Charnia Ecology

Preliminary Roost Assessment

Bats & Birds



'Provender Mill'

Under the Hill, Biddulph Moor.

Staffordshire.

ST8 7RR.

January 2017

Notice to readers

This report has been prepared by Charnia Ecology with all reasonable skill, care and diligence, within the terms of the contract with the client. The actions of the surveyor on site and during the production of the report were undertaken in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management (www.ieem.org.uk).

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Client details:
Mrs. Gill Baker

Application area:
'Provender Mill'
Under the Hill, Biddulph Moor.
Staffordshire.

Postcode / OS grid ref:
ST8 7RR / SJ903587

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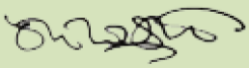

Principal Ecologist

Surveyor capability

Ecological assessment and report preparation has been conducted by a Natural England licensed bat Ecologist (CLS00836 – Level 2) and member of the Chartered Institute of Ecology and Environmental Management (MCIEEM), and an associate member of the Royal Society of Biology (AMRSB). The ecologist holds a First Class Honours degree in Conservation Biology, and a Vice Chancellors award for academic excellence. He has undertaken protected species surveys for over seven years, and is actively involved in scoping, presence/absence surveys, and Natural England licence applications with regard to planning and the law. The actions of the surveyor on site and during the production of written reports are undertaken in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management (CIEEM).

NON-TECHNICAL SUMMARY

Report rationale

1. Charnia Ecology was commissioned to undertake a Preliminary Roost Assessment (PRA) on behalf of Mrs. Gill Baker, in relation to protected bat and bird species at 'Provender Mill', Under the Hill, Biddulph Moor. Staffordshire. ST8 7RR / SJ903587.

2. A Preliminary Roost Appraisal (PRA) survey was conducted during the daytime on 12th January 2017 by a Natural England class 2 licensed bat ecologist and member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

Proposed works

3. It is understood that the proposed planning application intends to demolish the existing building to make way for a new residential dwelling.

Site description

4. The site is situated is located on Under the Hill lane which converges with Over the Hill / Hurst Lane to the north of Biddulph Moor. Provender Mill is situated on a brownfield site and comprises of a former mill used to produce animal feeds and a former poultry unit building circa mid 1940's. The site is located at elevation with open panoramic views to the west with scattered homesteads separated by drystone walls and agricultural farmland.

IMPACT ASSESSMENT

Building rating

5. No evidence of bats was recorded during the inspection. All buildings were assessed as having negligible to low potential for roosting bats and nesting birds (incl. Barn owl); with much of the buildings being fabricated of material not considered conducive for the thermoregulation requirements of roosting bats, lacking ingression points, roosting features, and being either highly illuminated or exposed to abiotic influence from the outside environment.

Building unit	BATS	BIRDS	BARN OWL
B1	LOW	LOW	NEGLIGIBLE
B2	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE

Survey constraints

6. NO survey constraints were encountered during the daytime inspection.

Designated sites

7. NO immediate impact on any designated sites in the surrounding landscape is predicted, with the new build footprint being comparable to that of the existing building. The development is situated in green belt and should be sensitive to deleterious effects of any post development lighting on adjacent habitats.

Further survey

8. The building is considered as having low potential for bats and birds overall and NO further survey recommendations are considered, on the proviso that care and vigilance is carried out during works.

Mitigation licences

9. As no evidence of roosting bats was recorded during the activity surveys, it is unlikely that the proposed application will result in an offence under Regulation 41 or 4, and it will NOT be necessary to apply for a European Protected Species (EPS) licence from Natural England.

10. However, as the building is proposed to be demolished, it is recommended that the following non-licensable site-safeguard measures are made a condition of the application in the unlikely event that individual bats and nesting birds may be encountered during works:

a) All building contractors should be made aware of the possible presence of individual bats, their legal protection and of working practices to avoid harming bats, before any work commences.

b) Ideally any demolition works should be undertaken during a period of dry weather with temperatures > 8 degrees Celsius.

c) Should any bats be discovered during works (or suspicion arise about the possible presence of bats, i.e. between gable-end cavities and intermediate layers obscured by roofing membrane), then **ALL work must cease immediately** until further assessment has been made by a licensed bat ecologist.

d) The development is situated in green belt and should be sensitive to deleterious effects of any post development lighting on adjacent habitats (see recommendations).

e) Ideally, any proposed works should be undertaken outside the bird breeding season (March to August inclusive). Where this is not possible, then a check for nesting birds should be undertaken by an ecologist prior to works.

f) In accordance with the Natural Environment and Rural Communities (NERC) Act 2006, development proposals should seek, where possible, to enhance opportunities for local biodiversity. It is recommended that a minimum of three bat and three bird boxes are erected onsite to increase overall prospects for local populations.

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1. INTRODUCTION

1. Charnia Ecology was commissioned to undertake a Preliminary Roost Assessment (PRA) on behalf of Mrs. Gill Baker, in relation to protected bat and bird species at 'Provender Mill', Under the Hill, Biddulph Moor. Staffordshire. ST8 7RR / SJ903587.

