



HILL END FARM, MAPPLEWELL.

OS REF: SE 3340 0927.

BAT SURVEY.

Ref No: 220527/REV1.

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1. INTRODUCTION.

1.1. There are plans to carry out development works that will impact on the buildings associated with Hill End Farm, Mapplewell.

1.2. Whitcher Wildlife Ltd were commissioned to carry out a daytime inspection and dusk emergence bat survey of the buildings to determine if there are any bat roosts present that could be impacted on by the proposed works.

1.3. The daytime inspection and initial dusk emergence survey were carried out on 24th May 2022. Following feedback from the local authority, an additional two bat surveys in the form of a dawn swarming survey and dusk emergence survey were subsequently carried out during July and August 2022. This report outlines the findings of those surveys and makes appropriate recommendations.

1.4. Appendix I of this report provides additional information on bats and the protection afforded to them and is designed to assist the reader in understanding the contents of this report.

2. SURVEY METHODOLOGY.

2.1. The buildings were thoroughly checked internally and externally for potential bat roosting sites by looking for the following signs: -

- * Holes, cracks or crevices.
- * Bat droppings.
- * Prey remains.
- * Staining on external walls.

2.2. Unless otherwise stated, all lofts were accessed and inspected using a high-powered torch and where necessary an endoscope.

2.3. A thorough external inspection was carried out from ground level for any gaps or openings in the roof and ridge tiles, behind soffits and fascia's and in the walls of the structure for suitable roost access points and field signs to indicate possible use by bats.

2.4. All window cills, walls and the ground around the structure were checked for signs of bat droppings or staining to indicate possible use by bats. Where necessary, ladders were utilised to gain access within the limits of health and safety. Any access constraints encountered are outlined within the following report.

2.5. All survey work was carried out in line with Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)*, with an assessment of the buildings suitability for roosting bats made in accordance with these guidelines.

2.6. The subsequent dusk emergence survey was also conducted in accordance with Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)*. It was conducted by a sufficient number of surveyors to cover all areas of roosting potential, in suitable weather conditions from fifteen minutes before sunset to at least an hour and half after.

2.7. All surveyors were equipped with Batbox Duet bat detectors, or similar. Static recording devices such as Anabat SD2's were also utilised where appropriate.

2.8. The survey was carried out by a team of Whitcher Wildlife Ltd surveyors lead by Ruth Georgiou BSc, MCIEEM. Since 2004 Ruth has had experience in a professional capacity as a Wildlife Consultant carrying out ecology surveys and phase I habitat surveys. As a full member of CIEEM Ruth is subject to peer review on an annual basis. Ruth holds Natural England survey licences in respect of bats, great crested newts and white clawed crayfish and has held her own or has been named ecologist on site specific licences for badgers, great crested newts and bats. She also holds a degree in Environmental Science (BSc) and has successfully completed a number of courses run by CIEEM, BCT and FSC in the relative protected species, carrying out phase I habitat surveys and BREEAM assessments.

3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. Desk top data searches were carried out with the South Yorkshire Bat Group and Sheffield Biological Records Centre for any designated sites located within 1.5km and any records of bats including both sightings and roosts within 2km of the survey area.

3.1.2. The Sheffield Biological Records Centre provided records of two Local Wildlife Sites within 1.5km. One of these is Barnsley Canal at Wilthorpe, located 440m away, and the second is Mapplewell Tip, located 1.2km away.

3.1.3. An internet data search was also carried out for any statutory designated sites within 2km. No such sites were found.

3.1.4. The Sheffield Biological Records Centre also provided various bat records, including records of Leislers, Noctule, Daubentons, Brown Long Eared and Pipistrelle species. None of these records are in the immediate vicinity of the site and only two of these records are records of bat roosts, which are two records of Daubentons bats roosting approximately 1.2km away.

3.1.5. The South Yorkshire Bat Group data search results show there are fifty four records within the 2km radius. The closest record lies 280m from the survey area and is a record of a Common Pipistrelle, but this does not appear to be a roost. The closest record of a bat roost is 1.2km from the survey area. There are no records of any significant bat roosts within 2km.

3.1.6. A copy of the data search results can be provided to the client upon request but must not be placed in the public domain.

3.2. Site Description.

3.2.1. The survey area is located in a semi-rural location on the edge of the village of Mapplewell. It is surrounded by residential areas to the northwest, arable land, paddocks and there is a large area of regenerated colliery spoil to the east. The River Dearne flows approximately 380m south of the survey area.

