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Baseline Protected Species Survey

New Parks Farm, Kirkby Mallory

BY

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On the Instructions of

Mr N Teale

BAT/08/426

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BASELINE PROTECTED SPECIES SURVEY

Instructions

Investigate for the presence or absence of selected protected species but with specific reference to bats and Barn Owls for the redevelopment of barns at New Parks farm, Kirkby Mallory.

Professional responsibility

This report has been commissioned and the actions of the surveyor have been made in accordance with the Code of Professional Conduct for the Institute of Ecology and Environmental Management. (www.ieem.org.uk) and the Royal Institution of Chartered Surveyors (www.rics.org.uk)

Accuracy of report

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all protected species but particularly bats and Barn Owls, are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and or in their interaction with protected species bats and or Barn Owls. If protected species, bats or barn owls are found during a work programme and continuing the work programme could result in their disturbance, injury or death either directly or indirectly an offence may be committed.

Protected species, bats and Barn Owls may only be disturbed, injured or killed under license. This report does not convey the authority to undertake work which may disturb, injure or kill protected species, bats or Barn Owls.

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

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B. Introduction

B1 Background to activity/ developments

A planning application is to be submitted for the redevelopment of barns at New Park Farm, Kirkby Mallory.

A baseline protected species survey with specific reference to bats and Barn Owls *(Tyto alba)* has been requested following guidance under Regulation 39 of the Conservation (Natural Habitats, &c.) Regulations 1994, the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and Planning Policy Statement 9 (PPS9) Biodiversity and Geological Conservation.

B2 Full details of proposed works on site

There will be the renovation and conversion of red brick barns. Full details of the scheme can be found in the plans accompanying the planning application.

C. Survey and Site Assessment

C1 Pre- existing information of species at survey site

A records search has been undertaken via the National Biodiversity Network (NBN). This is a National database containing over 18 million records of the location of individual species and utilises the datasets from 46 contributing organisations.

A search for records from the year 1900 to 2008 found no records of bats or Barn Owls within 1km of the site.

There are also no records of Otters *(Lutra Lutra)*, Water voles *(Arvicola terrestris)*, Badger *(Meles meles)* or Great Crested Newts (*Triturus cristatus)* within 2km of the site.

We judge the lack of records in proximity to the site is likely to be a result of poor recording on the datasets searched rather than a lack of protected species in the local area.

C2 Status of species in the local/ regional area

Having visited the area we are of the opinion that bat species are likely to be under recorded on the NBN datasets.

From a review of aerial photography, a field assessment of the wider area adjacent to the site and the experience of the surveyor, bat species which may occur in the wider area are:-

- Common Pipistrelle *(Pipistrellus pipistrellus)*
- Soprano Pipistrelle *(Pipistrellus pygmaeus)*
- Brown long-eared *(Plecotus auritus)*
- Daubenton's (*Myotis daubentonii)*
- Natterer's *(Myotis nattereri)*
- Whiskered *(Myotis mystacinus)*

- Brandt's *(Myotis brandtii)*
- Noctule *(Nyctalus noctula)*
- Leisler's bat *(Nyctalus leisleri)*

We are of the opinion that Barn Owls and Badger may be using the wider area around Mallory Park as the habitat is suitable.

Great crested newts have not been recorded within 2km of the site on the datasets searched. This species as well as Otters and Water voles are likely to be confined to the rivers and streams in the local area, non of which are close enough the site for the proposed work to have a significant effect on them.

The habitat around the site, being hard standing, is unsuitable for Common Lizard *(Lacerta vivipara)* and Slow Worm *(Anguis fragilis)*, the site is also isolated from ideal habitat for them.

C3 Objective(s) of survey

To ensure that the proposed development does not affect any species of Bat or Great Crested newts which are listed under the Conservation (Natural Habitats, &c) Regulations 1994 which implements the EC Directive 92/43/EEC in the United Kingdom the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000 as it is an offence, with certain exceptions, to:

1. Deliberately capture or kill any wild animal of a European protected species;
2. Deliberately disturb any such animal;
3. In respect of bat species, damage or destroy a breeding site or resting place of such a wild animal;

To ensure the proposed development does not affect Barn Owls or nesting birds as it is an offence under the Wildlife and Countryside Act 1981 (as amended) to

4. Kill or injure a Barn Owl
5. Damaging or destroy the active nest site with eggs or young or before eggs are laid
6. Disturbing the dependent young of a Barn Owl or nesting bird.
7. Intentionally or recklessly disturb any Barn Owl whilst building a nest or is in, on or near an active nest site. (nesting birds protected only at the nest site)

To ensure the proposed development does not affect Badgers as it is an offence under The Protection of Badgers Act 1992 to

8. Kill, injure or take a Badger
9. Cruelly ill-treat a Badger
10. Dig for or snare a Badger.
11. Damage a badger sett or cause a dog to enter a sett

To ensure the proposed development does not affect Common Lizard or Slow Worm as it is an offence under The Wildlife and Countryside Act 1981 (as amended) to intentionally kill or injure these species.

