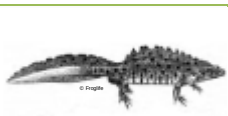


Inspection & Assessment for Bats & Breeding Birds

December 2021

Lower Town House Farm,
Town House Road,
Littleborough,
OL15 9JX

National Grid Ref: SD93671719



Document Title	Inspection & Assessment for Bats & Breeding Birds
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Prepared by	Tyrer Ecological Consultants Ltd

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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 proposed planning application for a barn at Lower Town House Farm in Littleborough, Tyrer Ecological Consultants Ltd carried out a daytime inspection and assessment in relation to bats and breeding birds in mid-November 2021.

The survey was commissioned by Quality Creative Design on behalf of their client; the scope of works for this assessment was strictly for a section of barn at National Grid Reference: SD93671719 (The surveyed section of building has been outlined below in Figure 1.1). No other structures or trees on site have been included at the owner's request who attended site during the visit.

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

Bats: Based upon the findings of the survey covered through sections 6.0-7.0 of the report, the Barn surveyed was roundly categorised to offer 'Moderate' bat roost suitability in accordance with the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), whilst the immediate environment offers a favourable environment for foraging and commuting bats.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).		
Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

It is recommended that in order to obtain further information on which to base a conclusive impact assessment, two dusk and/or dawn emergence/re-entry surveys should be conducted at the site during the active season of bats (May - August - with late April and September), in order to establish if/how the building is being used by bats, and if so identify species, abundance, roost locations and flight lines around the site following emergence/re-entry.

It should be noted that where bat(s) or their roost(s) will be affected by the proposed works then to allow developmental works at the site to legally commence an application for a European Protected Species Mitigation Licence (EPSML) and subsequent granting of a licence will be required. Notwithstanding the granting of a licence, works that would affect a roost cannot take place if a maternity colony is in occupation. It should also be noted that before an EPSML can be applied for, all Planning issues, including Consent and any pre-commencement Planning Conditions relative to bats, should be resolved.

Table of Contents

1. Introduction and Reasons for Survey
2. Protected Species & their Requirements
3. Protected Species in Greater Manchester
4. Survey Methodology
5. Limitations
6. Desk Study Results
7. Field Study Results
8. Conclusions & Recommendations
9. Bibliography

Appendix I: Site Photographs

Appendix II: Biodiversity Enhancement Recommendations

1.0 Introduction & Reason for Survey

- 1.1 As part of a proposed planning application for a barn at Lower Town House Farm in Littleborough, Tyrer Ecological Consultants Ltd carried out a daytime inspection and assessment in relation to bats and breeding birds in mid-November 2021.
- 1.2 The survey was commissioned by Quality Creative Design on behalf of their client; the scope of works for this assessment was strictly for a section of barn at National Grid Reference: SD93671719 (The surveyed section of building has been outlined below in Figure 1.1). No other structures or trees on site have been included at the owner's request who attended site during the visit.