3.2.2. The aerial map below shows the location of the site, indicated by the red arrow, in relation to the surrounding area.



3.2.3. The survey comprised all buildings within the Hill End Farm complex. This



3.3. Daytime Survey Results.

3.3.1. *Building 1.*

3.3.1.1. Building 1 is the main building on the site. This is a two storey high barn constructed with stone walls and a pitched stone tiled roof. Along the northern elevation there is a gutter fixed on brackets.

3.3.1.2. There is a small, single-storey, mono pitched, roof extension on the southern elevation. This is also constructed with stone walls and a stone, tiled roof. The photographs below show the front and back elevations of the building.



3.3.1.3. Internally, the barn is completely open throughout and up to the underside of the roof structure with a mezzanine floor at the western end of the building.

3.3.1.4. There is no lining under the roof tiles and the roof structure is of a king post design. The ground floor was found to be fairly clean at the time of this survey, whereas the mezzanine floor was found to be very dirty and undisturbed.

3.3.1.5. The photographs below show the internal of the building.



3.3.1.6. Overall, Building 1 was found to be in good condition. There is one window and two doorways in the walls of the building. These were found to have gaps around them where daylight could be seen shining through. In addition, daylight could be seen shining through many gaps between the roof tiles including along the ridge.

3.3.1.7. The external walls are generally well pointed with just the occasional small gap between the stonework. Internally, there are numerous gaps between the stonework. No bat field signs were identified in the stonework of the building around the external gaps or any internal walls.

3.3.1.8. There are some occasional gaps in the large beams inside the building that provide potential for roosting bats, although there was no evidence of bats using these. The roof provides very limited potential for bats as there is no lining and there is an abundance of gaps between the tiles.

3.3.1.9. No bat field signs were identified anywhere around the interior or the exterior of the building.

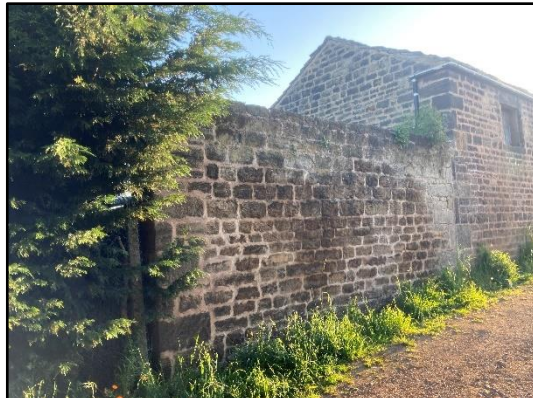
3.3.1.10. As potential for roosting bats was mostly limited to the internal of the building and no bat field signs were found inside, and there are only a low number of gaps in the external walls, Building 1 was initially assessed to provide **low potential** for roosting bats. This assessment was upgraded to **high potential** for roosting bats following comment from the local authority.

3.3.1.11. No evidence of owls roosting or nesting inside the building was found, such as droppings, pellets, nesting material or feathers.

3.3.2. Building 2.

3.3.2.1. Building 2 is a single-storey, mono pitched, barn that is adjoined to the eastern end of Building 1. The walls are stone walls, the roof is a mono-pitched, corrugated sheet covered roof. There is vegetation growing up against the eastern side of this building.

3.3.2.2. The photographs below show the external of Building 2.



3.3.2.3. Internally, this building is one open room. There are some boards under part of the corrugated roof sheets, but these are not fitted close to the corrugated sheets and therefore there is a wide gap between.

3.3.2.4. There are some large old beams spanning the building, but these appear to be for practical purposes associated with the historic use of the building as opposed to structural purposes.

3.3.2.5. The photographs below show the internal of the building.



3.3.2.6. There are two doorways into the building and one small window. All these have gaps around allowing daylight through.

3.3.2.7. Overall the building is in good condition. There are occasional gaps between the stonework around the external and internal of the building. There are also gaps in the large beams inside the building although no bat field signs were identified inside the building to suggest any bat roosts roost inside. There is very limited potential around the exterior limited to a small number of gaps in the stonework. Building 2 is therefore assessed to provide **low potential** for roosting bats.