To asses the site for nesting birds and make recommendations on how to avoid disturbing nesting birds, dependant young or otherwise active nest sites.

The survey will identify the likely past and or current use of the site by these species.

Assess the likely impact of the proposed development on these species.

Provide a basis upon which to propose mitigation (if required) for protected species affected by the development.

C4 Survey area

The survey area encompasses the proposed development site and the area immediately adjacent which is likely, in the view of the surveyor, to be affected both during and after the development programme.

A map of the survey area is included at C9.

C5 Habitat description, including roost and surrounding area

The site is situated at New Parks Farm. It is surrounded on all sides by open pasture, arable and fragmented blocks of woodland as well as other residential houses and gardens.

There are three barns subject to development which are currently used for storage.

The walls of the building are of red brick, single skin construction. The roofs are tiled and unlined.

An annotated satellite image of the surrounding habitat is shown overleaf.

The habitat in the wider area is predominately pasture and arable interspersed with small blocks of woodland

There are small blocks of mixed woodland to the North and South



The site is relatively sheltered but poorly connected with adjacent areas by hedgerows

The primary feeding and commuting route adjacent to the site is judged to be the scrub and woodland to the East

C6 Field survey

C6.1 Methods

- Site records search via National Biodiversity Network (NBN) data set.

- Identification of adjacent Bat, Barn Owl and Badger roosting and or feeding sites from aerial photography at 1:5000 scale:- This allows us to determine likely commuting routes into and off the site.

- Field assessment of adjacent Bat, Barn Owl and Badger feeding and or roosting sites made following a review of aerial photography:- This allows us to cross check our interpretation of aerial photography with actual habitat on the ground.

- Thorough inspection of the walls and eaves using a torch to locate potential bat roosts and Barn Owl nest sites:- Gaps and cracks in the walls or under the eaves and soffits may provide access to the building by bats. Wall tops often provide nest sites for Barn Owls. Where possible all gaps and cracks judged to be of a suitable size for bats to take entry to the building were inspected either from the ground or the top of a ladder. Where appropriate an endoscope with articulating tip was used to fully inspect these gaps internally.

- Thorough inspection of the roof using a torch to locate potential bat roosts:- Gaps under the tiles, ridge lines and flashing may provide suitable roosts for bats. All gaps and cracks judged to be of a suitable size for bats to take entry to the building were inspected either from the ground or the top of a ladder. Using binoculars and a torch to illuminate the gaps underneath the tiles and ridge lines it is often possible to see residual evidence of bats such as droppings, scratch marks or bats themselves. We were primarily looking for scratch marks, staining and bat droppings which would be caught under the tiles and ridge lines when they are deposited by bats taking entry.

- Thorough search for detritus associated with bat feeding perches and roosts:- These roosts are usually associated with Brown Long-eared and Horseshoe bats.

- Assessment of habitat suitability for Otters, Water voles, Great crested newts, Slow Worm and Common Lizard.

- Search for signs of Badger such as runs, scratch marks, latrines, hair caught on wire and scrub and badger setts within 30m of the site boundaries.

- Dusk emergence survey carried out 19:40-20:55 on 7th September 2008.

- Passive scan of building made with Bat Box Duet, heterodyne and frequency division detector set at 17 KHz below potential roost sites. This would detect social chatter from bats.

- Active scan with Bat Box Duet, heterodyne and frequency division detector set at 40KHz made post emergence. The surveyor then moves around the site adjusting the frequency of the detector in response to bat sightings.

- Use of MP3 encoder attached to Bat Box Duet Frequency division detector to record all bat calls simultaneously with those heard by the surveyor via the heterodyne output of the detector.

- Analysis of sonograms for confirmation and identification of bat species using $fd = \left(\frac{c-v}{c}\right) f$ for bats flying towards detector and $fd = \left(\frac{c+v}{c}\right) f$ for bats flying away from detector in order to

calculate and compensate for Doppler shift. This technique is particularly applicable in differentiating between Pipistrelle species.