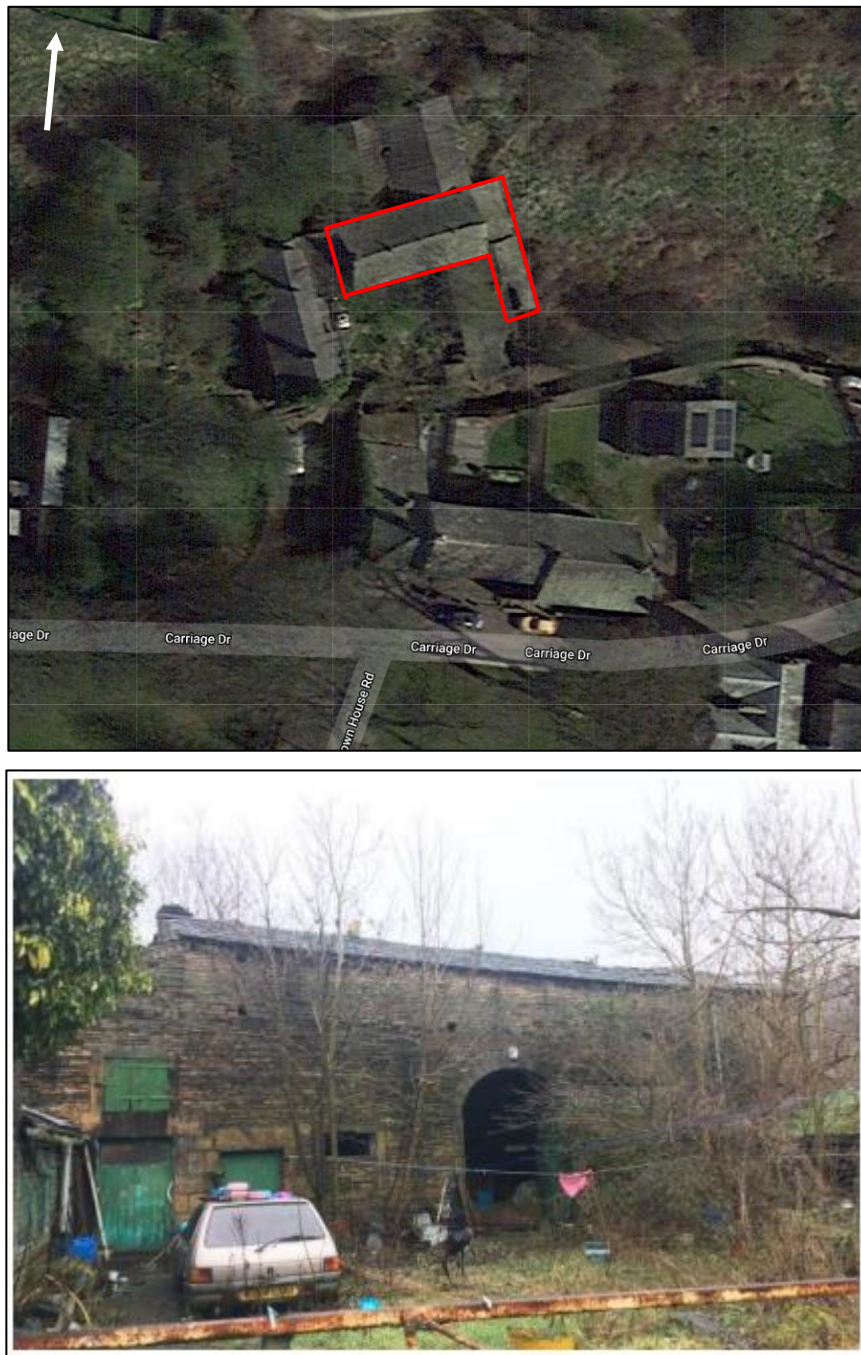


Figure 1.1 - Surveyed section of barn at Lower Town House Farm

- 1.3 Proposals for the surveyed area are understood to involve barn conversion for residential use.
- 1.4 The aim of the survey was to ascertain if the barn is of value to bats whilst an assessment for birds was also carried out. If any potential roost features (PRF's) were found to be suitable for bats, or signs of use were observed, then more detailed surveys would be recommended i.e. dusk/dawn emergence/re-entry surveys during the main active season of bats which is May – August (extending into September).
- 1.5 If additional surveys are required following the initial site visit this report will outline the details of those further requirements.
- 1.6 If it was determined that bat(s) or their roost/place of rest/shelter will be subsequently impacted by the works then a European Protected Species Mitigation Licence (EPSML) would be legally required to proceed with the development.
- 1.7 If evidence indicated breeding birds may be impacted by proposals, in which case tailored recommendations would be made accordingly, species pending.
- 1.8 As part of the local authority's planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted where protected/priority habitats and species are, or may be present, that could be affected by the proposals for which the application seeks consent. Where more detailed surveys are recommended by the ecologist, following an initial daytime investigation, then Local Planning Authorities (LPA) on the advice of their ecological advisors, will not grant permission until such time that all relevant information is gathered.
- 1.9 In accordance with *Biodiversity Net Gain: Good practice principles for development* (CIEEM *et al*, 2019) the site visit also aims to identify enhancement opportunities for biodiversity in line with national and local planning policy.

2.0 Protected Species & their Requirements

Bats

- 2.1 All British bats and their **roosts are afforded protection under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2019 (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 2019 Regulations and therefore has a statutory duty to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Use of Buildings by Bats

- a) Summer breeding roost (May-August)
- b) Hibernation roost (October-March)
- c) Transitional or temporary roost (other months)

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.

** 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 and Species Regulations (2019) (EU Exit) (Regulation 43 (d) 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.

Birds

2.3 All wild birds no matter how common, their eggs, young and nests whilst being built or occupied are protected under both the Wildlife and Countryside Act (WCA 1981) and Natural Environment and Rural Communities Act (NERC Act 2006). Birds listed on Schedule 1 of the WCA 1981, for example Barn owl (*Tyto alba*), are afforded a greater level of protection protected also from disturbance.

2.4 Any work that would damage an occupied nest, eggs or young of breeding birds must be avoided; any damage to nests that may occur as a result of the development should be outside of the main breeding bird season (March-August). On occasions nests can become unoccupied during the breeding season but the status of the nest(s) should be determined by a suitably experienced ecologist before any damage takes place.

2.5 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”.