2. A Preliminary Roost Appraisal (PRA) survey was conducted during the daytime on 12th January 2017 by a Natural England class 2 licensed bat ecologist and member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

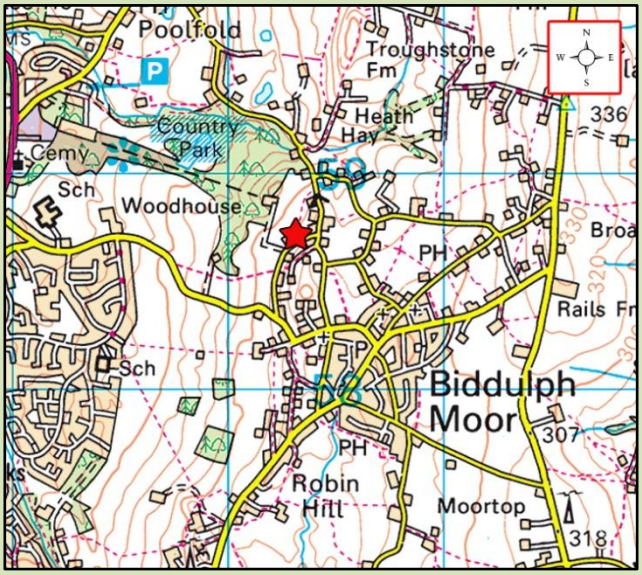

Figure 1. Location of proposed development area (red) in context to the wider landscape (source:0S Maps)

➢ **SITE DESCRIPTION**

3. The site is situated is located on Under the Hill lane which converges with Over the Hill / Hurst Lane to the north of Biddulph Moor. Provender Mill is situated on a brownfield site and comprises of a former mill used to produce animal feeds and dates from the mid 1940's. The site is located at elevation with open panoramic views to the west with scattered homesteads separated by drystone walls and agricultural farmland.

➢ **PROPOSED DEVELOPMENT**

4. It is understood that the proposed planning application intends to demolish the existing building to make way for a new residential dwelling.

➢ **AIMS OF SURVEY**

5. A Preliminary Roost Assessment (PRA) is to provide initial advice at the pre-acquisition stage with regards to any potential ecological impacts through development regarding protected bat and bird species under the Wildlife and Countryside Act 1981 (as amended) and/or the Conservation (Natural Habitats, &c.) Regulations 1994 (2); including species listed in the UK and local Biodiversity Action Plans (BAPs). Assessment was undertaken in accordance to the Chartered Institute of Ecology and Environmental Management Code of Professional Conduct www.ieem.org.uk.

6. The aims of the survey is as follows:

- Probability of bats and their roost sites being present at the proposed development site i.e. buildings and trees;
- To assess the roost status should bats be present;
- To assess potential commuting and foraging habit that may be subject to impact from the proposed development
- To provide an overall impact assessment in the absence of mitigation

7. The scope of this appraisal has been determined in line with the proportional approach to ecological survey, assessment and subsequent recommendations for avoidance and mitigation of impacts, which is encouraged in the emerging 'BS 42020: Biodiversity – Code of practice for planning and development'. This report has been prepared with due consideration for various best practice guidance and methodologies including those of the Chartered Institute of Ecology and Environmental Management (CIEEM (2012)1, the emerging BS 42020 and BCT Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) 2016.

8. Unless the client indicates to the contrary, information about the species found to be present on the site will be passed to the county biological records centre to update records held for the area. As defined in Planning Policy Statement 9 (ODPM, 2005) (now superseded by the National Planning Policy Framework - NPPF 2012), Biodiversity and Geological Conservation sites of biodiversity conservation value and protected species are material considerations in the planning process.

9. All species of bat are listed in Schedule 5 of The Wildlife and Countryside Act (1981) and as such receive protection under Section 9 of this Act (See Appendix for a full index of legislation policy guidelines). A bat roost is interpreted as 'any structure or place, which any wild bat uses for shelter or protection' (i.e. buildings, trees, bridges, tunnels etc.). Bats tend to show a high fidelity to roosts; subsequently, legal opinion regards a roost to be protected whether or not the bats are present at the time. There are many types of roost used by temperate bats during their annual cycle:

10. Any structures found having evidence of bats will be further evaluated to assess which of the following roost categories may be present onsite (if any):

Roost category	Description
Summer Maternity / nursery roost	Used by breeding bats, where pups are born and raised to independence (Anecdotal evidence may support this prospect despite sub optimal survey period).
Hibernation site	Where bats may be found during over-wintering.
Daytime Summer roost	Used by males and/or non-reproductive females (seasonal limitations can prevent robust assessment of this roost status).
Night roost	Where bats rest between feeding bouts during the night but are rarely present during the day.
Feeding roost	Where bats temporarily utilize feeding perches and stations to eat an item of prey.
Transitional (or swarming) site	Where bats may be present during the spring or autumn

Table 1. Bat roost status definitions.

11. The survey protocol also considers all common wild birds that are protected under the Wildlife and Countryside Act 1981 (and as amended). This protection extends to bird nests during the breeding season, which makes it an offence to damage or destroy nests or eggs.

- Establish if birds are using the site;
- Locate nest sites, if present;
- Assess what types of activities were shown with the proposed application area;
- Assess suitable food resources and habitat requirements;
- Provide an impact assessment in the absence of mitigation.

12. Certain rare breeding birds such as Barn Owl *Tyto alba*, are listed on Schedule One of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs and unfledged young. Survey protocol considers the following:

- Establish presence onsite;
- Establish potential nest sites (PNS);
- Locate any active roost sites (ARS);
- Locate any temporary roost sites (TRS);
- Assess potential feeding and dispersal habitats (PFH);
- Provide an impact assessment in the absence of mitigation.

➢ **VALUED ECOLOGICAL RECEPTORS (VERS)**

13. Assessment also considers potential effects on Valued Ecological Receptors (VERs) and Zones of Influence (ZoI) during pre and post development, both onsite and off- site. The term Zone of Influence is used to describe the geographic extent of potential impacts of a proposed development.

14. Should a likely significance of negative impacts to bats and/or birds be identified during the survey period, then further surveys, mitigation and enhancement measures may be necessary to prevent, offset or reduce the degree of impact that may occur should development commence. Should bats be present onsite, then a European Protected Species (EPS) development license issued by Natural England (NE) may be required prior to any works taking place.