Fd =Doppler frequency change (Hz), C= speed of sound in air ($ms^{-}1$), V = speed of bat ($ms^{-}1$) and f = recorded peak echolocation frequency.

These calculations use.

The median air temperature taken throughout the survey period.
The relative humidity taken from the met office on the day of survey
The standard UK atmospheric pressure being 1000 mb
The average speed of the bat as interpreted by the surveyor.

C6.2 Timing

Date of Visit	Site/ Local Area Inspection	Dusk Survey
7th September 2008	18:30-19:40	19:40-20:55

C6.3 Weather conditions

The following reflects conditions at the site during the time of survey; site conditions can have a large impact upon the results of any survey. Conditions for a bat survey at the time of year were regarded as excellent.

- Average wind speed at head height during survey period: 0.0 m/s

- Temperature at head height start of Dusk survey: 19 Degrees Celsius
- Temperature at head height end of Dusk survey: 17 Degrees Celsius
- 50% cloud cover

C6.4 Personnel

The survey was carried out by

1. Mr Andrew Gardner BSc (Hons), MSc, MIEEM, MRICS, CEnv
   English Nature Bat License (all species, all counties- science and education)
   English Nature Barn Owl License (all counties- science and education)

2. Mr s Hannah Gardner BSc (Hons), MSc, MRICS, CEnv

C7 Results

C7.1 Bats

There are no records of bats or other protected species on the NBN datasets for the site.

Landscapes can be divided into four categories for use by bats; open, closed, edge and water. Each type of landscape category is suitable for use by a different combination of bat species. We would classify the landscape immediately adjacent to the site as “open”, within 2km of the site the landscape could be described as “closed” ,“edge” or “water”

It is our opinion that bat species may have been under recorded in the area as a review of aerial photography and classification of landscape types within 2km of the site would indicate that it is

suitable for Common Pipistrelle, Soprano Pipistrelle, Brown long-eared, Natterer's, Whiskered, Brandt's, Noctule, Leisler's bat, Serotine.

The blocks of woodland to the North and South of the site were judged to be the primary feeding and commuting routes for bats in proximity to the site. There are no high quality feeding or commuting routes at the site.

There is a small lake to the East of the site which would provide ideal foraging opportunities for bats which feed in “water” landscapes such as Soprano Pipistrelle and Daubenton's. We would therefore expect these species to occur within close proximity of the site.

Both Natterer's and Brown Long-eared bats prefer to roost and fly inside enclosed spaces before emerging. There are enclosed rooms in the buildings subject to development and we judge they are of a suitable size but are slightly to light, due to roof lights/missing tiles, for use by these species as day roosts. The poor connectivity of the site with woodland also reduces the potential for use of the site by these species.

Serotine also have a preference for roosting in enclosed spaces. Serotine bats are regularly found in the roof voids of houses. As with Natterer's and Brown Long-eared bats we judge the buildings are of a suitable size and construction to provide potential roost sites for these species although the roof voids are partially lit and so their potential is somewhat degraded. This species they may occur in the local area.

Noctule and Leisler's are rarely found roosting in buildings but have been known to do so. These species of bat disperse widely from their roosts, which tend to be in trees to feed. We would judge it unlikely they would roost in buildings such as those surveyed but they may forage in or over the buildings.

Whiskered, Brandt's and Common Pipistrelle are likely to make use of the hedgerows and edge of the woodland adjacent to the site to feed. These species of bat are crevice dwelling and highly adaptable. From our initial assessment we judged that the buildings are likely to provide very few potential roost sites and they would be low quality and only suitable for individual rather than a large colony of bats.

Barn 1

This barn is a single story structure of red brick construction under an unlined tile roof. There are windows and doors on the East elevation which allow a considerable amount of light into the interior. This building is used for housing ducks and geese.

The exterior walls of the building were inspected for gaps, cracks, areas of rotten wood and or signs of bats such as grease marks, bat droppings and feeding detritus. A 1,000,000 candle power torch was used to illuminate the walls and eaves whilst they were simultaneously inspected from the ground and top of a ladder with a pair of 10x42 Swarovski binoculars.

The red brick walls are well pointed, there were no gaps identified in them into which bats could take access. There are no soffits on the building; the roof sits directly onto the tops of the walls. The wall tops all appear generally well sealed although there are occasional gaps along the eaves line on the East elevation where the edge of the wall has not been pointed up to the sloping roof. These may provide access to the wall tops for bats on the East elevation only. The gaps available are all of little depth due to the thin walls and low to the ground; they would only be suitable for a low number or individual bats. No indication of use by bats was found in these gaps.

