

**Proposed Development at  
Kirknewton House, Kirknewton**  
Ecology Report

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# 1 Introduction

## Site description

- 1.1 The proposed development site (the Site) consists of a detached garage building and a separate open-sided Dutch barn located within the grounds of Kirknewton House, Kirknewton, near Wooler, Northumberland. The Site is located on the south-western edge of Kirknewton to the south of the B6351. The central Ordnance Survey grid reference for the site is NT 91370 30179.

## Description of project

- 1.2 It is proposed to develop the Site into holiday accommodation, which will involve the conversion of the garage building and the demolition of the Dutch barn with a new building constructed on its footprint. As part of the development it is proposed to fell some mature conifer trees located along the northern boundary of the Site.

## Aims of study

- 1.3 BSG Ecology was commissioned by Mr Renwick on 18 December 2017 to undertake an ecological assessment of the Site. The aim of this study was to assess the ecological interest of the Site with specific regard to comments received from the Northumberland National Park Authority (NNPA - correspondence reference 17NPO131 and 17NPO132LBC) dated 12 December 2017). The NNPA identified the need to consider the impact of the proposed development on protected species, in particular birds and bats.
- 1.4 This study has focussed on the potential of protected species to be present and the need to minimise impacts on protected species and habitats and any designated sites in the area with reference to national and local planning policy requirements. To achieve this, potential ecological constraints have been identified and guidance provided on the actions that might be required to mitigate identified ecological impacts to provide confidence to the local planning authority determining the planning application.

## Personnel

- 1.5 The survey work detailed in this report was carried out by Steven Betts CEcol CEnv MCIEEM, Partner at BSG Ecology. Steven has worked in the ecological sector for more than 25 years and he has undertaken site appraisals on many different sites. Summary details of his experience can be found at <http://www.bsg-ecology.com/people/>.

## 2 Methods

### Desk study

- 2.1 A desk study has been undertaken informed by various data sources including data obtained from the Defra's Multi Agency Geographic Information for the Countryside internet-based database (<http://www.magic.gov.uk>, accessed 3 January 2018) to establish the location and nature of any statutory designated sites of nature conservation interest located within 2 km of the centre of the Site. This includes Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites. Consideration has also been given to Natural England's SSSI Impact Risk Zones
- 2.2 A 2 km search area has been adopted in accordance with guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2013).
- 2.3 In addition, reference has been made to species and habitats listed in response to the provisions of Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and the Northumberland Biodiversity Action Plan (NBAP), which identify species and habitats that are of conservation importance at the national and county levels respectively.
- 2.4 On line aerial photography of the Site and its surroundings (<https://www.bing.com/mapspreview>, accessed 3 January 2018) was examined to further assist in understanding the context of the Site and to identify and assess possible habitat linkages with other habitats or sites of ecological importance within the local area.

### Field survey

#### Walkover Survey

- 2.5 A Site visit was undertaken on 21 December 2017 by Steven Betts. During the survey the weather was cold, dry and overcast with a light wind: the cloud cover was 7/8 oktas<sup>1</sup>. The survey included an assessment of the habitats present to determine their suitability for supporting protected species. During the Site visit any signs of protected species that were observed were recorded and a record was made of any invasive species that were present, such as Japanese knotweed *Fallopia japonica*.

#### Protected Species

##### Bats

- 2.6 The garage building and Dutch barn were assessed to determine their suitability for roosting bats. This involved close inspection using a high powered torch and endoscope. Any signs of bat activity were recorded together with any features that might have suitability for roosting bats (Collins [Ed], 2016).

##### Birds

- 2.7 As the survey was completed in December (outside the survey period for breeding birds) the buildings were evaluated to determine their likely importance for breeding birds based on a knowledge of the habitat requirements for those species that were likely to be present. The potential presence of roosting or nesting barn owl has been considered.

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<sup>1</sup> A unit used in expressing the extent of cloud cover, equal to one eighth of the sky.

**Other Species**

- 2.8 During the walkover survey, notes were made of any other notable or protected species that were identified or could potentially be present based on the habitats within the Site.

**Limitations to methods**

- 2.9 The walkover survey was carried out in December, which is outside the bird breeding season and the active period for bats. Nevertheless, a building assessment was possible and this allowed the suitability of the Site to be appraised for both bats and birds. No significant constraints have been identified.

### 3 Results and Interpretation

#### Desk Study

##### **Statutory Designated Sites**

- 3.1 There are two statutorily designated sites located within 2 km of the development Site boundary: Tweed Catchment Rivers - England: Till Catchment SSSI (415m to the north) and the River Tweed SAC (415m to the north).

##### **Tweed Catchment Rivers - England: Till Catchment SSSI**

- 3.2 The Tweed Catchment Rivers - England: Till Catchment SSSI is of national importance for its riverine floating vegetation communities often dominated by water-crowfoot *Ranunculus* species. It also supports internationally important populations of river lamprey *Lampetra fluviatilis*, sea lamprey *Petromyzon marinas*, Atlantic salmon *Salmo salar* and common otter *Lutra lutra*.

