Julian Hall

Environmental Resource Management

BUILDINGS

AT

NORTHFIELD FARM

MAIN STREET, THORNTON CURTIS NEAR BARROW ON HUMBER

NORTH LINCOLNSHIRE

ENVIRONMENTAL ASSESSMENT RELATING TO DEVELOPMENT

PROPOSALS

FOR

C G R BOOTH FARMS

Per

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Introduction

Julian Hall Environmental have been instructed by Mr Ray Firth, Building Surveyor of 26 Horkstow Road, Barton on Humber DN18 5DZ on behalf of C G R Booth Farms, Tyrwhitt Office, Beck Hill, Barton on Humber DN18 5EY to carry out an environmental assessment on a range of disused former agricultural buildings at Northfield Farm, Main Street, Thornton Curtis, Barrow on Humber, North Lincolnshire, where it is proposed to develop the buildings as residential accommodation.

Verbal briefing was given in addition to Mr Firth's letter of instruction dated 5 June 2007, together with provision of copy of the plans relating to the proposed development of the site. Copy correspondence from North Lincolnshire Council relating to a previous planning application, now withdrawn, was supplied, together with an earlier survey carried out by ESL of 150 Monks Road, Lincoln relating to the possible presence of Bats and Birds in the subject buildings.

Summary

No evidence of habitation by bat species was recorded, either in hibernation or as a roosting and breeding site, but subject to the limitations of the season. Recently occupied Swallow's nests were found, but no signs of occupation by House Martins or Barn Owls were found.

Issues

The buildings are to be submitted as a revised application for planning consent for change of use of the range of buildings to a residence to the local planning authority, North Lincolnshire Council. Advice is given that for any application involving buildings that could provide habitat for any protected species a detailed survey is required in order to ascertain the presence of species protected by the Wildlife and Countryside Act 1981 (WCA81). Full details of the method of survey and its findings should be submitted to and agreed in writing with the local planning authority. In this case evidence has been supplied from a survey carried out by Messrs Ecological Services Ltd of 150 Monks Road Lincoln dated 14 February 2006 that bats may inhabit the buildings. Since the survey had been carried out in February when bats are in hibernation it had been recommended that a further survey be undertaken during the breeding season between May and July in order better to identify their presence.

The principal issues arising from the proposal regarding species or habitats protected under the above legislation were discussed with the Planning Authority's Conservation Officer. It was agreed that since the conversion of the buildings will entail major reconstruction of the roof and floors, together with much alteration to the walls, these will relate principally to the presence of Bat species within the buildings, and also the likely impact on their habitat by the proposed development, the possible destruction during the nesting season of any bird nests, most notably Swallow and

House Martin, and the likely disturbance of Barn Owls that may use the building as a nesting site or roost.

Under the terms of the Wildlife and Countryside Act 1981, as extended by the Countryside and Rights of Way Act 2000, and the provisions of the Conservation (Natural Habitats etc.)Regulations 1994, bats are protected species, and it is an offence to damage or destroy a breeding site or resting place of any bat. Under S.1 of the 1981 Act, all birds nest are protected whilst they are in use, i.e. in the breeding season.

Site Description

The buildings comprise a range of farm buildings in solid brick construction forming a part of the farmstead of Northfield Farm, and date from the 18th or early 19th century (Fig. 1). The current layout consists of buildings mainly on one storey only, but with a two-storey storage barn, stabling and adjoining granary in the centre.

The remainder contain housing for livestock and open fronted wagon sheds. The northern wagon shed, which is open fronted, has a pantile roof that has been underdrawn with a fibreboard sheeting. This creates the sort of space between the sheeting and the roof tiles that may be attractive for bats as a nursery roost. The buildings back on to the public highway and face into a farm yard that contains several other redundant farm buildings. Most of the buildings have pantile roofs, with the main barn having been re-roofed some time ago with a plastic corrugated sheet over the existing timbers. Upper floors in the buildings are in a very precarious and unsafe condition, and considered to be too dangerous to walk on.

An area of woodland, with both young and mature trees forms the west boundary of the farm yard. The farm stead stands at the edge of the village of Thornton Curtis at Grid Ref: TA085181, at a height of about 20m. above sea level. The whole group of buildings is now disused and becoming somewhat dilapidated, and it is likely that they will require a substantial amount of repair and adaptation to fulfil their proposed new purpose. A site plan of the building is attached as an annex to this report for reference.

Fig.1 Buildings on road side.

Survey Method

Given the time of year, when birds are nesting, a search of the inside and outside of the buildings will be made to check for any nests that remain or have been in use in the last nesting season. This will give evidence of any species that may have recently used the buildings, in particular the migrant species including Swallow and House Martin, but also for the presence of overwintering birds such as Wren and Robin.