The tile roof was inspected using a pair of 10x42 Swarovski binoculars from the ground whilst it was simultaneously illuminated with a 1,000,000 candle power torch. The tiles and ridge line all appears

tight fitting. No gaps were identified under them which would be ideal for use by crevice dwelling bats. **No indication of past or current use by bats under the roof coverings could be found or is expected to occur.**

Internally the building was thoroughly inspected for evidence of bats such as droppings, desiccated young bats which would be indicative of a maternity colony and feeding detritus. The floors were dirty due to use by animals.

Particular attention was paid to the areas under the timber beams and central ridge line. These were also illuminated with a 1,000,000 candle power torch and inspected with a pair of 10x42 Swarovski binoculars. The beams were thoroughly inspected, no indication of a bat roost could be found. Undisturbed cobwebs were present.

No indication of past or current use by bats could be found or is reasonably expected to occur in this building.

Barn 2

This barn is a two story structure of red brick construction under an unlined tile roof. There are windows and doors on the South, North and East elevation which allow a considerable amount of light into the interior. This building is used for storage. The roof appears to be degrading and in part is falling inwards.

The exterior walls of the building were inspected for gaps, cracks, areas of rotten wood and or signs of bats such as grease marks, bat droppings and feeding detritus. A 1,000,000 candle power torch was used to illuminate the walls and eaves whilst they were simultaneously inspected from the ground and top of a ladder with a pair of 10x42 Swarovski binoculars.

The red brick walls are well pointed, there were no gaps identified in them into which bats could take access. There are no soffits on the building; the roof sits directly onto the tops of the walls. The wall tops all appear generally well sealed.

The tile roof was inspected using a pair of 10x42 Swarovski binoculars from the ground whilst it was simultaneously illuminated with a 1,000,000 candle power torch. The tiles and ridge line all appears tight fitting. Where tiles have started to fall inwards, the gaps created are open and exposed. No gaps were identified under them which would be ideal for use by crevice dwelling bats. **No indication of past or current use by bats under the roof coverings could be found or is expected to occur.**

Internally the building was thoroughly inspected for evidence of bats such as droppings, desiccated young bats which would be indicative of a maternity colony and feeding detritus. The floors were relatively clean and easy to inspect. **No indication of past or current use by bats for roosting could be found.**

Particular attention was paid to the areas under the timber beams and central ridge line. These were also illuminated with a 1,000,000 candle power torch and inspected with a pair of 10x42 Swarovski binoculars. The beams were thoroughly inspected, no indication of a bat roost could be found. Undisturbed cobwebs were present.

No indication of past or current use by bats could be found or is reasonably expected to occur in this building.

Barn 3

This barn is a single story structure of red brick construction under an unlined tile roof. The building has formally been used as a dairy and an internal room has been created using fibre cement boards to

form a roof void. There are windows and doors on the West and East elevation which allow some light into the interior. This building is not used.

The exterior walls of the building were inspected for gaps, cracks, areas of rotten wood and or signs of bats such as grease marks, bat droppings and feeding detritus. A 1,000,000 candle power torch was used to illuminate the walls and eaves whilst they were simultaneously inspected from the ground and top of a ladder with a pair of 10x42 Swarovski binoculars.

The red brick walls are well pointed, there were no gaps identified in them into which bats could take access. There are no soffits on the building; the roof sits directly onto the tops of the walls. The wall tops all appear generally well sealed although there are occasional gaps along the eaves line on the East elevation where the edge of the wall has not been pointed up to the sloping roof. These may provide access to the wall tops for bats on the East elevation only. The gaps available are all of little depth due to the thin walls and would only be suitable for a low number or individual bats. **No indication of use by bats was found in these gaps.**

The tile roof was inspected using a pair of 10x42 Swarovski binoculars from the ground whilst it was simultaneously illuminated with a 1,000,000 candle power torch. The tiles and ridge line all appears tight fitting. No gaps were identified under them which would be ideal for use by crevice dwelling bats. **No indication of past or current use by bats under the roof coverings could be found or is expected to occur.**

Internally the building was thoroughly inspected for evidence of bats such as droppings, desiccated young bats which would be indicative of a maternity colony and feeding detritus. The floors were clean and easy to inspect. Particular attention was paid to the areas under the timber beams and central ridge line. These were also illuminated with a 1,000,000 candle power torch and inspected with a pair of 10x42 Swarovski binoculars. **The beams were thoroughly inspected, no indication of a bat roost could be found. Undisturbed cobwebs were present.**

The roof voids were accessed via pop holes in the ceilings. Each roof void was found to be very dirty and covered by cobwebs. **No indication of past or current use by bats was found or is expected to occur.**

Emergence survey

The emergence survey was undertaken to confirm that as per the daytime inspection, the building are low risk in respect of its possible use by bats.