2. SURVEY METHODOLOGY

15. In accordance with BCT 3rd edition (2016) guidelines, the following survey protocol is considered appropriate to provide a full ecological evaluation of the site in order to determine the following:

➢ **PRE-SURVEY DATA SEARCH**

16. Pre-survey data search provided historical records of any protected bat and bird species found within a 2km radius of the application area. Additional ecological data has been sourced to understand any constraints that the proposed planning application may have on species and habitat in the wider landscape. The National (UK) and local (Staffordshire) Biodiversity Action Plans (BAPs) were also scrutinized for protected habitats and species relevant to the application area.

17. A number of electronic sources sites were also consulted including; www.magic.gov.uk; www.naturalengland.org.uk; Google Earth and www.ordinancesurvey.co.uk.

➢ **ROOST SURVEY**

18. A Phase 1 Preliminary Roost Assessment can be conducted throughout the year with a varying degree of optimality:.

Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Inspection of Hibernation roosts- semi optimal survey			Limited activity-sub optimal	Summer roost emergence & re-entry surveys -Optimal survey period					Limited activity -sub optimal	Hibernation roosts - semi optimal survey	
Internal roost surveys are possible / Trees are best surveyed during Winter											

Table 2. Annual survey optimality for bats.

19. All potential roost structures (i.e. buildings) onsite or within the Zone of Influence of the proposed development were assessed, based on standard methodologies set out by Natural England, the Bat Conservation Trust (BCT) and the Joint Nature Conservation Committee (JNCC). The use of binoculars, torch, endoscope and ladders are used where necessary to establish the following:

- Presence or absence of bats onsite (i.e. hibernating bats)
- Evidence and/or potential of bat roosts onsite (i.e. summer roosts)
- Whether additional surveys are required

➢ ***External inspection of structure***

20. A visual assessment during daylight hours was initially undertaken to locate potential ingression points that bats and birds (including Barn owl) could use to gain access into the structure to roost and/or nest, and assessed using the following criteria:

- Type and age of building;
- Type of construction;
- Condition of roof i.e. missing or raised roof tiles;
- Condition of windows and doors i.e. broken panes;
- Potential ingression points around ridges and apex of the buildings;
- Evidence of bats (i.e. presence of live or dead bats, droppings, grease marks, urine stains, characteristic smell of bats;
- Any evidence of birds i.e. nest material, droppings.

➢ ***Internal inspection of structure***

21. An internal inspection of the structure considers areas which provide appropriate features and environmental conditions for bats and birds, and considers the following criteria:

- To look for warm dark areas, joints, crevices, beams and cavities for possible bat roost sites and nests.
- To locate roost/nest sites.
- To listen for bats and birds.
- To examine floors, walls and structural elements for physical evidence of bats and birds;
- To record any anecdotal evidence (i.e. presence of live or dead bats, droppings, grease marks, urine stains, feeding remains and characteristic odour of bats;

➢ **BUILDING RATING**

22. In the absence of any evidence, trees and structures were assigned a rating of suitability from negligible to high potential for supporting bats. The rating is based on the number and type of features suitable for use by bats (such as rot holes, cavities and raised bark), location of the structure in the surrounding landscape and surveyor's experience.

23. For example; a structure with a high level of regular disturbance with few opportunities for access by bats, that is in a highly urbanized area with few or no mature trees, parkland, woodland or wetland would generally equate to having negligible potential. Conversely, a pre 20th century or early 20th century building with many features suitable for use by bats close to good foraging habitat would have high potential.

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).

Table 3. Roost habitat assessment (BCT, 2016)

3. RESULTS

➢ **PRE-SURVEY DATA SEARCH**

- **Designated sites**

24. There are no designated sites recorded onsite or within the Zone of Influence of the proposed development. However there are a number of national statutory designated Local Nature Reserves in the surrounding area.

25. Other than lowland heath, a number of other BAP Priority Habitats (England) also occur within a 1km radius and include: Ancient and Semi-natural woodlands / deciduous woodlands (listed under the National Forest Inventory 2014), Wood pasture and Parkland. A large woodland block of Spring Wood (ca. 18.420331 ha) is located ca.230m NW and forms part of Biddulph Grange Country Park. A traditional orchard is also located ca. 295m due SE.

26. Subsequently the application area falls within SSSI Impact Risk Zones – to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England).

- **Protected species**

27. Pre-survey data finds seven British bat species are currently given UK BAP (2007) Priority Species Status. National Biodiversity Network and Staffordshire Wildlife Trust (SWT) records show that 11 of the 17 resident UK bat species occur in the county with one UK BAP species being recorded within 2km of the proposed application area (highlighted in orange):

UKBAP	Common name	Species	Recorded within 2km
☑	BROWN LONG-EARED BAT	*Plecotus auritus*	☑
☑	BARBASTELLE BAT	*Barbastella barbastellus*	☒
☑	BECHSTEIN'S BAT	*Myotis bechsteinii*	☒
☑	NOCTULE	*Nyctalus noctula*	☑
☑	GREATER HORSESHOE BAT	*Rhinolophus ferrumequinum*	☒
☑	LESSER HORSESHOE BAT	*Rhinolophus hipposideros*	☒
☑	SOPRANO PIPISTRELLE	*Pipistrellus pygmaeus*	☒

Table 4. UKBAP Bat species recorded within Staffordshire.

28. A further four/five bat species that are not currently given UK BAP consideration are also recorded within the county with two recorded within a 2km radius of the site (highlighted in orange):

UKBAP	Common name	Species	Recorded within the county
☒	NATTERER'S BAT	*Myotis Nattereri*	☑
☒	DAUBENTON'S BAT	*Myotis daubentonii*	☑
☒	WHISKERED/ BRANDT BAT	*Myotis mystacinus/brandtii*	☑
☒	COMMON PIPISTRELLE	*Pipistrellus pipistrellus*	☑

Table 5. Non UKBAP Bat species recorded in Staffordshire.