2.6 Paragraph 180 of the National Policy Planning Framework (as revised in July 2021) states:

180. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁶³ and a suitable compensation strategy exists; and,

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.7 The Core Strategy for Rochdale borough Policy G7 states:

7. Protected Species: Development proposals which would affect a species protected by law or its habitat will not be permitted unless it can be demonstrated that:

- a. there is no adverse impact on the species concerned,*
- b. damage to habitats is minimal and alternative habitat provision is effective in maintaining those species,*

We will expect development proposals and improvements to:

- a. Protect and include existing biodiversity (including established biodiversity interest on brownfield land) within new developments, public realm and open spaces and meet the requirements of the Biodiversity and Development SPD, Greater Manchester and Local Biodiversity Action Plans;*
- b. Protect and enhance existing features such as peatland, ponds, wetlands, reservoirs, mill lodges, trees, hedges, wooded areas, meadows, flora and fauna;*
- c. Take opportunities to promote biodiversity and create new habitats through new development using landscaping and building and construction features wherever possible (e.g. ponds, species of vegetation, green roofs and walls, bat boxes, roof space, appropriate nest boxes and landscaping);*
- d. Enhance strategic wildlife corridors and the most natural areas and ensure that habitats and corridors are not fragmented by development;*
- e. Improve access where appropriate to new or existing biodiversity interest for public enjoyment; and*
- f. Protect important geology and take opportunities to increase interest and accessibility.*

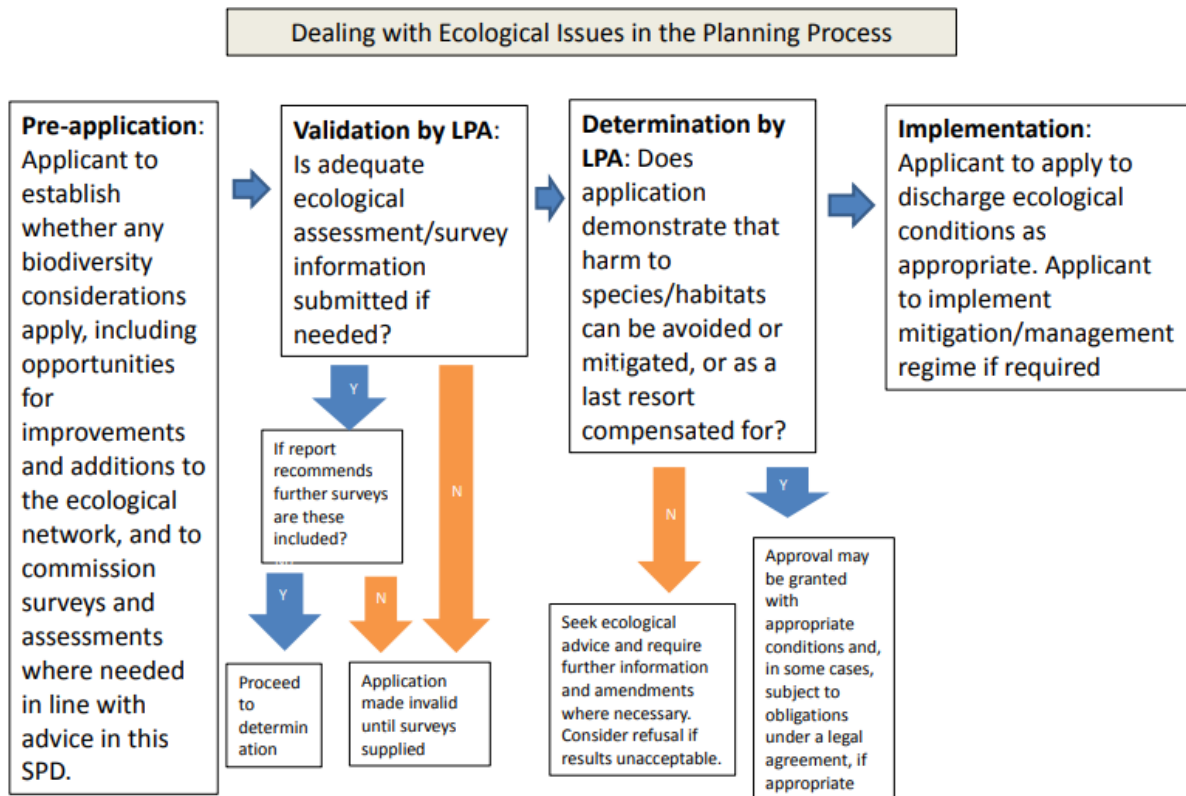
2.8 Planning authorities must therefore follow a step-wise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, or minimized, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.

2.9 The first priority for planning authorities is therefore to avoid damage to biodiversity and ecosystem functioning. Where there may be harmful environmental effects, planning authorities will need to be satisfied that any reasonable alternative sites that would result in less harm, no harm or pro-gain have been fully considered.

2.10 Where more detailed surveys are recommended by the Ecologist following a daytime assessment, then the Local Planning Authority, upon the advice of their ecological advisors, should not determine an application until such time that all relevant information is gathered, i.e. - until all required survey work has been completed.

This is in accordance with the obligations placed upon Local Authorities in the exercise of its functions by way of its duties under the Conservation of Habitats & Species Regulations 2019 (EU Exit).

2.11 Figure 2.1 is a process model that surmises how ecological issues should be dealt with in the context of the planning process.