Barn Owls may use the building both for nesting and roosting, and the specific evidence of roosting by signs of regurgitated pellets containing small mammal remains will be searched for.

Habitation by Bat species will be examined from evidence of droppings and insect remains, as well as a search for roosting sites within the brickwork of the structure. At the time of the inspection, female bats will be nursing their young in collective nursing roosts within similar structures and adult bats will be seen on the wing feeding at night, so that signs of movement will be detected both visually and by recording the echolocation signals given by bats in flight while feeding. The recording will be made in the hour after sunset, using a Tranquility II ultrasonic detector in time expansion mode (x32), and Sony TCM200DV cassette recorder to Batscan software. The visual inspection will be assisted by using an endoscope to inspect within wall fissures where accessible.

Conclusions resulting from the findings of the survey will provide the basis of recommendations relating to the proposals, insofar as they may affect the habitat of the species above mentioned, together with proposals for measures to mitigate any negative effects that are likely to be caused to the wildlife by the proposed operations involved.

It should be noted that a single or close group of surveys at any time of year will only provide a "snapshot" of the full range of conditions that may exist on a given site, although a reasonable set of conclusions may be drawn from the result of such a survey.

Survey Result

The property was visited on Wednesday 4 July and again on 22 July 2007. The ambient temperature was around 14deg.C. On each occasion a bat watch took place between 2130 and 2230 hrs. A search of the brickwork of all the buildings revealed no evidence of bat droppings, and no signs of breeding colonies or roosting sites, despite the open nature of the roofs and windows, which allow free access for bats or birds. The underdrawn roof of the wagon shed gave no further indication of use by bats.

Occasional common pipistrelle bats were recorded feeding in sheltered areas around the farmyard and closer to the trees from 2155hrs onwards with a flying visit from a single brown long eared bat passing by around 2210hrs on the first visit. On the second visit the numbers were very few, even though the weather was more stable, and limited to small numbers of pipistrelles foraging mainly near the trees.

The quantities of spiders webs covering the walls and parts of the roofs of all the buildings appear to show (Figs.2 & 3) that there has been little disturbance by bats

either entering the cracks between bricks for hibernation or searching for insects. A small quantity of insect remains, usually butterfly wings, was found in the upper storey of the barn, but no further quantities of bat droppings that might indicate an active bat roost. These remains appeared to be associated with the large quantities of bird feathers and droppings near the open windows.

Fig. 2 Interior of barn upper floor.

Fig. 3 Interior of granary upper floor.

Inspection was also carried out using an endoscope in the many cracks and crevices in most parts of the buildings, but without any further evidence of either hibernacula or the use of spaces within for roosting in summer.

Inspection of the buildings also showed a small number of Swallows' nests in the roof and beams of the small wagon shed that are currently in use. No signs of House Martin nests were to be seen. No other birds such as Wren or Robin were seen to be using the buildings for shelter. No nests were visible from any vantage points into the main roof area of the barn.

A search for Barn Owl roosts, shown by typical nests or by the pellets containing regurgitated bones and fur of small mammals, provided no evidence of their use of either of the buildings. Tawny Owls were seen flying around the trees at the back of the farm yard.

Examination of the vegetation in the area surrounding the buildings proved to consist mainly of a mixture of typical farmyard plants, with large areas of mature trees in the

adjoining valley, common to the local type of soil conditions. Trees and hedges are in the immediate vicinity around the site area, and many of these are mature. These would provide attractive areas for feeding on a plentiful supply of insects for both bird and bat species, as well as from the surrounding fields and buildings.

Discussion

Brick built sheds with pantile roofs offer almost unlimited potential for roosting by solitary male bats in the summer months, since they tend to roost on their own until they leave for wooded areas for the mating season in September and October. If inadvertently disturbed, and uninjured, they will usually fly off and discover new roost sites elsewhere. There is seldom any outward sign of their presence unless demolition takes place in the winter months between 1 November and 31 March, when hibernating bats in a torpid state may be encountered. Many of the holes in the walls were large enough to accommodate numbers of bats in hibernation without any overt exterior signs of entry. However there is no sign of constant use as would be shown by quantities of droppings, grease marks and urine stains around individual holes. Although endoscopic examination of some of the accessible fissures in the brickwork revealed no evidence of roosting bats, such holes offer considerable potential for isolated males.

The present state of decay of most of the roofs, apart from the main barn, leaves those buildings rather too draughty and subject to constant temperature variation, militating against the setting up of a breeding colony or summer roost site. The corrugated roof of the barn, though sound, is also subject to rapid temperature change, being uninsulated. The lack of evidence of bats using the buildings appears to indicate that they are not being used as a breeding colony site, for which the evidence would be shown as fairly large and obvious quantities of bat droppings. There was also a lack of insect remains in any significant quantity, such as the wings of moths and butterflies, as left-overs from feeding. The lack of disturbance to the many cobwebs in all parts of the buildings indicates the lack of activity by bats for feeding or other access.