3.3.3. Building 3.

3.3.3.1. Building 3 is a small, single-storey barn constructed with stone walls and a corrugated sheet covered sloping roof. The eastern elevation of the barn is completely open. The photographs below show the external of the building.



3.3.3.2. The external walls are generally in good condition with no gaps. There are some gaps between the stonework internally, although no bat field signs were identified around these features.

3.3.3.3. Overall, Building 3 is assessed to provide **low potential** for roosting bats.

3.3.3.4. Some old bird nests, including one swallow nest, were identified inside this building but none were found to be in use during this survey.

3.3.4. Building 4.

3.3.4.1. Building 4 is another open barn, comprising one stone wall that it shares with Building 3 and the remaining walls are piled, concrete, sleepers and corrugated sheets with some timber slats. The eastern and part of the southern elevations are completely open.



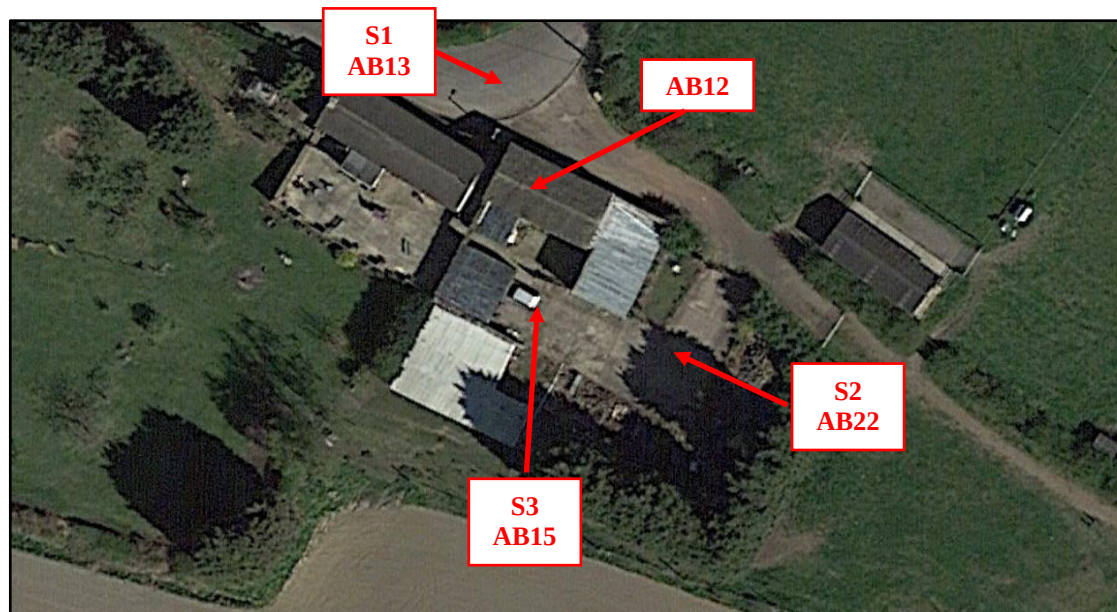
3.3.4.2. The building provides very limited potential for roosting bats and is therefore assessed to provide **negligible potential**.

3.3.4.3. Some old bird nests were identified in this building but none were found to be in use at the time of this survey.

3.4. Dusk Emergence Survey Results – 24th May 2022.

3.4.1. The dusk emergence survey was carried out by three surveyors on the evening of 24th May 2022. One surveyor holds a current Natural England class licence for surveying bats and the other two are experienced assistants.

3.4.2. The surveyors were positioned around buildings 1, 2 and 3 in order to be able to view all aspects of the buildings simultaneously. Each surveyor was equipped with a Batbox Duet detector and a two-way radio for communications. In addition, four static Anabat recorders were deployed to record bat activity for subsequent computer analysis using Analook software. The positions of the surveyors (S) and the Anabat recorders (AB) were as shown below.



3.4.3. The evening was fine, clear and still. There was a temperature of 16.6°C at 20:55, which dropped to 12.3°C at the end of the survey. The survey continued until 22:45 and sunset was at 21:14.

3.4.4. Surveyor 1 recorded one Common Pipistrelle bat foraging from 21:41 onwards. This was predominantly over the garden habitats to the north. From 22:06 six Common Pipistrelle passes were recorded flying along the track to the west. From 22:21 onwards occasional Common Pipistrelle foraging activity was heard but not seen.