##### **River Tweed SAC**

- 3.3 The River Tweed SAC supports the following Annex 1<sup>2</sup> habitat that is a primary reason for selection of this site: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation. The site also supports the following Annex II species that is a primary reason for selection of this site: Atlantic salmon *Salmo salar*. The SAC also supports populations of sea lamprey *Petromyzon marinus*, brook lamprey *Lampetra planeri*, River lamprey *Lampetra fluviatilis* (which are present as qualifying features, but are not a primary reason for site selection).

##### **Impact Risk Zone**

- 3.4 The Site falls within the Impact Risk Zone for the Tweed Catchment Rivers - England: Till Catchment SSSI (330m to the south) and the River Tweed SAC. This advises that the following developments require careful evaluation with respect to impacts on the designated sites:

- Residential: Residential development of 100 units or more.
- Rural Residential: Any residential development of 50 or more houses outside existing settlements/urban areas.

- 3.5 The proposed development falls well below these thresholds.

##### **Non-Statutory Designated Sites**

- 3.6 The Site and the adjacent area is not subject to any designation as a local wildlife site.

#### Field Survey

##### **Habitat Description**

- 3.7 The garage and Dutch barn are located in the northern part of the grounds of Kirknewton House, close to the boundary with the adjacent church to the Site. The two buildings are separated by an area of hard-standing that is used for vehicle parking and turning (see photographs in Section 6).
- 3.8 To the west of the garage building is a walled garden – the building abuts the garden wall, which is stone construction. To the north is an area of regularly mown grass with a number of mature cypress *Cupressus* sp. trees. To the south is another area of regularly mown grass that extends around Kirknewton House. The Dutch barn is bordered on two sides by mown grass, shrubs and trees and to the east there is tall ruderal vegetation and bramble *Rubus fruticosus* scrub.

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<sup>2</sup> Annex 1 of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.



- 3.9 No invasive species have been found within the Site.

### **Bats**

- 3.10 Consultation of Defra's Multi Agency Geographic Information for the Countryside internet-based database (<http://www.magic.gov.uk>, accessed 3 January 2018) reveals that a European protected species licence was granted for work at Crookhouse in 2010. The licence covered two species: common pipistrelle and brown long-eared bat. Crookhouse is located 1.7 km to the north and is separated from the Site by the River Glen.
- 3.11 Whilst the wider Site is considered to provide foraging and commuting opportunities for bats, the garage and Dutch barn are not considered to provide any roosting opportunities for bats. Descriptions of both buildings are provided in the following sections.

### **Garage building**

- 3.12 The garage building is a former stable block that has been constructed adjacent to the eastern edge of the walled garden. The garden wall forms the western side of the garage building, which extends up to the level of the eaves. The building has a pitched roof that is covered with slates.
- 3.13 It is understood that the garage was renovated c.5 years ago at which time new roof trusses were installed and a new roof added. Garage doors have been fitted on the eastern side of the building and it appears that the walls on the eastern side may have been added or reconstructed as some sections have a damp-proof membrane near ground level.
- 3.14 On the western (garden) side of the building there is a solid stone wall with no windows or doors. On the northern side there is a timber framed lean-to with a roof covered with corrugated sheeting: there is a small circular window in the wall at roof level. At the southern end of the building the gable end wall has no window openings: on the eastern side there are two garage doors and a single window.
- 3.15 The western (garden) wall is intact with no gaps or holes that are suitable for roosting bats. All other wall sections are rendered and whitewashed: there are no gaps that are suitable for roosting bats. All window and door openings are sealed with no gaps around the edges. The eaves are sealed with roofing felt extending across the top of the wall head: consequently there are no gaps where bats can gain access to the interior of the building.
- 3.16 The roof of the building is intact with no slipped or missing slates. The ridge tiles are close-fitting with no gaps evident. No signs of bat presence were found anywhere on the building. Overall it is concluded that the garage building has no potential to support roosting bats.

### **Dutch barn**

- 3.17 The Dutch barn consists of a basic timber frame that has been covered with corrugated metal sheeting. It is open along the entire western side. At the time of the survey the barn was being used for storing and processing (chopping and splitting) firewood. It is also used for storing garden machinery and play equipment.
- 3.18 No features were identified that could potentially be used by roosting bats. The interior of the building is likely to be light and airy due to the opening on the western side. No signs of bat presence were found anywhere on the building. Overall it is concluded that the Dutch barn has no potential to support roosting bats.

### **Conifer trees**

- 3.19 The conifer trees located along the northern edge of the Site are not considered to have any suitability for roosting bats. An inspection carried out at ground level found no features that could be used by roosting bats – the trees appear to be in good condition with no tear-outs, areas of rot or other damage.