29. Pre-survey data show twelve records of three species of bat within a 1km radius between 1989-2010; Common pipistrelle, Brown Long-eared bat and Whiskered bat. All records would indicate single field sightings.

30. There are twenty seven records of Barn owl within a 2km radius, although no records of breeding sites are recorded. SER data show NO records of Barn Owl within a 1km radius of the application area, although the surrounding landscape provides good habitat for this species,

➢ **FIELD SURVEYS**

- **Habitat Description**

31. The site is situated at elevation (ca. 750-273m) in a semi rural Green belt area of the Staffordshire Moorlands. Subsequently, the site commands open views to the west and comprises of "Settled Plateau Farmland Slopes" and "Ancient Slope and Valley farmlands" landscape character types in the surrounding area. The underlying topography and surrounding habitats consists of lowland dry heath communities, with mixed and coniferous woodland heath and forestry. Underlying pedology is composed of slowly permeable seasonally wet acid loamy and clayey soils. The area is considered as being in less favourable condition and in a nitrate vulnerable zone.

32. The site subsequently is bordered by minor B roads, scattered homesteads and agricultural farmland divided by hedgerows and dry stone walls, with heath and moor, and acid pastures. Overall, the surrounding area provides a number of a number of valuable resources for bats and birds with good connectivity, albeit in an elevated and exposed location.

➢ **ROOST SURVEY**

- **Building unit B1 – Former mill building**



Figure 2. SE elevation



Figure 3. SW elevation.

➢ ***External inspection***

33. The building inspection was undertaken during the daylight hours (Temp: >2°C / light showers and sleet /wind speed >1). The former mill building is in two parts with an overall dimension of ca 18m x 11m and a footprint of ca. 198m^2. The main body of the building is constructed of red brick under a fibre cement roof with NW and SE facing gable ends.

34. A corrugated iron clad section is attached on the SE gable side. Although the building has not been in use for some considerable time, the vast majority of windows and doors were found to be secure with only minimal ingression points recorded around pinching points between roof verges and upper brick work.

35. Much of the brickwork was found to be in reasonable condition with no major crevices / fractures recorded. Minor gaps were recorded along the ridge line area of the pitched roof and around a large sliding door on the NE corner to the rear of the building.

36. No evidence of bats or birds was recorded during the external inspection.

➢ ***Internal inspection***

37. Internal inspection was gained via the large sliding door on the NE corner of the corrugated building section at the rear. Internally the area was found to be open to roof level and well illuminated, containing a large feed grain silo and a roller mixer.



Figure 4. Ground floor 'silo' area.



Figure 5. Grain store area

38. The area lacked any contained roof void compartments with no internal paneling recorded on the corrugated sheet side walls. A former feed store room is located along the eastern elevation and comprised of a mono pitched fibre cement roof. An internal ladder way leading down to a lower basement area was found to contain a crusher, cyclone and hopper machinery area.



Figure 7. Basement area.



Figure 8. Stairwell in main work-shop area

39. Access into the main brick building was made via a broken window into a cellar area on the western elevation, which in-turn, led to a stairwell which ascended into a main work shop area and loading bay area. Once again this area was found to be open to roof height with exposed metal truss framework and fibre cement pitched roof present.





Figure 9. Looking north in workshop area. **Figure 10.** Looking south in workshop area.

40. All areas were considered as providing negligible to low potential for roosting bats, with much of the building being fabricated of material not considered conducive for the thermoregulation requirements of roosting bats. No evidence of bats was recorded during the internal inspection.

41. A single, defunct bird nest was recorded on the upper, internal gable end wall in the main loading bay area. No evidence of Barn owl was recorded.

- **Building unit B2 – Former Poultry unit**

42. An additional stand-alone building, and former poultry unit is situated to the rear of the main building on the NE corner. This building is a single storey structure constructed of brick with a pitched fibre cement roof.

43. All windows and doors were absent around all elevations. Internally, the building was found to contain former livestock pens and exposed to roof level. The building was assessed has having negligible potential for roosting bats and birds, being highly illuminated and exposed to abiotic influence from the outside environment.



Figure 11. SW corner of B2.



Figure 12. Internal view of B2.

4. IMPACT ASSESSMENT

- **LEGISLATION AND POLICY GUIDANCE** (See Appendix)

44. In Britain all bat species and their roosts are legally protected, by both domestic and international legislation.This means a criminal offence will be committed if you:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat;
- Intentionally or recklessly obstruct access to a bat roost.

- ***Survey constraints***

45. No survey constraints were encountered during the daytime inspection.

- ***Constraints on equipment used***

46. No constraints regarding equipment used to inspect the building were encountered (i.e. endoscope, ladders and high powered binoculars).

- **DESIGNATED SITES**

47. No immediate impact on any designated sites in the surrounding landscape is predicted, with the new build footprint being comparable to that of the existing building. The development is situated in green belt and should be sensitive to deleterious effects of any post development lighting on adjacent habitats.

➢ **BUILDING RATING**

48. Overall building rating potential for bats is considered as being low overall based on the fabrication of roof, minimal ingression points, well-illuminated areas open to roof height that were absent of any contained, non-illuminated roof voids.

Building unit	BATS	BIRDS	BARN OWL
B1	LOW	LOW	NEGLIGIBLE
B2	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE

Table 6. Building rating.

➢ **IMPACT ON BAT ROOSTS**

49. NO impact to any notable bat roosts of high conservation is predicted, with more optimal structures and roosting habitat considered within the surrounding area.