3.4.5. Surveyor 2 observed five Common Pipistrelle passes, predominantly towards the west. At 22:13 a Common Pipistrelle was recorded foraging around the trees to the south of the buildings.

3.4.6. Surveyor 3 recorded very little bat activity. Two Common Pipistrelle passes were heard at 21:45 and 21:48 and a Common Pipistrelle was heard foraging close by at 22:07. A potential myotis bat was heard passing over at 22:23.

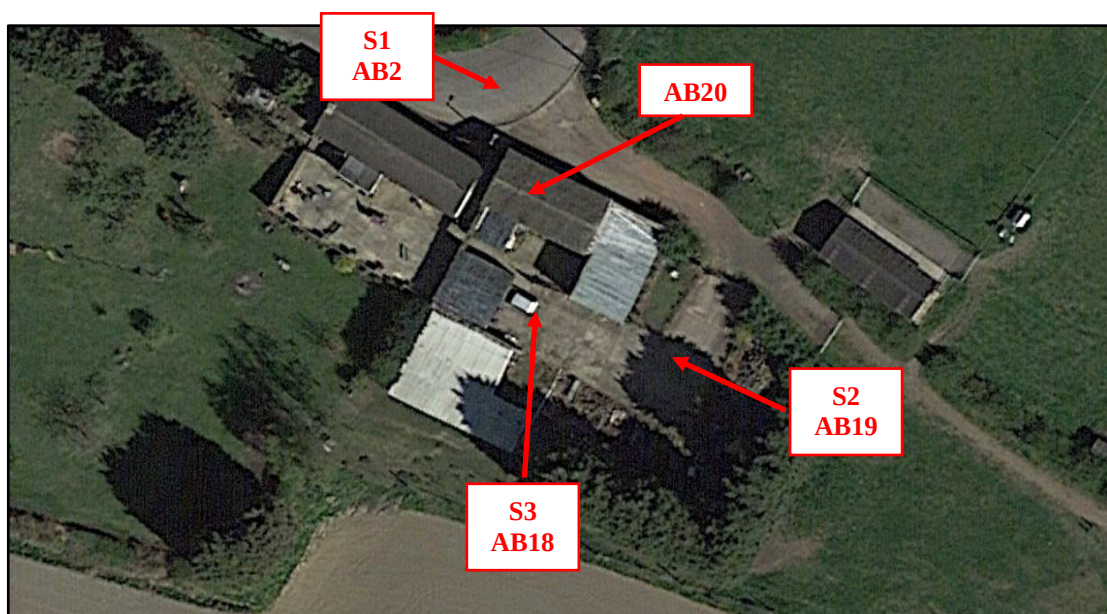
3.4.7. The recordings from the Anabats placed next to each surveyor reflected the observations of each surveyor, although no myotis bats were recorded.

3.4.8. No bats were recorded on Anabat 12 placed inside Building 1.

3.5. Dawn Swarming Survey Results – 18th July 2022.

3.5.1. The dawn swarming survey was carried out by three surveyors on the morning of 18th July 2022. Two surveyors hold a current Natural England class licence for surveying bats and the other is an experienced assistant.

3.5.2. The surveyors were positioned around buildings 1, 2 and 3 in order to be able to view all aspects of the buildings simultaneously. Each surveyor was equipped with a Batbox Duet detector and a two-way radio for communications. In addition, four static Anabat recorders were deployed to record bat activity for subsequent computer analysis using Analook software. The positions of the surveyors (S) and the Anabat recorders (AB) were as shown below.



3.5.3. The morning was warm, dry and still. There was a temperature of 12.1°C at 04:15, which dropped to 10.2°C at the end of the survey. The survey continued until 05:15 and sunset was at 04:58.

3.5.4. Surveyor 1 recorded a Common Pipistrelle bat foraging over the gardens adjacent. A number of bats, all identified as Common Pipistrelle bats were observed passing over, initially flying to the east along the adjacent hedgerow and then towards the end of the survey, to the north towards the adjacent residential area.

3.5.5. Surveyor 2 identified consistent Common Pipistrelle foraging at the start of the survey. From 03:59 onwards Surveyor 2 observed a number of Common Pipistrelle bats flying over in a southerly direction with the final two bats heading towards the east. A noctule was also heard flying over at 04:05.

3.5.6. Surveyor 3 observed similar bat activity to that of Surveyor 2, with the activity predominantly to the south.

3.5.7. The recordings from the Anabats placed next to each surveyor reflected the observations of each surveyor, although only Common Pipistrelle bats were recorded.