**Birds**

- 3.20 During the survey of the garage and the Dutch barn no evidence of past bird nesting activity was found. There are no features present that could be utilised by nesting birds – there are no gaps in the garage building that could be used by nesting birds – the interior of the building is not accessible as all doors and windows are kept closed.
- 3.21 During the walkover survey a wren *Troglodytes troglodytes* was heard calling near the eastern edge of the Site, a blackbird *Turdus merula* was seen flying along the northern boundary of the Site and woodpigeon *Columba palumbus* were observed using the mature conifer trees.
- 3.22 There is no evidence that species of conservation importance are using the Site (Eaton et al, 2015). No evidence of barn owl *Tyto alba* presence was found.

**Other species**

- 3.23 No other protected or notable species were recorded within the Site during the Site visit. The grounds of Kirknewton House may be suitable for use by foraging hedgehog *Erinaceus europaeus*, however, there are limited sheltering opportunities within or near the two buildings.

## 4 Potential Impacts and Recommendations

### Potential Impacts

#### *Designated Sites*

- 4.1 All statutory and non-statutory designated sites are sufficiently distant from the Site that direct impacts arising during the construction phases of the development are very unlikely.

#### *Habitats*

- 4.2 The proposed development will include the loss of mature conifer trees and potentially the disturbance of mown grass, hard-standing and tall ruderal vegetation. None of these habitats conform to any priority habitat description (Ant Maddock [Ed], 2008). None of the habitats are identified in the Northumberland Biodiversity Action Plan as a priority habitat. It is concluded that the habitats within the Site are of negligible ecological interest, are not subject to legal or planning policy protection and therefore are not a material consideration in the planning process.

#### *Protected Species*

- 4.3 There is no evidence that the Site supports any protected species. Breeding birds are not likely to use either of the buildings for nesting. There are no opportunities for roosting bats within either of the buildings.
- 4.4 It is possible that there will be increased levels of lighting within the developed Site (although there is already some lighting present associated with the main house). If light spillage illuminates habitats used by foraging bats, it is possible that this could deter these species from using commuting routes and feeding areas.
- 4.5 Disturbance associated with urban developments, such as lighting and noise, can have adverse effects on birds. Some species may be particularly susceptible to the impact of artificial lighting from streetlights or security lighting (e.g. Kempenaers *et al*, 2010). For these birds this kind of disturbance may affect normal diurnal rhythms and communication which may, for example, affect breeding success and may deter these species from using the site in the future.
- 4.6 No evidence of hedgehog presence was found within the Site, and so impacts on this species are considered unlikely.

### Mitigation Measures

#### *Further Survey*

- 4.7 No further survey work is considered to be necessary. The work that has been undertaken has allowed the ecological interest of the Site to be evaluated and the impacts of the proposed work fully assessed.

#### *Designated Sites*

- 4.8 No impacts are predicted on designated sites and consequently no mitigation measures have been proposed for these sites.

#### *Habitats*

- 4.9 No mitigation measures are considered to be necessary as the proposed development will only impact on habitats of low ecological importance.

**Protected Species****Bats**

- 4.10 The Site does not support any roosting bats but the grounds of Kirknewton House may be used occasionally by foraging bats. Any foraging bats that are present may be affected if a lighting scheme is installed that results in light spillage onto adjacent habitats; however, this is considered unlikely as lighting is only likely to be associated with the new dwellings and is likely to be directed towards the existing hard-standing.

**Breeding Birds**

- 4.11 All works involving the disturbance or destruction of any habitats capable of supporting breeding birds should take place outside of the breeding season, which generally extends from mid-March to August. However, it should be noted that some species can commence breeding earlier or continue breeding efforts beyond this period. Activities taking place during the bird breeding season should not commence until the area has been checked for nesting birds by a suitably qualified ecologist. If nesting birds are detected then a suitable stand-off should be marked out around the area and work in that area should be delayed until the birds and their young have dispersed.

**Enhancement**

- 4.12 Paragraph 109 of the National Planning Policy Framework establishes the principle that the planning system should deliver net gains for biodiversity where possible. It is therefore proposed to provide enhancement by erecting the following bat roost boxes and bird nest boxes on retained trees or the garden wall:
- 2F Schwegler bat boxes or equivalent
  - 1B Schwegler nest boxes or equivalent

## 5 References

Collins *et al* [Ed] (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition. Bat Conservation Trust, London.

Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. and Gregory, R.D. (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708–746.

Institute of Ecology and Environmental Management (2013). Guidelines for Preliminary Ecological Appraisal. Published by CIEEM, Winchester.

Kempenaers B., Borgstrom P., Loes P., Schlicht E., Valcu M.(2010) Artificial night lighting affects dawn song, extra-pair siring success, and lay date in songbirds. *Current Biology*, 20 (19), pp.1735-1739.

Maddock, A. [Editor] (2008). UK Biodiversity Action Plan: Priority Habitat Descriptions. UK Biodiversity Action Plan; Priority Habitat Descriptions. BRIG. (Updated 2011).

## 6 Photographs

<p>Photo 1: Garage building</p>	<p>Photo 2: Garage building and Dutch barn</p>
	
<p>Photo 3: Western side of garage (garden wall)</p>	<p>Photo 4: Northern end of garage (lean to)</p>
	
<p>Photo 5: Dutch barn</p>	<p>Photo 6: Interior of Dutch barn</p>
	