12

Figure 2.1 - Dealing with ecological issues in the planning process

3.0 Protected Species in Greater Manchester

- 3.1 Up to eleven ten species have been recorded in Greater Manchester, most of which use built structures notably occupied residential properties for roosting - also trees. Bats (*Chiroptera*) feature on the Greater Manchester BAP and all are fully protected by UK legislation. The most frequently encountered bat species is the Common Pipistrelle (*Pipistrellus pipistrellus*) and its abundant status in Greater Manchester is reflected throughout the UK.
- 3.2 Barn owl (*Tyto alba*) are a distinctive, widespread species of protected bird listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); they are distributed throughout the UK and will use tussock-forming grasslands, rough field margins, ditches and roadside edges for hunting purposes, whilst they typically use barns/abandoned buildings and tree hollows for nesting or roosting use. In rare instances occupied dwellings can support owls. Additional to protection from nest destruction, Schedule 1 listed species nest sites are also protected from disturbance.

4.0 Survey Methodology

- 4.1 As part of the Inspection & Assessment for Bats & Breeding Birds 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) was accessed to gather such information; this interactive mapping service was also used to locate any locally granted European Protected Species Mitigation Licenses (EPSML) to further inform conclusions concerning such species in the context of the study site and its proposed development.
- 4.3 Satellite imagery was reviewed using sources such as Google Earth (© 2020/2021) to 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 A commercial data request to the Local Environment Records Centre serving the area Greater Manchester Ecology Unit (GMEU) has not been sourced at this time 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) also 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.”*

- 4.5 As exemptions can be applied for the proposals in good practice based upon the understanding of the work involved, at this time it is considered unnecessary to conduct a commercial data request following the desk study effort and daytime assessment at this time, which offers a proportionate level of survey effort, however, if a data search is considered to be necessary by the Local Authority to inform the ecological impact assessment following any further surveys recommended in this report, 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 In context with the above a diurnal inspection and assessment in relation to bats and breeding birds was conducted on 16th November 2021 in a damp, over cast conditions, 10°C, 100% cloud, low wind, by Mr. M. Pritchard ACIEEM, a multiple protected species licenced Ecologist of Five years (Natural England Class 1 Bat Licence: 2020-5039-CLS-CLS) who is additionally an accredited agent on the Class 2 Natural England bat licence of Mrs. K. Wilding (CLS-14227), assisted by Ms. J. Langston Bsc (hons), Trainee Ecologist.
- 4.7 Bat Conservation Trust (BCT) - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) states:
- “The guidelines should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.”*
- 4.8 The bat and breeding bird survey was conducted in tandem; strictly a section of barn at National Grid Reference: SD93671719 was inspected for potential places that may be of value to bats or breeding birds; interior components were assessed with the aid of a high powered torch for evidence of bat use which mainly includes bat droppings and/or prey items or incidental presence of live/dead animals, for example, and investigated for evidence of breeding birds which broadly involves a search for nesting materials, presence of pellets or accumulated faeces and/or dead juveniles/hatchlings, for example.
- 4.9 External elevations were investigated with the aid of a high-powered torch and close focus binoculars (where necessary) for places that can be used as a roost by bats or as a means of ingress for bats and birds leading to areas of roosting/nesting potential. These features are typically referred to as potential roost features (PRF) concerning bats. All external features were able to be surveyed without constraint.
- 4.10 The surrounding habitat was also considered in terms of general suitability for bat and bird species associated with the local habitat types.
- 4.11 Criteria for roost assessment are based upon the determinants given in the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016): (see Figure 4.1).

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.		
Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^a and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation ^b). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. ^c	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^a and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^a and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

^a For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

^b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Figure 4.1 - BCT guidelines extract

4.12 An assessment of the building was conducted when birds are outside of their breeding season (this is typically March-August inclusive). Elevations were inspected for evidence of birds that show a high dependency upon built structures, many of which are in a state of decline. These might include the following species for example:

- Starling (*Sturnus vulgaris*): Birds of Conservation Concern (BoCC) red status,
- House Sparrow (*Passer domesticus*): BoCC red status,
- House Martin (*Delichon urbica*): BoCC amber status,
- Swift (*Apus apus*): BoCC amber status,
- Swallow (*Hirundo rustica*): BoCC green status.

4.13 Additional to the site's capacity to support common species of bird, the area was subject to an assessment for capacity to support specially protected species such as Barn owl, a species protected under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended).

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

- Practical experience of surveyor,
- Knowledge of bat/bird species relevant to the site location and geographical range,
- Nature of immediate/surrounding habitat in relation to foraging/commuting,
- Condition of the building,
- Presence/absence of a loft space or cellar and reasonable practicality of use,
- Presence/absence of roost potential,
- Value of roost potential – if present.

- 4.15 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 bat and bird ecology relevant to the site location and geographical range
 - Nature of the immediate and surrounding habitat in relation to shelter, foraging and commuting opportunities
- 4.16 All aspects of the field survey were undertaken in line with government and CIEEM (2020) standing guidance during the COVID-19 pandemic.
- 4.17 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, the Director of Tyrer Ecological Consultants Ltd, and her assessment is consistent with that of Mr. Pritchard.