Conditions for an emergence survey were excellent; it was warm and humid which resulted in the surveyors noticing a significant amount of insect activity. With regard to cloud conditions and the sunset time for the day of the survey we would expect emergence for Pipistrelle Sp. to commence at 19:40.

19:40 Passive scan of buildings externally and internally with bat detector at 25Khz. No pre-emergence chatter heard

20:15 The first bat was recorded flying into the site from the South, then over Barn two away to the North. The bat was identified as a Common Pipistrelle by the bat detector

20:55 Survey terminated, at this time light conditions had fallen to the extent bats could no longer be seen.

C7.2 Barn Owls

A thorough search was made for indications of past use of the building by Barn Owls such as pellets, down, feathers and egg shells.

There was no evidence in any part of the buildings which may be indicative of past use by Barn Owls.

There were no Barn Owl pellets, feathers or down on the floors which would be indicative of nesting activity. We judge that the buildings offer a low potential for nesting Barn Owls.

The habitat surrounding the site may be acceptable to hunting Barn Owls.

C7.3 Badgers

There are no records of this species occurring with 30m of the site on the NBN. We however judge that the woodland adjacent to the site is suitable for use by the species. A search for field signs such as runs, scratch marks, latrines, hair caught on wire and scrub and Badger setts found no evidence of past or current use of the site to within a distance of 30m of the site boundaries.

C7.4 Great crested newts

There are no ponds or water courses in proximity to the site which may be suitable for this species and or from which this species is likely to access the site if it occurs. There is a large, open, arable field between the site and the lake to the East.

C7.5 Water voles, Otters

The proposed work to the barns is judged sufficiently far from the nearest watercourse and buffered by fields, for it to have no effect on the habitat for these species.

C7.6 Common Lizard, Slow Worm

There is little habitat around the site which will be affected by development which may be suitable for these species. Whilst there are no areas of scrub or rubble which will need to be removed to facilitate development of the site, transient use of the site and the creation of rubble piles during development should be considered.

A search of suitable refuges was undertaken and the surveyor was observant for basking reptiles during the survey.

No indication of either of these species was found during the survey.

C8 Interpretation and evaluation

C8.1 Presence/ absence

Bats

There are no records on the NBN datasets for bats at the site.

We consider that the habitat within 1km of the site would be suitable for Common Pipistrelle, Soprano Pipistrelle, Brown long-eared, Natterer's, Whiskered, Brandt's, Noctule, Leisler's and Serotine.

Of these species we consider the site itself has a very low level of potential for use by Whiskered, Brandt's, Common Pipistrelle and Soprano Pipistrelle.

No evidence of roosting by bats could be found inside the buildings.

A low level of commuting activity by Common Pipistrelle bats was recorded around and adjacent to the buildings during the dusk survey.

Barn Owls

There is no evidence to suggest that there has been recent use of the buildings by Barn Owls for nesting. We could find no evidence of opportunistic roosting.

Badgers

There is no evidence of this species using the site. The species is however likely to be found in the local area.

Great crested newts

There is no evidence of this species using the site or occurring within 500m of the site boundaries.

Water voles, Otters

The site offers no potential for use by these species although they are likely to occur along the lake to the East. The proposed development will not affect habitat for these species.

Common Lizard , Slow Worm

The site offers limited potential for these species. They are likely to occur in the local area.

C8.2 Population size class assessment

Bats

From a review of adjacent habitat the maximum number of bats that are likely to use the area surrounding the site for feeding is of the magnitude 1-10 low. It is not possible to make a more accurate assessment of the bat population in the local area without establishing the location of the local bat roosts.

Barn Owls

We are of the belief that the area surrounding the site may support Barn Owls. The site may lie within the territorial limit of a nesting pair.

Badgers

We would regard this species as absent at the site however there is likely to be a small population in the local area.

Great crested newts

We would regard this species as being absent at the site. There are recorded populations within 10km of the site.

Water voles, Otters

We would regard these species as likely being absent at the site however there is likely to be a population in the local area.