It should be noted that under S.1 of the WCA81, all birds' nests are protected whilst in use, that is to say in the nesting season between April and September, although it is legal to destroy nest that are not in use, i.e. outside the nesting season. The implication here is that where nests are likely to resume use, birds should be excluded from returning to the site in the spring by closing off all entrance points, or indeed to ensure that work has commenced before they return.

In spite of the probably adequate supply of small rodents inhabiting the surrounding buildings, gardens and farm land, which might attract Barn Owls to the site, no signs were seen of them using the building.

The vegetation in the area immediately surrounding the buildings is typical of the established garden flora, with conventional arable land cultivation and grassland in the surrounding fields. The trees, hedges and shrubs in the gardens in the village will provide good shelter and insect food supply for any remaining birds that overwinter

around the site, and the many large and mature trees nearby could easily be used by bats as hibernation sites.

Conclusion and Recommendation

During the survey, no specific evidence was found to indicate bats were currently using the buildings for roosting, but the apparent absence of bat roosts or hibernation sites within the structure of the buildings cannot rule out the possibility of the use of deep crevices by individuals for hibernation, nor the use of the spaces for nursing colonies in the spring. The buildings may at any time provide sheltered space for bats to hunt for insects that have gathered there, or for socialisation, but this is not an indication that bats are roosting there.

It is clear that the proposal to effect the proposed change of use for the buildings will involve major structural alteration and repair to the structures, and that these will entail such operations as re-roofing and wall pointing. Both operations would be likely to disturb the habitat of hibernating or roosting bats, as well as the destruction of bird nests.

It is therefore recommended that should bats be found during building operations, work should immediately stop, and the Conservation Officer of Natural England be notified, and application made to the Department of the Environment, Food and Rural Affairs (DEFRA) for written consent from them to proceed.

Mitigation proposals.

The applicant may wish to use some of the space in buildings that are not destined for use as main parts of any residence to make provision for bats to use for roosting or hibernation, since this can easily be provided without any compromise to the integrity of the roof spaces or other parts of the structure, and without detriment to their future residential use. Notes for the provision of special structures for this purpose are appended to this report for information.

The use of any of the buildings as a nesting site for bird species indicates the need to carry out reconstruction work outside the nesting season, i.e. between September and April, to avoid the risk of damaging nests in use. Birds are unlikely to insist on nesting in a building while work is going on before the nesting season starts, but if this cannot be avoided, **it is recommended that measures be taken to exclude birds from the building from early in the season, i.e., from March onwards, until work is started.**

No signs were noted of habitation by Barn Owls as a roost, so that there is little risk of them wishing to start.

The vegetation observed around the site does not contain any species that warrant any special conservation measures, since they are mainly weeds of arable land and established grassland, with common grasses that can survive in any situation where they are left alone. **It is suggested, however, that any mature trees and hedges on**

the site be given consideration for preservation, not only for their landscape value, but also as potential bat and bird habitat.

Subject to the observations that result from our survey, it is our opinion that there is no major risk that might arise from any proposed development works that represent unacceptable risk of harm to any of the protected species or habitats described, that cannot be adequately mitigated as suggested above.

Biodiversity Management Plan

Consultations with the Environment Team at North Lincolnshire Council have resulted in the request for a Plan to ensure that any disturbance of species found during the survey shall be subject to a long term management strategy as implementation of the above Mitigation Proposals within the proposed curtilage.

With regard to the group of Swallows *Hirundo rustica* that currently return to the building for nesting each year, it is suggested that the open fronted shed shown as a garage should retain its open front to allow Swallows access for nesting. This could be supplemented by the provision of some kind of small overhanging roof projection to form a storm porch or similar structure to the overhang next to the same garage.

Although no habitation by bats has been detected at the site, there is evidence of Pipistrelles *Pipistrellus spp* and Brown Long Eared Bats *Plecotus auritus* visiting the locality for foraging. In order to give some encouragement for bats to continue to thrive in conditions where many potential habitation sites are being lost to bats through conversion of buildings to more modern standards, it is suggested that more specific provision could be made that could potentially accommodate either species in the roof space of the main two-storey barn.

The proposal would be to enclose a section of the ridge of the roof space from the main roof void with a plywood deck at either end, at a level of 1 to 1.5 m below the ridge and over a length of no more than 3m from the access at either end of the building through the existing ventilation holes arranged in the gable walls. A small hatch, or even a glass window, for access and inspection could be provided at the inner end of the enclosure.

