Mixed plantation woodland on northern boundary.



Target Note 2: Former hedge on southern boundary, now scattered scrub and trees.



Target Note 7: Defunct species-poor hedge on northern boundary.



General view across the site from the northern boundary.



Target Note 7: Defunct species-poor hedge on northern boundary.



Target Note 7: Defunct species-poor hedge on northern boundary.



Target Note 7: Defunct species-poor hedge on northern boundary.



Target Note 7: Defunct species-poor hedge on northern boundary.



View towards River Ribble from the northern point of the site.



Line of Pedunculate oaks in the centre of the site.



Target Note 6: Mature pedunculate oak tree with potential for bat roosts:



Line of Pedunculate oaks in the centre of the site.



Target Note 3: Defunct species-rich hedge on southern boundary with stream to rear of hedge on adjacent land ownership.



Target Note 6: Mature pedunculate oak tree with potential for bat roosts:



Target Note 4: Mature ash tree with potential for bat roosts (off site).



Target Note 4: Mature ash tree with potential for bat roosts (off site).



Target Note 6: Mature pedunculate oak tree with potential for bat roosts:



Looking north across the site from the southern boundary.



Target Note 6: Mature pedunculate oak tree with potential for bat roosts:



Target Note 5: Mature pedunculate oak tree with potential for bat roosts:



General view looking north across the site.



General view looking north across the site.



Target Note 8: Mature ash tree with potential for bat roosts.



General view looking north east across the site.



Target Note 9: Mixed plantation woodland on northern boundary.



Target Note 8: Mature ash tree with potential for bat roosts