Common Lizard, Slow Worm

We would regard these species as likely being absent at the site however there is likely to be a small population in the local area

C8.3 Site status assessment

Bats

The buildings provide very few suitable roosting opportunities for bat species. The walls are well sealed, the roofs are tight fitting. The surrounding habitat is not judged ideal for use by bats. We consider the buildings is likely to have a low significance for bat species.

Barn Owls

The absence of Barn Owl pellets or white wash on the beams in the building would suggest that the site has not been used by Barn Owls recently. We are therefore of the opinion that it will have a very low significance for Barn Owls.

Badger

We would regard this species as being absent at the site. The site will have a very low significance for the species.

Great crested newts

The site is still likely to have no significance for the species as it offers limited foraging and hibernating opportunities compared with the adjacent woodland and fields.

Water voles, Otter

We would regard these species as being absent at the site although they are likely to occur in the local area. The site will have a very low significance for these species.

Common Lizard, Slow Worm

The site offers some potential for these species but no more so than adjacent areas. There are no high quality refuge or foraging areas at the site for these species. We would regard the site as having a very low significance for them.

C8.4 Constraints

None.

The level of survey effort was regarded as adequate in reference to the nature and construction of the buildings and the perceived possible risk to bats and other protected species by the proposed work.

C9 Maps of survey area

C9.1 Survey area +30m radius for badgers



C10 Photographs



The walls are all well pointed. The roof is degrading





This building is open on the East elevation.

The small tiles on the roof are very well sealed. The roof offers no potential for use by bats.





This building is well sealed and a Common Pipistrelle flew over it from the South towards the North.

D Impact Assessment Without Mitigation

D1 Pre and mid-activity impacts

D1.1 Bats

We will consider a worse case scenario in addressing potential impacts at the site without mitigation.

No signs of past maternity or gathering roosts were found at the site during the survey. The potential for a maternity or gathering roost in the buildings is judged to be low. There are very few suitable parts of the buildings for these types of roost for crevice and void dwelling bat species.

The survey was undertaken at a time of year when evidence of these types of roost would be apparent and a significant amount of residual bat activity would still be expected in and around the buildings. **We do not regard there as likely being a significant impact on these types of roost without mitigation.**

There is a low possibility of disturbance to individual bats in transitional, bachelor or non breeding female roost sites. The location of these types of roost in buildings is generally variable with bats opportunistically exploring and utilising different parts of the buildings at different times of the year. **If there is likely to be opportunistic use by other bats it is likely to be confined to night roosting and or gaps in the external walls.**

There are numerous alternative roost sites in adjacent brick built buildings and the farm house. Loss of potential low quality roost types of this sort in the building subject to development, which are already subject to a high level disturbance due to use of the building, is unlikely to have a significant effect on the local population.

In our experience lek sites are commonly found in proximity to the main feeding and commuting routes. The primarily feeding and commuting route at the site was judged to be the woodland to the East. These are judged to be moderate quality. **This site is insufficiently close to the buildings subject to alteration for bats to utilise them as lek sites.**

There are no extensive areas of rotten wood which could be suitable for hibernating Pipistrelle Sp. bats. There are no areas of the buildings which are damp and cool which would be ideal for hibernating Myotis Sp,. or Brown Long-eared bats. **The brick walls of all of the building are well sealed; on balance it is unlikely there will be loss of hibernation sites for these species.**

There is unlikely to be any loss of a swarming site. Swarming sites are generally found at or near hibernation sites. We judge that the site is unlikely to be used by Myotis Sp. bats and Brown Long-eared which have been known to swarm as there are n**o suitable hibernation sites for these species in the buildings.**

There is unlikely to be a disruption to commuting routes at the site. The primary commuting route next to the site was judged to be the adjacent woodland. **This will not be affected by the development.**

There is unlikely to be disturbance to feeding bats during the construction phase of the project. **Feeding activity is likely to be concentrated over the fields adjacent rather than the site itself.**

D1.2 Barn Owls

Barn Owls were not found to be using the buildings for roosting. The proposed work is unlikely to disturb nesting Barn Owls. **We do not consider that there will be a disturbance to Barn Owls which would be contrary to the Wildlife and Countryside Act 1981 (as amended).**

D1.3 Badger

We consider there is unlikely to be an impact on this species as we consider it **absent at the site.**

D1.4 Great crested newts

We consider there is unlikely to be an impact on this species as we consider it **absent at the site.**

D1.5 Otters, Water voles

We consider there is unlikely to be an impact on these species as we consider they are **absent at the site.**

D1.6 Common Lizard, Slow Worm

We consider there is unlikely to be a significant impact on these species as we consider they are only likely to use the site transiently. **The site can not be regarded as ideal for them.**

D2 Long term impacts

There is unlikely to be a significant long term impact on any of the species covered by this report. The slight degradation in the quality of the site for bats without mitigation may however have a small long term impact on the local population and this should be addressed.