➢ **IMPACT ON BIRDS**

50. Low impact to individual nesting birds considered to be common and widespread is predicted. No impact to Barn Owl is predicted and no further recommendations are given with regard to this species.

5. RECOMMENDATIONS

➢ **FURTHER SURVEY**

51. The building is considered as having low potential for bats and birds overall and no further survey recommendations are considered, on the proviso that care and vigilance is carried out during works (see section 6).

➢ **MITIGATION LICENSES**

52. As no evidence of roosting bats was recorded during the activity surveys, it is unlikely that the proposed application will result in an offence under Regulation 41 or 4, and it will NOT be necessary to apply for a European Protected Species (EPS) licence from Natural England.

53. However, as the building is proposed to be demolished, it is recommended that the following non-licensable site-safeguard measures are made a condition of the application in the unlikely event that individual bats and nesting birds may be encountered during works:

54. All building contractors should be made aware of the possible presence of individual bats, their legal protection and of working practices to avoid harming bats, before any work commences.

55. Ideally any demolition works should be undertaken during a period of dry weather with temperatures > 8 degrees Celsius.

56. **IMPORTANT NOTE:** Should any bats be discovered during works (or suspicion arise about the possible presence of bats, i.e. between gable-end cavities and intermediate layers obscured by roofing membrane), then **ALL work must cease immediately** until further assessment has been made by a licensed bat ecologist.

➢ ***Foraging and commuting habitat.***

- ***Lighting***

57. Any post development lighting should consider the use of low energy LED lighting, or alternatively, Low-pressure sodium lamps (SOX), to minimize light spill onto adjacent roost areas and habitats, that may affect the flight paths and foraging and commuting of local bat populations and terrestrial fauna on the whole.

58. Where necessary, lighting should be fitted with hoods to direct the light below the horizontal plane to minimize sky-glow, whilst any security lighting should be less than 200 lumens (150 watts) and placed on a timer setting and faced downwards. Height of any columns around the development should not exceed eight metres.

➢ **BIRDS**

59. Consideration should be given to any nesting birds which are protected under the Wildlife and Countryside Act 1981 (as amended) during the development.

60. Ideally, any proposed works should be undertaken outside the bird breeding season (March to August inclusive). Where this is not possible, then a check for nesting birds should be undertaken by an ecologist prior to works. Should any active bird nests be found, then these should be left undisturbed until offspring have fully fledged. It may be necessary to enforce an exclusion work zone of 5m to reduce disturbance and minimize potential displacement of nesting birds.

61. No evidence of Barn owl was recorded and NO further recommendations are considered with regard to this species.

➢ ***Biodiversity enhancement***

62. In accordance with the Natural Environment and Rural Communities (NERC) Act 2006, development proposals should seek, where possible, to enhance opportunities for local biodiversity. It is recommended that a minimum of three bat and three bird boxes are erected onsite to increase overall prospects for local populations, and this should be made a condition of the planning licence.

63. Ideally bat boxes should be sited ca. 4-6m above ground, and around different elevations to provide alternative microclimates for bats to select from. Recommended commercially available woodcrete bat boxes, such as schwegler 1FFH and the improved treble crevice bat box (The Nest Box company) for example, are considered to be suitable receptors for crevice-dwelling bats.

Further information of providing access for roosting bats can be found on:

- Bat Conservation Trust website: www.bats.org.uk/pages/new_build.html.
- The Nest Box Company: www.nestbox.co.uk/Improved-Treble-Crevice-Bat-Box.html
- NHBS: www.nhbs.com/schwegler_bat_boxes_eqcat_422.html.
- Further information for birds can be found on the RSPB website:www..rspb.org.uk

64. Should any landscaping be considered at a later date, then it is recommended that only native tree and shrub species are planted. In particular, no plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 should be planted during any landscaping around the conversions. For further details of Schedule 9 plants visit the Defra website: www.defra.gov.uk/wildlife-pets/non- native.

