



**Ecological Appraisal
Land off Saville Lane,
Thurstone**

Report reference: BE-R-1255-01
May 2012

Report Title:	Ecological Appraisal Land off Saville Lane, Thurlstone
Report Reference:	BE-R-1255-01
Written by	Anne Proud BA(Hons) MSc AIEEM
Technical review:	Peter James Brooks BSc (Hons) MA MIEEM CEnv Company Director
QA review:	Peter James Brooks BSc (Hons) MA MIEEM CEnv Company Director
Approved for issue	Peter James Brooks BSc (Hons) MA MIEEM CEnv Company Director
Date	24.05.12



High Street House, 2 High Street, Yeadon, Leeds, LS19 7PP
Phone **0113 250 6101**
Fax **0113 250 6944**
Email: pjb@brooks-ecological.co.uk
Registered in England Number 5351418
www.brooks-ecological.co.uk



Summary Statement

The majority of the site is of low ecological value and unlikely to support protected or sensitive species, but further surveys are being carried out to clarify the present or likely absence of bats roosting in a building proposed for demolition. If works to build a car park affect the banks of the River Don or its water quality, further assessment work is recommended in respect of otters and crayfish.

Introduction

1. Brooks Ecological Ltd was commissioned by FDA Landscape to carry out an ecological appraisal of a site off Saville Lane, Thurlstone, South Yorkshire (SE 231 033).

Figure 1 Survey site boundary



Site Proposals

2. The proposals are for a new office development, car parking and some alterations to existing buildings on site. Additional plans include the clearance of a small area of adjacent woodland to provide overflow parking space.

Potential impacts

3. The following potential impacts are highlighted and the report which follows sets out the significance of these impacts relative to the ecological value of the site and the potential presence of protected or notable species:
 - Clearance of vegetation
 - Loss of areas currently occupied by habitat to built development
 - Effects on adjacent habitats

Desk Study

4. A desk study was carried out to identify species or habitats that are considered important in a local context and to identify any species recorded locally that may be associated with the application site. This information can be used to help target groups that need to be considered in more detail in order to identify the ecological baseline for the application site.

Designated Sites

5. A search of the MAGIC website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Scientific Interest [SSSI's]) as well as many non-statutorily listed habitats (e.g. Ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats.
6. There are no statutory designated sites within 2km of the application site.
7. There is one area of ancient replanted woodland within the search area, located 1.4km from the site. This could not be impacted by the proposed development.
8. Local records holders Sheffield Biological Records Centre have confirmed that there are five non-statutory designed sites (Natural Heritage Sites) within the 1.5km search area. The closest is located over 500m to the north west of the site, beyond the main road. This and all other sites are highly unlikely to be affected by proposals.

Natural England Natural Area

9. The site falls within *Natural Area 24 Coal Measures*
10. Based on shale and sandstone deposits natural area 24 is characterized by dense population centres such as Sheffield, Leeds and Wakefield. The area's ecology reflects the changing geology which underlies it and is typified by mixed agriculture, acidic / ancient woodlands, valley wetlands and acidic / neutral grasslands.
11. There are no nationally important conservation priorities. Local Conservation priorities for the area are;
 - Acid Grassland
 - Fen, Marsh and Swamp
 - Lowland Heathland
 - Neutral Grassland
 - Rivers and Streams
 - Standing and open water
 - Wet Woodland

12. The River Don is located a few meters to the south of the application boundary, the relevance of which will be described later in the report.

Local Biodiversity Action Plan

13. Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the 'Barnsley Biodiversity Action Plan'.
14. Table 1 lists the local Species Actions Plans and, with reference to the field study presented later in this report, assesses a) whether the species potentially have any degree of dependence on the site, and b) if so whether development would be likely to have a significant bearing on the objectives of the UK/LBAP.

Table 1: Species Action Plans

Species/group	Potentially on site	Likely to be significantly affected?
Great Crested Newt (<i>Triturus cristatus</i>)	No	N/A
Skylark (<i>Alauda arvensis</i>)	No	N/A
White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	Yes	No
Grey Partridge (<i>Perdix perdix</i>)	No	N/A
Twite (<i>Carduelis flavirostris</i>)	No	N/A
Little Ringed Plover (<i>Charadrius dubius</i>)	No	N/A
Bluebell (<i>Hyacinthoides non-scripta</i>)	Yes	No
Glow Worm (<i>Lampyris noctiluca</i>)	No	N/A
Barn Owl (<i>Tyto alba</i>)	No	N/A
Lapwing (<i>Vanellus vanellus</i>)	No	N/A
Water Vole (<i>Arvicola terrestris</i>)	No	N/A
Otter (<i>Lutra lutra</i>)	Yes	No
Bats	Yes	No
Hedgehog (<i>Erinaceus europaeus</i>)	No	No
Kestrel (<i>Falco tinnunculus</i>)	No	No
Tree Sparrow (<i>Passer montanus</i>)	No	No
Bullhead (<i>Cottus gobio</i>)	No	N/A
Dingy Skipper (<i>Erynnis tages</i>)	No	N/A
Salmon (<i>Salmo salar</i>)	No	N/A

15. Table 2 lists local Habitat Action Plans and assesses a) whether habitats on site could represent valuable examples of the habitat type within the spirit of the BAP and b) whether loss of the habitat would have a significant bearing on the objectives of the BAP.