D3 Post activity interference impacts

An increase in artificial illumination at the site caused by use of the buildings may result in minimal post activity interference impacts at the site.

D4 Other impacts

It is our opinion that there will be no significant other negative impacts relating to the proposed work which may affect the species covered by this report.

D5 Summary of impacts at the site level

We judge there to be a no risk of loss of maternity or gathering roosts for bats.

We consider there to be a low risk of loss of or disturbance to individual bats in transitional, bachelor, non breeding female roosts sites. The walls, beams and internal spaces are low risk.

There is unlikely to be a disruption to commuting routes or feeding areas at the site.

There is unlikely to be any disturbance any other species covered by this report.

E Mitigation and Compensation

E1 Mitigation strategy

The mitigation strategy is designed to meet the test of there being no adverse effect on the favourable conservation status of the protected species affected by the proposed work. The site survey has identified that there is a low to low risk to bats which are likely to opportunistically roost at the site. There is no perceived significant risk to any other species however this is not justification for complacency.

Natural England require that mitigation addresses the impacts picked up by the site assessment, as follows:-

• Quantitative characteristics: There should be no net loss of roost sites, and in fact where significant impacts are predicted there will be an expectation that compensation will provide an enhanced resource compared with that to be lost. The reasoning behind this concept is that the acceptability of newly created roosts by bats is not predictable

• Qualitative characteristics: the plans should aim to replace like with like. As an extreme example, it would be unacceptable to replace maternity roosts with hibernation sites.

• Functional characteristics: compensation should aim to ensure that the affected bat population can function as before. This may require attention to the environment around the roost.

E1.1 General working guidelines

1. Be aware that bats may be present around the site, advise contractors accordingly.

2. Be observant during construction for bats and or droppings on top of the walls. Bat droppings are black or brown and the size of grains of rice. Unlike mouse droppings which are hard, bat droppings will crumble between the fingers if squeezed.

3. Be observant during construction work for bats which may use the building if the new areas of the roof or walls are exposed and left open over night. Bats are opportunistic and may make use of gaps opened up during work overnight.

4. If it is necessary to remove a bat to avoid it being harmed, gloves should be worn. It should be carefully caught in a cardboard box and kept in the dark in a quiet place until it can be released at dusk near to where it was found, or moved to an undisturbed part of the building, with outside access, and placed in a location safe from predators.

5. Remove roof coverings by hand.

6. Be observant for Barn Owls, Badgers,Great crested newts, Common Lizard and Slow Worm during work. We consider it unlikely these species will be present but this is not justification for complacency.

7. There is some evidence of use of the building by nesting birds, particularly Swallows *(Hirundo rustica)*. Contractors should be observant for nesting birds during construction. All birds and their nests, other than pest species, are protected from disturbance when they are at, on or building a nest or rearing dependant young. It may be prudent to remove **old, inactive** nest sites over the winter to dissuade birds starting to nest in the spring. If birds start to nest in the buildings subject

to development a delay on potentially disturbing work will be required. Please seek further professional advice if in doubt.

8. If any protected species are found, stop all work and contact the ecological consultant for this project Andrew Gardner Tel: 0781 2081320 prior to work re-commencing.

E1.2 Bats

9. Retain at least six crevices between the brickwork at the eaves of the buildings that are 14-25mm in width at the narrowest point and provide access to the top of the wall. A roll of newspaper or similar material will be used to allow retention of a narrow downward pointing access gap whilst allowing the majority to be pointed up.

   As the barn conversions will be heated, these roost sites are likely to be more favourable than the currently cold walls of the barn. We judge this will be a net improvement on the current roosting potential of the site.

   Plans for these type of roost are shown at Annex H3.

If these guidelines are followed we would consider that on balance a negative effect on protected species at the site unlikely**. No EPS license will be required.**

E2 Replacement roost selection

E2.1 Existing species status

No replacement roosts are required outside the existing site.

E2.2 Location, ownership and status

No replacement roosts are required outside the site, refer to section E1, therefore the location, ownership and status of a replacement roost site was not determined.