6. REFERENCES

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- Dietz, C., von Helversen, O. & Nill, D. (2009) Bats of Britain, Europe and Northwest Africa. London:A. C. Black.
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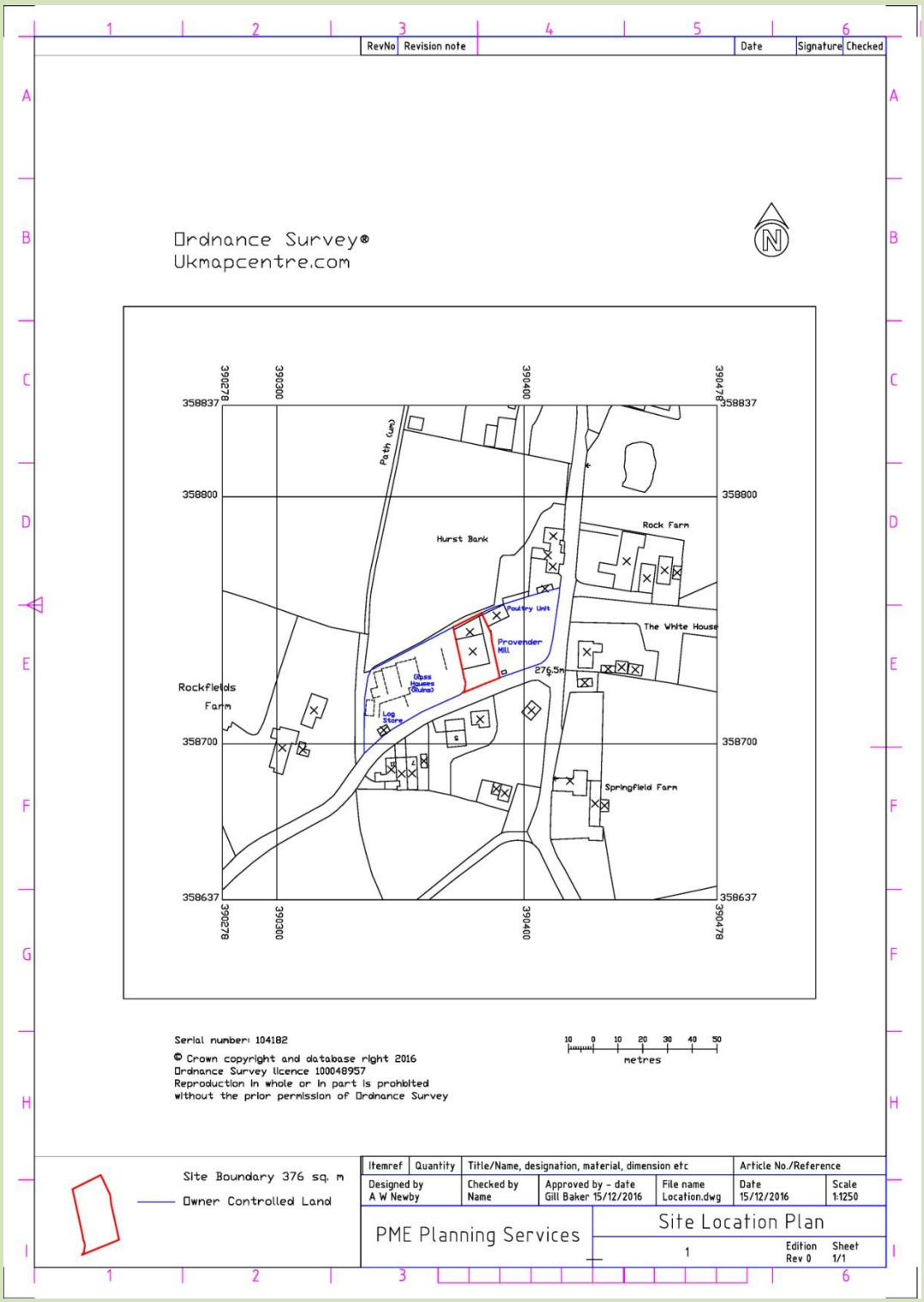
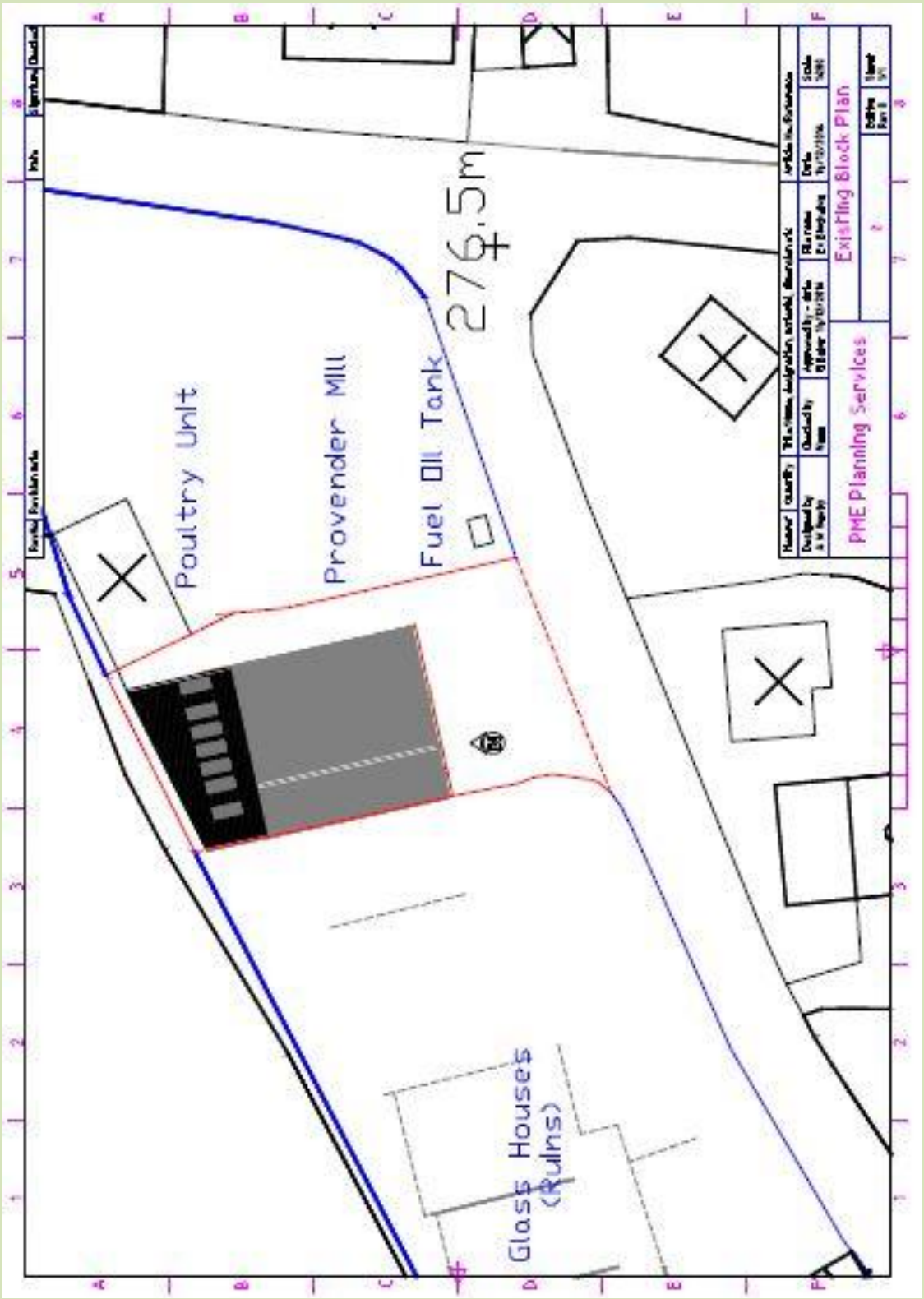
- RSPB (2002) The Population Status of Birds in the UK 2002-2007
- Rydell J & Racey, P A (1993) Street lamps and the feeding ecology of insectivorous bats. Recent
- *Advances in Bat Biology, Zool. Soc. Lond.* Symposium abstracts.
- The Conservation of Habitats and Species Regulations 2010 . SI 2010/490. SI 2007/1843, London: HMSO.