5.0 Limitations

- 5.1 The survey was conducted in November 2021 outside of the active season of bats (May-Sept) when evidence of bats can be less apparent, though bat roost potential of buildings and suitability of any potential roost features can be assessed all year round, therefore timing is not considered a constraint in this instance.
- 5.2 The survey took place outside the breeding bird season (typically March-September), therefore incidental breeding bird behaviour has a lower/negligible probability of being encountered. That being said, suitability for breeding birds is readily identifiable all year round, and often nesting material can attest to presence of breeding birds at buildings/trees.
- 5.3 No access issues were encountered to areas of the surveyed section of barn, though where it connects to an adjoining dwelling, the high volume of bulky clutter present alongside significant internal damage to ceilings restricted access to the ground level. Having considered possible survey constraints, no significant limitations were experienced that might adversely influence the results, conclusions, and recommendations of this report in considering the surveyed areas.

6.0 Desk Study Results

- 6.1 Lower Town House Farm (referred to in-part as the application site”) is located within 1.50 km of Littleborough village, approximately 5.30 kilometres north-east of Rochdale.
- 6.2 The immediate habitat is represented by a number of mixed buildings constructed of stone finished with Welsh slate roof, a brick house in poor state of repair with evidence of scaffold to the south side, 1 renovated and occupied property and a large brick-built building of multiple occupation. Within 0.5 km on the north side of the dwellings is a steeply sloped ancient woodland.

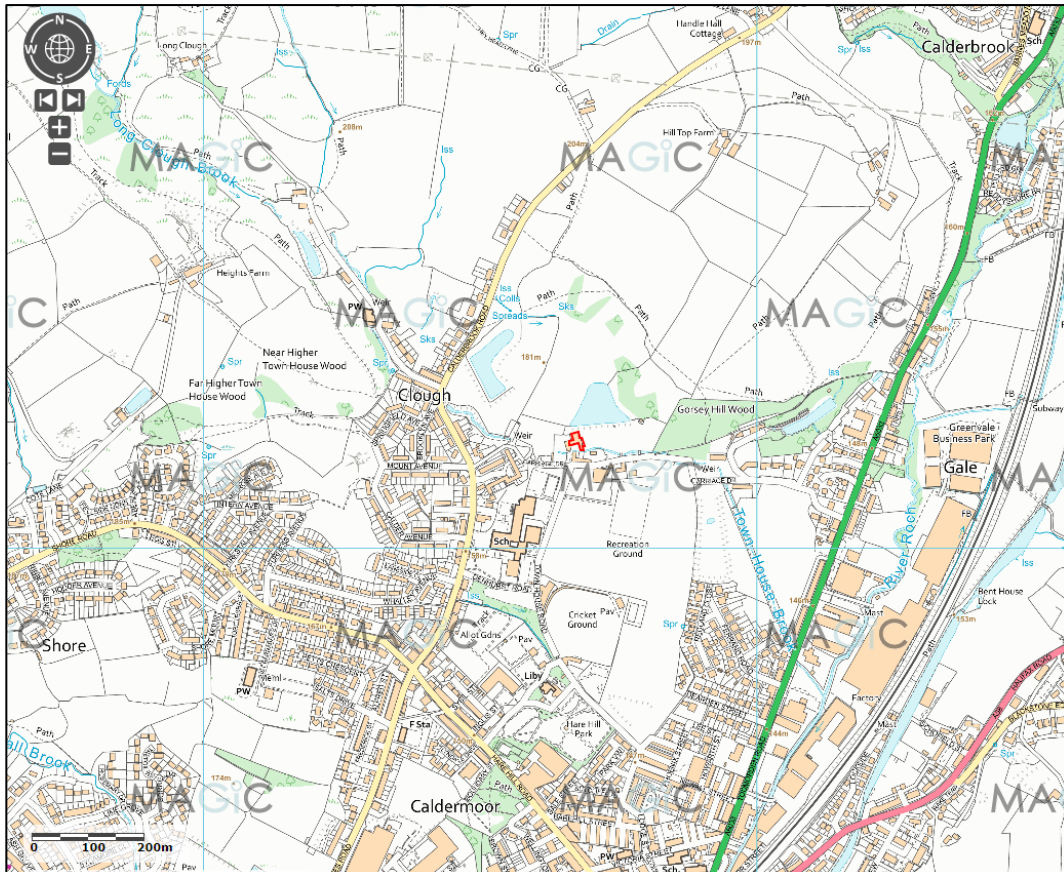


Figure 6.1 - Location of the building within the landscape (Source: OS Maps 2021)

- 6.3 The extending habitat is semi-rural to the south of the dwellings comprised of a primary school, recreational building becoming increasingly built up approaching the village. There is a large body of water within 2.0 kilometres in the village of Hollingworth, ('Hollingworth Lake') which borders the adjacent village of Littleborough.
- 6.4 The local ecological networks form part of semi-rural land and ancient woodland that offer a high level of connectivity, foraging and commuting resource of benefit to a range of bat and bird species associated with the habitats described. The protected species most typically associated with the habitats described is the Common Pipistrelle (*Pipistrellus pipistrellus*) bat, frequently associated with using buildings in sub-urban settings, this species presence in the landscape is reasonably likely based on distribution data and local knowledge.