E2.3 Habitat description, size, boundaries

No replacement roosts are required outside the site, refer to section E1, therefore the location, ownership and status of a replacement roost site was not determined.

E3 Habitat creation, restoration and or enhancement

E3.1 Terrestrial habitats

There is no requirement for integration with terrestrial habitats.

E3.2 Integration with roads and other hard landscapes

There is no requirement for integration with roads and other hard landscapes.

E4 Capture and exclusion

E4.1 Timing, effort, methods, capture/ exclusion methods

On the basis of survey information and specialist knowledge of the species concerned we consider that on balance there is no requirement to restrict the timing of work.

E5 Post development safeguard

E5.1 Roost Management and maintenance

The roosts under he eves should be maintenance free.

E5.2 Population monitoring

Use of the site by bats is likely to be opportunistic and temporary. Monitoring transient bat populations such as that we believe will be found at the site is unlikely to achieve conclusive results.

E5.3 Mechanism for ensuing delivery

On the basis of survey information, specialist knowledge of the species concerned and understanding of the planning and legal system, we consider that the recommendations of this report should be conditioned in the planning permission.

E6 Timetable of works

There is no requirement to restrict the timing of work.

E7 Site plan to show all work covered by licence

Not required.

E8 Map to show the extent of each parties interest on site

The site will be entirely within the management control and ownership of the client. There is therefore no requirement for a map in this instance.

E9 Map to show location of receptor site in relation to development site

Not required.

E10 Map to show habitat creation, restoration and or enhancement

Information relating to the possibility of creating new roosts and habitat creation, restoration and enhancement for bat species over and above that required for mitigation may be obtained from our website *www.envtech.co.uk*. There is therefore no requirement for a map in this instance.

E11 Map to show post activity management

There is no requirement for a map in this instance.

E12 Diagram to show exclusion apparatus

On the basis of survey information, specialist knowledge of the species concerned there is no requirement for the use of exclusion apparatus to ensure delivery of the recommendations of this report.

F Summary

F1 Summary of development and mitigation

A planning application is to be submitted for the redevelopment of barns at New Park Farm, Kirkby Mallory.

A baseline protected species survey with specific reference to bats and Barn Owls has been requested following guidance under Regulation 39 of the Conservation (Natural Habitats, &c.) Regulations 1994, the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and Planning Policy Statement 9 (PPS9) Biodiversity and Geological Conservation.

A survey was undertaken by a licensed bat and Barn Owl surveyor and unlicensed observer following a methodology which would be likely to identify past or current use of the site by bat species, Barn Owls, Badger, Great crested newts, Otters, Water voles, Slow Worm and Common Lizard.

A desktop survey found no record of bats within 2km of the site.

The site survey found that there are very few potential roosting opportunities for bats in the building.

A single Common Pipistrelle was seen commuting over the site from the South towards the North.

There is no perceived risk to Barn Owls, Badger, Great crested newts, Otters, Water voles, Slow Worm and Common Lizard.

A mitigation plan has been provided to address the risks of use of the building by protected species, based on a precautionary approach and a worse case scenario.

A mitigation plan has been provided to avoid a disturbance which would otherwise require an EPS license. Contractors will also be observant for protected species during work.

If evidence of protected species is found, work will cease and an appropriately qualified individual will be asked to provide further advice.

On the basis of survey information and specialist knowledge of bat species we consider that on balance the proposed activity is reasonably **unlikely** to result in an offence under regulation 39 of the Conservation (Natural Habitats, &c.) Regulations 1994. **On the basis of our survey we consider there is no need for a Natural England license in this instance at this time.**

Six bat roosts will be created under the eaves which will be ideal for crevice dwelling bat species.

Conclusion

We consider that the planning permission should not be held back at the site due to the protected species which are subject to investigation in this report. The proposed work is unlikely to cause a net loss of habitat or disturbance to these species in the local or wider area if the recommendations of this report are followed.

I certify this report has been compiled in accordance with the code of professional conduct for the Institute of Ecology and Environmental Management and The Royal Institute of Chartered Surveyors and reflects my objective opinion of the facts found in relation to the instruction received and information available based upon the methodology, assumptions and constraints detailed within this report.

Signed



Andrew Gardner BSc (Hons), MSc, MIEEM, MRICS, CEnv
Director Envirotech NW Ltd
Friday, 03 October 2008

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H Annexes

H1 Management and maintenance plan

No Annex is included

H2 Pre-existing survey reports

There are no known pre-existing survey reports for the site.

H3 Roost plans