3.5.8. No bats were recorded on Anabat 20 placed inside Building 1.

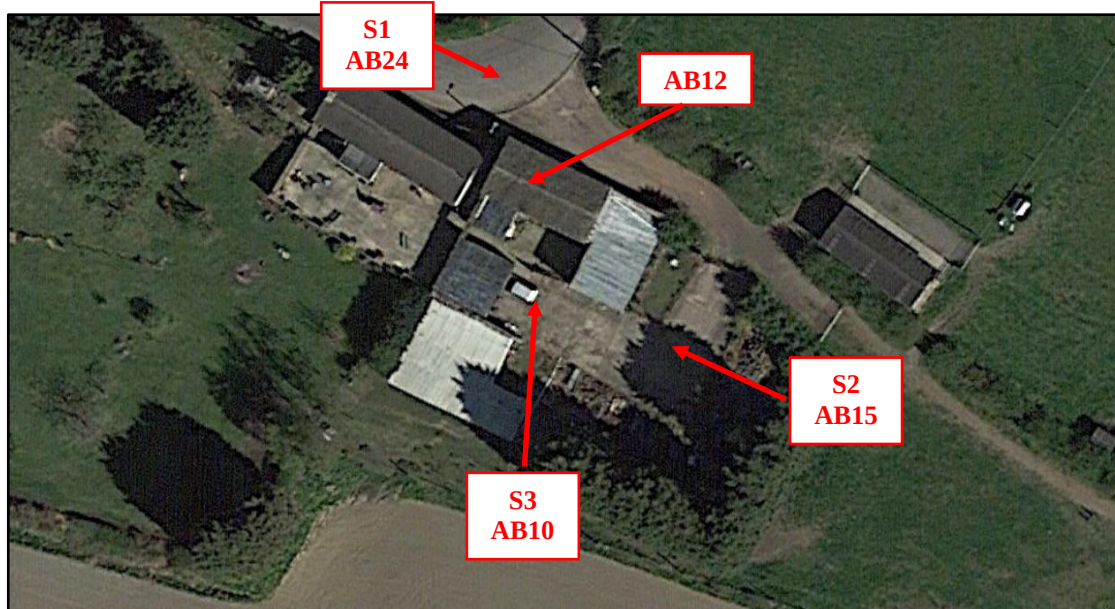
3.5.9. Upon completion of the survey a repeat inspection was carried out of the internals of the buildings and no new bat field signs were found.

3.6. Dusk Emergence Survey Results – 1st August 2022.

3.6.1. Prior to the dusk emergence survey being carried out a repeats internal inspection was carried out of the buildings. No new bat field signs were identified.

3.6.2. The dusk emergence survey was carried out by three surveyors on the evening of 1st August 2022. All three surveyors hold a current Natural England class licence for surveying bats.

3.6.3. The surveyors were positioned around buildings 1, 2 and 3 in order to be able to view all aspects of the buildings simultaneously. Each surveyor was equipped with a Batbox Duet detector and a two-way radio for communications. In addition, four static Anabat recorders were deployed to record bat activity for subsequent computer analysis using Analook software. The positions of the surveyors (S) and the Anabat recorders (AB) were as shown below.



3.6.4. The evening was fine, clear and still and there was a very light rain shower at 21:22 that lasted for approximately four minutes and another at 21:50 that lasted for approximately 10 minutes. There was a temperature of 20.2°C at 20:55, which dropped to 17.9°C at the end of the survey. The survey continued until 22:35 and sunset was at 21:03.

3.6.5. Surveyor 1 heard a Common Pipistrelle bat at 21:16 pass by. Following that, three Common Pipistrelle bats were identified flying over from north to south and then east along the adjacent hedgerow. An additional two bats were heard but not seen passing by.

3.6.6. Surveyor 2 observed a Common Pipistrelle bat foraging around the conifer trees to the east from 21:09. Three bats were then observed flying south and one bat to the east. At 21:48 two Common Pipistrelle bats were observed foraging over the courtyard to the south. Foraging around the conifer trees to the east was still ongoing at 22:01. A number of bats were also seen but not heard passing by.

3.6.7. Surveyor 3 recorded a number of Common Pipistrelle bats passing over to the south. From 21:48 onwards a Common Pipistrelle bat was observed foraging around the trees to the south for the duration of the survey.