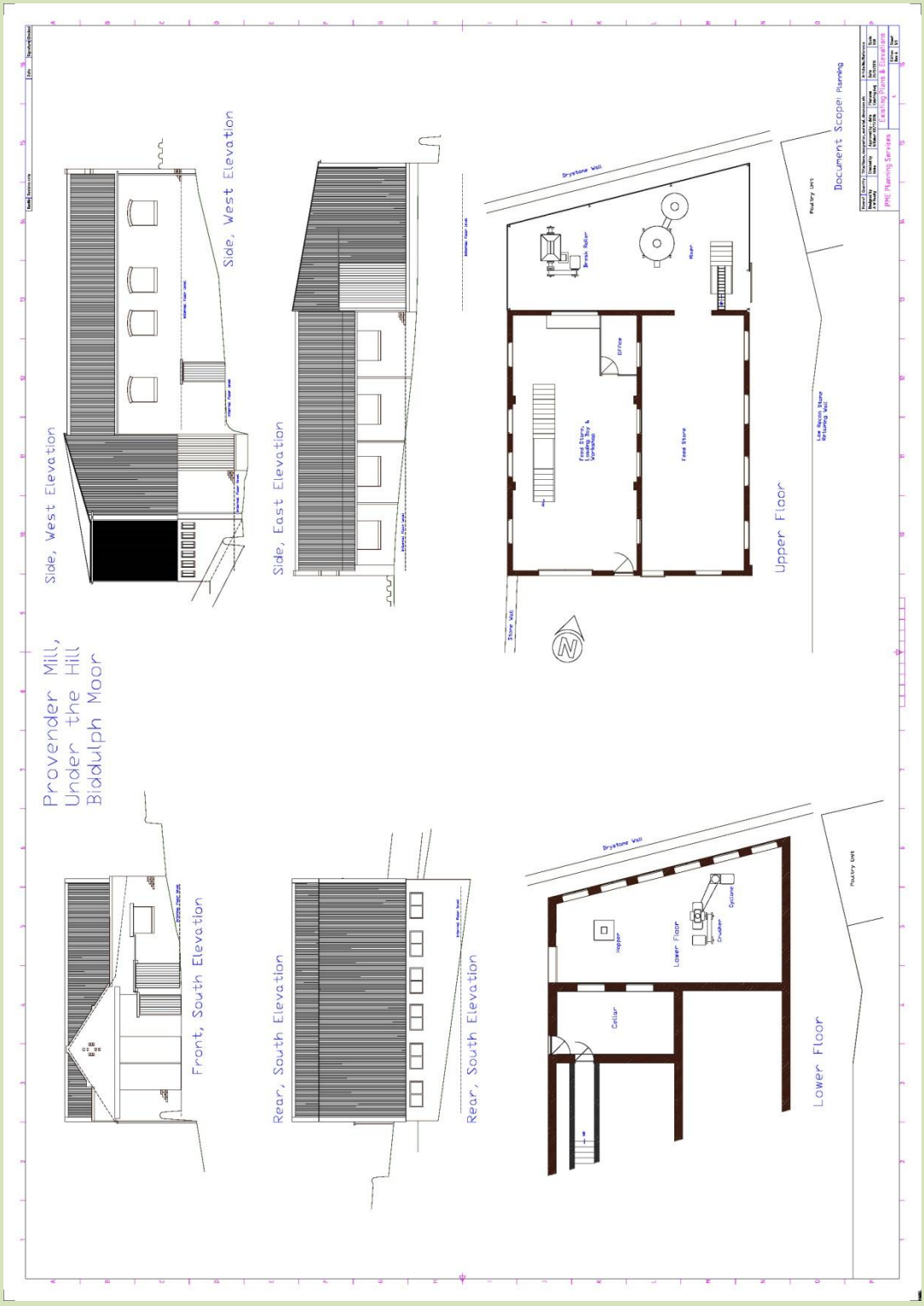
UK Biodiversity Action Plan (2007). UK List of Priority Species. Joint Nature Conservation Committee. [Online]. Available at: http://www.ukbap.org.uk/NewPriorityList.aspx [accessed on 20th October 2010].

APPENDICES

Appendix 1 – Maps & forms:




Poultry Unit
Provender Mill
Fuel Oil Tank
276.5m
Glass Houses (Ruins)
Existing Block Plan
PME Planning Services


Provender Mill,
Under the Hill
Biddulph Moor
Side, West Elevation
Side, West Elevation
Side, East Elevation
Front, South Elevation
Rear, South Elevation
Rear, South Elevation
Upper Floor
Lower Floor
Document Scope: Planning
Drystone Wall
Feed Store
Office
Cellar
Hopper
Lower Floor
Cyclone
Crusher
Poultry Unit
Low Recon Stone Retaining Wall
Stone Wall
PME Planning Services
Existing Plans & Elevations