NB: *Where quality connective habitat is present close to buildings then the percentage use of those buildings, by bats, increases given that roost opportunities are available and vice versa.*

Designated sites

- 6.5 There is a designated site for nature conservation within 1.0 km of the application site: Rochdale Canal SSSI / SAC at 1.0 kilometre to the south. The proposals are highly unlikely to result in any adverse effects against the designated site.
- 6.6 There is one granted EPSML within 2.0 kilometres; allocated for destruction of a bat roost(s) at 1.90 kilometres south-west for Common & Soprano Pipistrelle bats.
- 6.7 Tyrer Ecological holds the following protected species information within 2.0 kilometres; all biological records quoted have been submitted to the LRC serving the area.
- 1.3 metres west /2016/ Common Pipistrellus x6 recording foraging after dusk
 - 1.23 metres west / 2016 / Plecotus auritus x1 recorded commuting through from the west
 - 1.23 metres west / 2016 / Common Pipistrellus x4 recorded social activity including one emergence
 - 1.13 metres west / 2016 / Pipistrellus pygmaeus x1 commuted through from the east
 - 1.40 metres /2016 / Common Pipistrellus x1 day roost

7.0 Field Study Results

Bats

Lower Townhouse Farm

- 7.1 The barn, subject to survey, is a large spacious stone building with a pitched Welsh slate roof and stone ridge. The barn height is circa 7-8 metres to the ridge, damp and draughty, as well as illuminated via a large open doorway and numerous vent holes in the stone allowing light and wind inside. There is an adjoining unoccupied and neglected dwelling on the western aspect (not included in this survey) and a stone single storey lean-to on the eastern aspect partly demolished, absent of a roof and partly covered with tarpaulin. The southeast side of the barn has been deconstructed/demolished and a large archway entrance central to the barn both front and back is observed; only the southern aspect is covered/sealed by a timber door. Numerous doors at ground level are blocked up with stone or boarded and the upper windows are bricked or boarded, and the general condition of the barn is dilapidated and in need of remedial work in its current state.
- 7.2 Internally a loft space is absent and the structure open to the ridge with no underlining; it is predominantly single level except for a mezzanine level to the west side of the barn covering approximately one fifth of the overall space, however, during assessment this area was considered to be unsafe to bare weight limiting inspection to the ladder. Cobwebs were abundant and exposed beams are heavily covered with pigeon faeces and pigeons are noted to be present. The internal walls comprise of bare stone and demonstrate evidence of a cavity between them.
- 7.3 Given the internal conditions encountered the barn is considered suitable for loft-dwelling bats such as the Brown long-eared (BLE) bat; this is a species that generally tends to favour dark, fairly spacious loft spaces without disturbance, consistent temperatures and freely available flight space. The temperature in the barn is anticipated to fluctuate seasonally, thus making it inconsistent and subsequently less favourable for bats maternity use. Furthermore, no evidence of use was located during the investigation, despite the local environs offering favourable habitat to meet the specific foraging requirements of the species.

- 7.4 Internally, roof lining such as bitumen underfelt or equivalent is absent; the presence of such can significantly increase the potential for crevice dwelling species such as the Pipistrelle at roof level whereby they often roost between external and internal roof linings where access is available. Notwithstanding this the building possesses numerous crevices throughout, and although there was no evidence located on the day of the survey such as droppings, this can often be the case with crevice dwelling bats given their preferences for roosting in crevices, however, this should not be always solely relied upon as determination of bat absence.

NB: *The breeding roosts of Pipistrelle bats are proportionally higher in occupied residential dwellings where the warm, dry conditions favour the requirements of a maternity colony but other structures are also used, especially for hibernation or by male bats which do not need the same conditions as a maternity colony.*

- 7.5 Externally the upper reaches and roof levels present a range of potential roost features preferred by bats including:
- gaps at the ridge tiles due to state of disrepair and time undisturbed.
 - gaps in the window and door frames
 - gaps in the timber from bolts and fastenings
 - gaps at the wall plate and roof verge on both the north and south side.
 - small area of wall cavity around the door on the south side.
 - vent holes on both south and north walls

Adjoining Cottage

- 7.6 The adjoining 2 storey cottage is located off the western corner of the barn, recently vacated and heavily covered in dense Ivy (*Hedera*) making access and viewing of the western end gable property not possible. The roof was a single pitched with tiles that were intact with the doors and windows of the cottage appearing reasonably well-sealed with no obvious gaps were evident. This building is non target for the purposes of this assessment, and no conclusions or recommendations in respect to this structure have been provided.

Adjoining Cottage Garden

- 7.7 This garden area behind the cottage to the west of the cottage was heavily overgrown with brambles and variegated yellow archangel (*Lamium galeobdolon subsp. argentatum*), an invasive species. There was a path leading from the back door of the cottage to the garden that was bordered either side with a low level dry stone wall densely vegetated with moss.
- 7.8 The barn was predominantly free of vegetation apart from an exposed tree trunk on the south side wall that had been cut tightly to meet the line of the stone wall itself; variegated yellow archangel (*Lamium galeobdolon subsp. argentatum*) was noted to be growing out of the building.