Table 2: Habitat Action Plans

Habitat	Present on site	Likely to be significantly affected?
Upland Oakwood	No	N/A
Lowland Mixed Deciduous Woodland	No	N/A
Wet Woodland	No	N/A
Wood Pasture and Parkland	No	N/A
Arable Field Margins	No	N/A
Floodplain Grazing Marsh	No	N/A
Lowland Meadows	No	N/A
Lowland Dry Acidic Grassland	No	N/A
Lowland Heathland	No	N/A
Upland Heathland	No	N/A
Blanket Bog	No	N/A
Ponds	No	N/A
Purple Moor Grass and Rush Pasture	No	N/A
Reedbeds	No	N/A
Rivers	Yes	No
Open Mosaic Habitats on Previously Developed Land	No	N/A
Hedgerows	No	N/A

Aerial Photography and Detailed Map Study

16. Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains. We use Promap Street + scale maps for this purpose.
17. The site comprises a series of industrial buildings and associated car parking within the village of Thurlstone. It is bordered on three sides by a mix of housing and industrial units with the busy A628 with directly to the north. A few meters beyond the site is the River Don which has a band of woodland on its southern banks.
18. There is a single pond 350m to the west of the site though it is separated from the development at Saville Lane by bands of housing and warehouses.

Records

19. The local Data holder is the Sheffield Biological Records Centre, they have been asked to provide information on protected or notable species and locally designated sites within 2km of the application site. The records include the following:

- A range of common-ubiquitous bird species.
- A number of BAP species such as Little Ringed Plover, which are located close to reservoirs to the north.
- Several bats species including pipistrelles, noctules, Daubenton's and indeterminate species. The nearest record is located within a building in Thurstone 243m to the east of the site, though there are no details of species or numbers. Noctule bats were recorded 268m east along the River Don and Daubenton's bats have been recorded at Millhouse Green approximately 765m to the west.

Phase 1 Habitat Survey

Method

20. The survey was carried out on the 15th May 2012 by an experienced field ecologist who is an associate member of the Institute of Ecology and Environmental Management (IEEM).
21. The survey followed a Phase 1 habitat survey methodology (JNCC, 1993) and was extended to assess faunal potential. This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). Evidence of fauna and faunal habitat is also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995).

Results

22. The application site comprises a series of industrial buildings with associated vehicle access and car parking. Limited landscaping includes a line of shrubs and small lawned area. To the east, the boundary extends to include a narrow band of woodland which is located along the banks of the River Don approximately 20m to the south. The following habitat types are present:
 - buildings
 - hard standing
 - amenity grassland
 - woodland
 - shrub planting

Buildings

23. The site contains a number of buildings most of which now serve as office space. These will be examined more fully in the bat roost potential section of the report.

Hard standing

24. Large areas of the site are comprised of hard standing and access roads. Saville Road itself is tarmaced and in regular use supporting little in the way of vegetation although at the southern end of the site, this gives way to areas of compacted rubble where few opportunistic species are visible. These include pineapple weed (*Matricaria discoidea*), groundsel *Senecio vulgaris*), wavy bittercress (*Cardamine flexuosa*), cocksfoot (*Dactylis glomerata*) and small patches of white clover (*Trifolium repens*).



Figure 2

General view of hard standing on the site

Amenity grassland

25. At the eastern corner of the site is a small lawned area, enclosed by drystone walls and facing onto site buildings. The lawn is dominated by perennial rye grass (*Lolium perenne*) with fescues (*Festuca* sp.) and meadow grasses (*Poa* spp.) although as it does not appear to have been mown for some time this area is now being colonised by a range of other common species. These include creeping buttercup (*Ranunculus repens*), groundsel, broad leaved dock (*Rumex obtusifolius*) cleavers (*Galium aparine*), cocksfoot, dandelion (*Taraxacum* agg.) nettle (*Urtica dioica*) and willowherbs (*Epilobium* spp.). At the edges of the grassland, saplings of ash (*Fraxinus excelsior*) and horse chestnut (*Aesculus hippocastanum*) are evident along with small patches of bramble (*Rubus fruticosus* agg). A small stand of the invasive Japanese knotweed (*Fallopia japonica*) is located at the western edge of the lawn.



Figure 3

Lawned area at eastern edge of site

Shrub planting

26. Within the centre of the site a thin line of planted shrubs separates an area of car parking from Saville Lane itself. Species include snowberry (*Symphoricarpos albus*), garden privet (*Ligustrum ovalifolium*), laurel (*Prunus sp.*) and Oleaster (*Elaeagnus sp.*). This planted border also contains a small number of semi-mature trees with ornamental cherry (*Prunus sp.*), copper beech (*Fagus sylvatica purpurea*) sycamore (*Acer psuedoplatanus*) and lime (*Tilia sp.*).