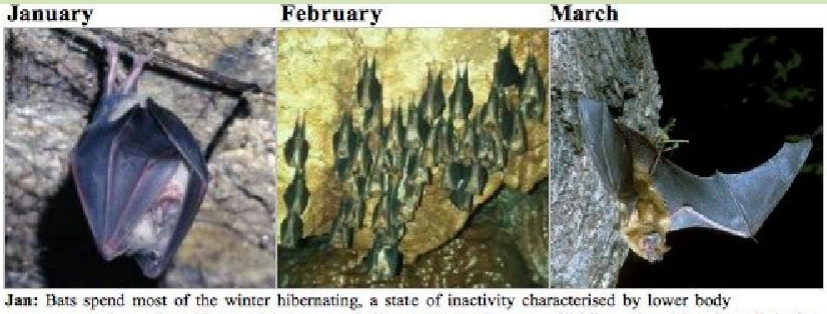

New Dwelling, Under the Hill, Biddulph Moor
Side, West Elevation
Roof Plan
Side, East Elevation
First Floor Plan
Rear, North Elevation
Ground Floor Plan
Front, South Elevation
Basement Plan
Document Scope: Planning
PNE Planning Services
Proposed Plans & Elevations

Appendix 2 – Policy guidelines

PAS 2010	*The published 'PAS 2010' 'Planning to halt the loss of biodiversity' which is the government's new policy aimed at all authorities and developers involved in the planning process in the UK to halt biodiversity decline by 2010 and deliver net biodiversity gains as part of the green infrastructure provisions.*
National Planning Policy Framework, Section 11:	*The recently published framework in 2012, replaces the previous Planning Policy Statement 9. Section 11: Conserving and enhancing the natural environment, reaffirms the Government's commitment to maintaining green belt protections and preventing urban sprawl, retains the protection of designated sites and preserves wildlife, aims to improve the quality of the natural environment, and halt declines in species and habitats, protects and enhances biodiversity and promotes wildlife corridors.*
Article 10 of the EC Habitats Directive:	*The published Article requires government to develop features such as 'stepping stones' on the landscape, such as clusters of ponds, tracts of rough grassland or scrubland and vegetated railway line embankments.*
Wildlife and Countryside Act 1981:	*All species of bat are fully protected under the Wildlife and Countryside Act 1981, the European Conservation (Natural Habitats etc.) Regulations 1994, and the Countryside and Rights of Way Act 2000. This legislation makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.*
Conservation of Habitats and Species Regulations (2010)	*The Conservation of Habitats and Species Regulations 2010 consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994, in respect of England and Wales. It is an offence to possess, sell or offer, or transport for sale any European species of bat or any part derived from such a species. These Regulations also remove the 'incidental result defence'. In other words, it is no longer a defence to show that the killing, capture or disturbance of a species covered by the Regulations or the destruction or damage of their breeding sites or resting places was the incidental and unavoidable result of a lawful activity. Natural England can grant European Protected Species (EPS) licences in respect of development to permit activities that would otherwise be unlawful.*
Natural Environment and Rural Communities Act (2006)	*Under Section 40 of the Natural Environment and Rural Communities Act (2006), public bodies, including Local and Regional Planning Authorities, have a duty to 'have regard' to the conservation of biodiversity in England when carrying out their normal functions, which includes consideration of planning applications. In compliance with Section 41 of the Act, the Secretary of State has published a list of species considered to be of principal importance for conserving biodiversity in England. This is known as The England Biodiversity List, all of which make up the UK BAP Priority Species. Regional Planning Bodies and Local Planning Authorities will use it to identify the species that should be afforded priority to maintain, restore and enhance species and habitats.*
Bird legislation	*Most resident nesting birds are protected under the Wildlife and Countryside Act 1981, which protects birds, nests, eggs and nestling's. Some rarer species, such as barn owls, are afforded extra protection.*

Annual life cycle of a temperate bat

January **February** **March**



Jan: Bats spend most of the winter hibernating, a state of inactivity characterised by lower body temperature, slower breathing, and lower metabolic rate. **Feb:** Bats are still hibernating. They have little fat left to live off of now. They may leave the roost on warmer nights to find food and a drink of water. **March:** Bats may begin to emerge and signs of limited activity can be seen. There are small numbers feeding as it gets warmer. In bad weather, they may become torpid.

April **May** **June**



April: Bats have mainly come out of hibernation and are hungry and active, feeding on most nights. They may be moving between several roost sites. They may become torpid (cool and inactive) again when cold. **May:** Bats are fully active and feeding. Females start forming maternity colonies and looking for suitable nursery sites, such as buildings or trees. Males will roost on their own or in small groups. **June:** Female bats usually give birth to a single pup, which they feed on their milk. Young bats are very small (less than an inch) with thin, slightly grey fur. Adult bats will catch thousands of insects each in a night.

July **August** **September**



July: Mothers continue to suckle young. Some young are growing fast and almost full-size; others are still very small. At around three weeks old, young bats are sometimes found on the ground as they learn to fly. **Aug:** At six weeks old, the young bats begin to catch insects for themselves and no longer need their mothers' milk. The summer maternity colonies begin to disperse and bats may move to mating roosts. **Sept:** Mating season begins, with males of most species using special mating calls to attract females, which can include purrs, clicks, and buzzing. Bats are also concentrating on building up fat stores for the coming months.

October **November** **December**



Oct: More mating is taking place, and building up fat reserves is becoming crucial to survive the winter season. Bats are seeking suitable hibernation sites, and beginning periods of torpor. **Nov:** Periods of torpor are lasting longer. Some begin hibernation, to save energy over the colder months, when insects are harder to find. They are using stored fat as fuel. **Dec:** Bats are hibernating. They may roost on their own or in small groups, often in cool, quiet places like disused buildings, old trees or eaves, where they hopefully won't be disturbed. **(Source: Bat Conservation Trust).**

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