See Photos Appendix I

Breeding Birds

- 7.9 In relation to WCA Schedule 1 specially protected bird species such as Barn owl, no evidence was found to suggest any form of site use or historic nesting in any building, despite the local environment offering favourable hunting habitat. Equally no evidence of any other specially protected bird species was encountered.

- 7.10 In relation to more common bird species, evidence of recent nest material was seen in the wall vents on the north side of the barn. Being outside the breeding season (this is typically March-August inclusive), birds were not seen in the nests. There was sufficient surrounding vegetation to support a variety of birds.

8.0 Conclusions & Recommendations

- 8.1 Based upon the findings of the survey covered through sections 6.0-7.0 of the report, the Barn surveyed was roundly categorised to offer 'Moderate' bat roost suitability in accordance with the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), whilst the immediate environment offers a favourable environment for foraging and commuting bats.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).		
Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

Figure 8.1 - Bat Conservation Trust extract

- 8.2 It is recommended that in order to obtain further information on which to base a conclusive impact assessment, two dusk and/or dawn emergence/re-entry surveys should be conducted at the site during the active season of bats (May - August), in order to establish if/how the building is being used by bats, and if so identify species, abundance, roost locations and flight lines around the site following emergence/re-entry.
- 8.3 It should be noted that where bat(s) or their roost(s) will be affected by the proposed works then to allow developmental works at the site to legally commence an application for a European Protected Species Mitigation Licence (EPSML) and subsequent granting of a licence will be required. Notwithstanding the granting of a licence, works that would affect a roost cannot take place if a maternity colony is in occupation. It should also be noted that before an EPSML can be applied for, all Planning issues, including Consent and any pre-commencement Planning Conditions relative to bats, should be resolved.

NB: "A licence is needed if the consultant ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably likely to result in an offence under the Conservation of Habitats and Species Regulations (2019) (EU Exit)".

- 8.4 If the consultant ecologist, based on survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably unlikely to result in an offence being committed then no licence is required. If European protected species are found, cease the work until you have assessed whether you can proceed without committing an offence. A licence should be applied for if offences are unavoidable and the work should not be re-started until a licence is obtained. The application should be completed by the developer and a consultant ecologist. The ecologist will need to be able to demonstrate to the satisfaction of Natural England that they have the relevant skills and knowledge of the species concerned.
- 8.5 Installation of overtly harsh artificial lighting as part of any development that exceeds current levels may have a negative impact upon foraging/commuting bats in the landscape, particularly if increased light spillage occurs in areas of that are currently free from illumination. A bat-sensitive lighting plan is therefore recommended in order to avoid

potential impacts to bats that may use the surrounding treelines. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Lighting Guidelines for further information.

Type of lamp (light source): The impact on bats can be minimized by the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics.

Lighting should be directed to where it is needed and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

Predicting where the light cone and light spill will occur: There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels: The light should be as low as guidelines permit. If lighting is not needed in any particular area, do not light. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site.

Please refer to the 'Landscape and urban design for bats and biodiversity' (Gunnell *et. al.*, 2012, Bat Conservation Trust) for further information.

- 8.6 No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as Barn owl (*Tyto alba*) and no further surveys or recommendations are necessary in relation to specially protected birds at this time.
- 8.7 In relation to common birds, given the presence of Feral pigeons, it is recommended that any works avoids the breeding bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March-August). If the above is not possible then any features that can support nesting birds should be checked by a suitably experienced Ecologist within 48 hours or less prior to works commencing. If birds are found nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.

NB: *All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected from destruction, damage and disturbance under the Wildlife & Countryside Act 1981 (as amended). It is a punishable offence to interfere in any way with an active nest.*

9.0 Bibliography

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Appendix I: Site Photographs