3.6.8. The recordings from the Anabats placed next to each surveyor reflected the observations of each surveyor, only Common Pipistrelle bats were recorded.

3.6.9. No bats were recorded on Anabat 12 placed inside Building 1.

4. EVALUATION OF FINDINGS.

4.1. Buildings 1, 2 and 3 were initially assessed to provide low potential for roosting bats. Building 1 was then upgraded to high potential following comments from the local authority. Building 4 was assessed to provide negligible potential.

4.2. No bat field signs were identified around the internals or externals of any of the buildings and no bats were seen to emerge from or enter any roosts during the three bat activity surveys carried out of the site. No bats were recorded or observed inside the main barn during any of the surveys.

4.3. There was some very light rain during the third survey, however this was not considered to be a limitation as bats were still observed foraging and flying over during that rainfall and the general bat activity in the area was in line with the previous survey and exceeded the very first survey carried out.

4.4. The proposed works on the buildings will therefore have no impact on roosting bats.

4.3. Some old birds' nests were identified in some of the buildings on the site, including one swallow nest. None of these nests were found to be in use during this survey but have the potential to become active or for new nests to be built and used by birds this season.

4.4. The nesting bird season extends from March to September each year. Any works to the buildings during the nesting season could potentially impact on nesting birds should they be present.

4.5. No evidence of roosting or nesting owls was found inside any of the buildings on the site.

5. RECOMMENDATIONS.

5.1. No bat roosts have been found present and therefore there is no requirement for any additional surveys or an EPS licence to cover the works.

5.2. Nevertheless, individual bats can seek shelter almost anywhere for the occasional day and therefore, in the unlikely event that a bat is found during the works, it is recommended that works cease in that area and that the bat is kept safe and protected whilst professional advice is sought immediately.

5.3. It is recommended that where possible the works are carried out outside the nesting bird season. If it is necessary to undertake works within the nesting season, it is recommended that the works are immediately preceded by a nesting bird survey and any active nests found, plus a suitable buffer around them, must be left undisturbed until the young have fledged.

5.4. In line with the current NPPF it is recommended that bat and bird enhancements are incorporated into any new buildings on the site in the form of integrated bat and bird bricks.

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Appendix I. BAT INFORMATION.

Ecology

There are currently 18 species of bat residing in Britain, 17 of which are known to breed here. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to habitat change and shortage of food, caused by pesticides, as insects are their sole diet.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to man-made structures and will readily use these to roost and to rear their young.

Surveys

During walkover surveys, bat roosts can be identified by looking for:

- Suitable holes, cracks and crevices within any building, tree or other structure.
- Bat droppings along walls, window cills, or on the ground.
- Prey remains, such as insect wings.

Further investigations can be made using endoscopes, by carrying out aerial inspections of trees or by conducting bat activity surveys during dusk and dawn over summer months.

Legislation

Bats are protected under Appendix II and III of the Bern Convention (1982), Schedule 5 and 6 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive (some species under Annex II), Annex II of the Conservation of Habitats and Species Regulations (2010) and EUROBATS agreement. Numerous species are

also listed under section 41 of the Natural Environment and Rural Communities Act (2006) making them species of principal importance.

All bats and their roosts are therefore protected in the UK. This makes it an offence to kill, injure or take any bat, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

The UK has designated maternity and hibernacula areas as Special Areas of Conservation (SAC's) under the Habitats Directive. Implementation of the UK Biodiversity Action Plan also includes action for a number of bat species and the habitats which support them.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

Appendix II. NESTING BIRD INFORMATION.

Ecology

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September. It is also worth remembering that some birds nest in trees and scrub but others are ground nesting or prefer man-made structures or buildings.

Surveys

Nesting bird surveys search for potential nest sites in vegetation, buildings etc. Potential nesting sites are observed over a suitable period of time for bird movements or calling male birds that would indicate the presence of a nest. The presence of a nest can be identified from the field signs without the necessity to see the nest itself, thereby avoiding any disturbance of the nests. The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Legislation

Nesting birds are protected under The Wildlife and Countryside Act 1981.

Part 1. -(1) Of the Act states that: - If any person intentionally: - kills, injures or takes any wild bird; takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Part 1. -(5) of the Act states that: - If any person intentionally: - disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or disturbs young of such a bird, he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.