Protection of this space from general invasion by birds for nesting could be provided by fixing on the inside of the holes a sheet of exterior grade plywood that has a number of 20mm wide slots cut across it at 200mm spacing. This would allow bats to pass through but stop any bird getting access.

The above findings and recommendations are recorded as the basis for a proposal to ensure that all considerations are met concerning wildlife on the site that is given protection under the Wildlife and Countryside Act 1981, so as to obtain the release of any conditions imposed in the grant of Planning Consent given for the overall development of the site by the applicant. They form part of the report resulting from the survey carried out on behalf of C G R Booth Farms, whose sole property the report is.

Grateful acknowledgement is given for the expert advice of Mr and Mrs P Moodie, consultant biologists of the East Yorkshire Bat Group for their assistance and expert advice on the Bat population.

Signed [redacted] J J Hall TD BSc Dated 27/4/07

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Reference:

Bat Mitigation Guidelines
A J Mitchell-Jones English Nature 2004

The Wildlife and Countryside Act 1981 HMSO

Countryside and Rights of Way Act 2000 HMSO

Conservation (Natural Habitats etc.) Regulations 1994 HMSO

Correspondence from North Lincolnshire Council including extract from report by Ecological Services Ltd. Feb 2006

BATS AND THE LAW
APPENDIX I

All bats and their roosts are fully protected by the Wildlife and Countryside Act 1981 and the Conservation (National Habitats, etc.) Regulations 1994.

You must not intentionally:

* Kill, injure, catch or keep bats

* Damage, destroy or obstruct bat roosts

* Disturb bats for example by entering known roosts or hibernation sites

* Sell, barter or exchange bats, alive or dead

You must:

* Consult English Nature (Natural England) before you do anything that might affect bats in their roosts. This might include:

* Blocking, filling or installing grills over mines or tunnels

* Building alteration or maintenance work

* Getting rid of unwanted bat colonies

* Removal of hollow trees

* Re-roofing

* Remedial; timber treatment

* Re-wiring or plumbing in roofs

* Treatment of wasps, bees or cluster flies

Remember that because bats return to the same places year after year, a bat roost is protected even if there no bats there at the time.
The law allows you to tend disabled bats, kill seriously injured ones and disturb bats in the living area of a house.
Other activities, such as catching, ringing or photographing bats or disturbing them while roosting, can be licensed by English Nature provided they are for scientific, educational or conservation reasons.
This explanation should be regarded only as a guide to the law. For further details reference should be made to Sections 9-11, 16-27, and 69 of the Wildlife and Countryside Act 1981.

Information as to the provision of Bat boxes and other aids to habitation by bats can be obtained by contacting a local Bat Group (01482 844800) or by contacting the bat Conservation Trust (www.bats.org)

Suggested Bat Access Holes in roofs.

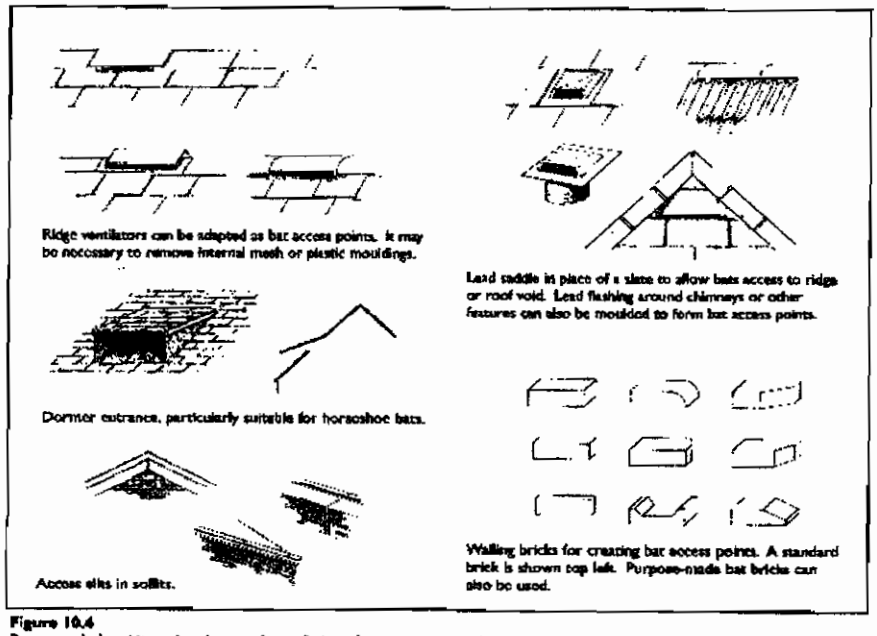

Figure 10.4
Bat access holes. Horseshoe bats prefer to fly into their roosts, but only small holes or slots are needed for other species and this also helps to deter colonisation by birds.

Site Plan (No scale)