Plate 1 - Barn as viewed from the south looking north view 1



Plate 2 - Barn as viewed from the north looking south view 1



Plate 3 - Barn as viewed from the north looking south view 2



Plate 4 - Barn as viewed from the north looking south view 2



Plate 5 - Barn interior

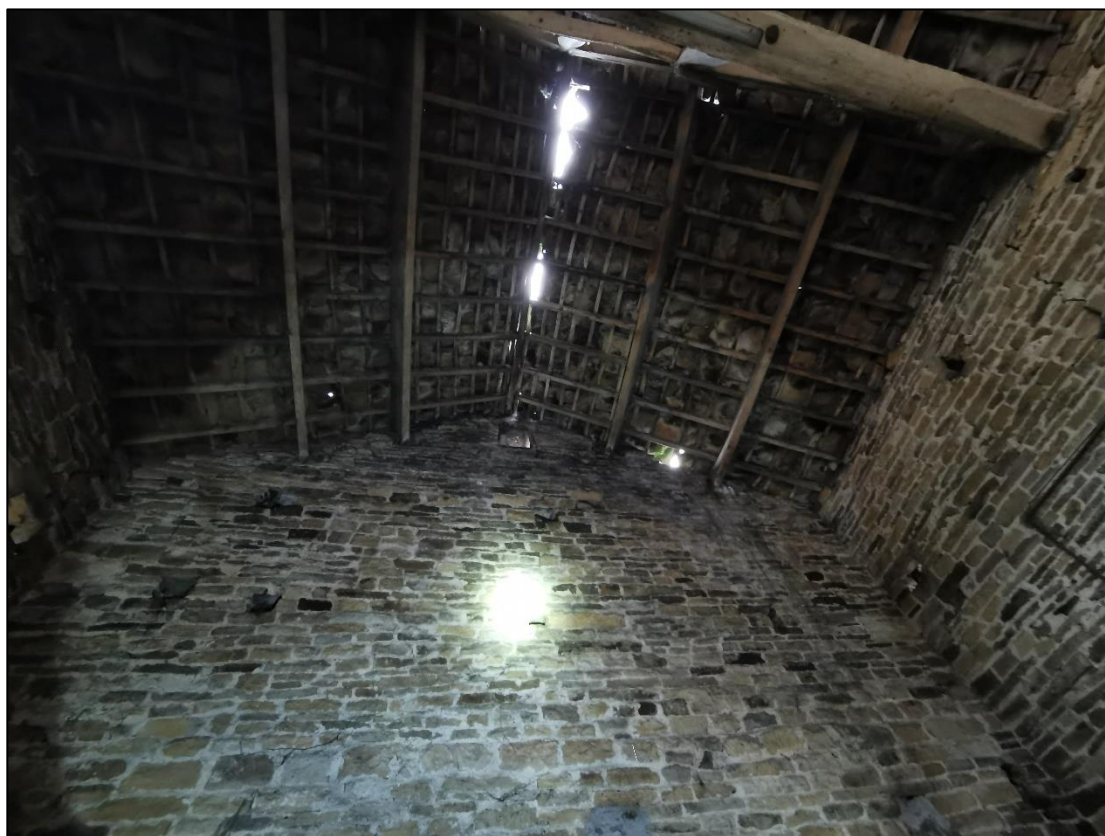


Plate 6 - Barn roof



Plate 7 - Lean-to elements on the eastern aspect



Plate 8 - Where the barn meets the dwelling (not surveyed) on the western aspect



Plate 9 - Evidence of Feral pigeons inside the barn



Plate 10 - Evidence of a cavity inside the stone fabric of the barn

Appendix II: Biodiversity Enhancement Recommendations

Birds

Breeding Birds - House Sparrow

The Sparrow Terrace has been designed to help redress the balance of falling House Sparrow numbers. The current UK population is now half of what it previously was in 1980 and this is widely attributed to habitat destruction and lack of suitable nesting spaces. House Sparrows are social birds and like to nest in company, therefore, this terrace provides ideal nesting opportunities for three families. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of buildings.



Breeding Birds - Other

This traditional design has proved to be highly effective in attracting Robins, as well as other small species such as Black Redstart, Spotted Flycatcher and Wren. It is designed to be installed on the walls of houses, barns, garden sheds or other buildings and should be hung so that the entrance is to one side (at an angle of 90° to the wall). The front panel can be easily removed for cleaning.

This type of box should not be made conspicuous on a tree or bush because small predators can enter through the unprotected opening. By hanging on a wall, predators won't be able to reach the box. Alternatively hide the box in Ivy, Honeysuckle or other climbing plants.



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

Native Planting and/or Landscaping

New feature landscaping should incorporate native woody plants as opposed to non-native species that are of significantly less benefit to biodiversity. Species such as Blackthorn (*Prunus spinosa*), Honeysuckle (*Lonicera periclymenum*), Rowan (*Sorbus aucuparia*), Guelder-rose (*Viburnum opulus*) and Hawthorn (*Crataegus monogyna*) are native and will provide a valuable resource for a myriad of wildlife as opposed to non-native, exotic species which are generally much less effective, particularly to pollinator groups including bees, butterflies and moths.

Trees	Woody Shrubs
English Oak (<i>Quercus robur</i>)	Hawthorn (<i>Crataegus monogyna</i>)
Rowan (<i>Sorbus aucuparia</i>)	Honeysuckle (<i>Lonicera periclymenum</i>)
Wild Service Tree (<i>Sorbus torminalis</i>)	Guelder Rose (<i>Viburnum opulus</i>)
Silver Birch (<i>Betula pendula</i>)	Elder (<i>Sambucus nigra</i>)
Ash (<i>Fraxinus excelsior</i>)	Wild Privet (<i>Ligustrum vulgare</i>)
Goat Willow (<i>Salix caprea</i>)	Blackthorn (<i>Prunus spinosa</i>)
Beech (<i>Fagus sylvatica</i>)	
Wild Cherry (<i>Prunus avium</i>)	