Figure 4

View of the area of shrubs viewed from the west.

Woodland/mature trees

27. The site boundary extends eastward to include a narrow strip of trees which are part of a woodland corridor along the banks of the River Don. This area contains a number of semi-mature trees notably horse chestnut, sycamore and alder along with specimens of English elm (*Ulmus procera*), hazel (*Corylus avellana*), elder (*Sambucus nigra*), holly (*Ilex aquifolium*) and rowan (*Sorbus aucuparia*).
28. Additional shrubs include hawthorn (*Crataegus monogyna*) alder buckthorn (*Frangula alnus*) along with saplings of ash, sycamore and horse chestnut. The

groundflora is dominated by wood avens (*Geum urbanum*) with occasional bramble (*Rubus fruticosus* agg.), nettle, hogweed, (*Heracleum sphondylium*), wood forget-me-not (*Myosotis sylvatica*) and bluebell (*Hyacinthoides non-scripta*).



Figure 5

Wooded area looking east.

29. Where this tree line extends west along the boundary of the site, the ground falls steeply with trees limited to a row of mature alder with occasional sycamore and horse chestnut. Japanese knotweed is also established in this area and is clearly visible from the adjoining car park area.



Figure 6

Stand of Japanese knotweed visible alongside wooded line at southern boundary.

Fauna

Bats

30. The site is located close to the River Don and a band of woodland, both of which would provide excellent foraging for local bat populations. Within the site itself bats are likely to forage within the strip of woodland included in the boundary. Although most of the trees on the site are semi-mature and do not appear to contain features likely to support bats, two of the alders along the southern boundary have rot holes which could offer some limited roosting potential. If these trees are to be removed

as part of the development, they will require further survey to ensure that they are not being used by roosting bats.

31. There are a number of buildings on site which are covered more fully in the bat roost potential section of the report.

Amphibians

32. There is no amphibian breeding habitat within the site and the nearest pond is 350m to the west and separated from the site by a mixture of housing, roads and industrial units. This means that the site will be of limited value to amphibians and (especially in the case of great crested newt) they are very unlikely to be present at the site.

Birds

33. The shrubs and trees on site are likely to provide nesting for a range of common bird species while the wooded area may offer some small potential for species such as green woodpecker. However, the relative immaturity of the trees, coupled with its restricted size makes it of limited value to woodland birds.

Protected mammals

34. The site is located in close proximity to the River Don which contains suitable habitat for otters. With the exception of bats, the site is unlikely to provide suitable habitat for any other protected mammals.

White clawed crayfish

35. White clawed crayfish have been recorded within the tributaries of the River Don and the section of the river close to the site does present suitable habitat for this species in terms of water quality, channel substrate and depth or availability of refuges.

Reptiles

36. The site does not currently present good reptile habitat and there are no records of reptiles within 2km. Given the high levels of human activity within the site it is highly unlikely to be of value to this group.

Invasive Plants

37. Several stands of Japanese knotweed (*Fallopia japonica*) which is listed under schedule 9 of the Wildlife and Countryside Act (1981) are located on the site (indicated on plan BE-P-1255-01).

Bat Roost Potential Survey

Site Proposals

38. Buildings at the south eastern corner of the site are to be demolished, with sections of the main works building to be altered to improve vehicle access.

Box 1 Legal background

Bats are afforded full protection under The Wildlife and Countryside Act (1981) plus amendments, and the Conservation of Habitats and Species Regulations 2010. Under these Acts it is an offence among others, to recklessly kill, injure or disturb bats. It is also an offence to destroy or obstruct a roost even if bats are not in occupancy at the time of the action.

There are no defences against contravention of the Conservation of Habitats and Species Regulations 2010 which means that it is important for detailed and well designed bat surveys to be carried out, prior to carrying out activities that may impact upon bat roosts such as demolition of buildings or removal of trees.

Where bats are found within a potential development site, a license from Natural England may need to be secured if works that could otherwise contravene legislation are to be carried out. These licences are only issued where Natural England is satisfied that works are unavoidable and would not have a negative impact on the favourable conservation status of bats. A Natural England license requires that the potential development site has full planning permission and that bats were a material consideration of the planning permission.

Box 2 Bat roosts

Bats roost in buildings and trees in different locations depending upon time of year and environmental factors such as position of the sun, proximity to heat sources and feeding grounds. The following types are commonly referred to:

Transitional roosts:

Bats frequently gather early in the season (March to April) before dispersing to summer roosts. Bats can be found in high numbers in these roosts for a very short period. Transitional roosts can also be found shortly before hibernation in August to October when bats (depending upon species) can gather in roosts not used earlier in the season.

Maternity roosts:

These are among the most important roosts and are normally occupied from May to August. Depending on the species involved, some maternity roosts can contain a very significant proportion of the local population.

Summer (non-breeding) roosts

Small groups of non-breeding female and male bats can gather in these roosts or bats from a local population may choose to roost individually. There are normally a large number of suitable locations for summer non-breeding roosts and these may be routinely used or used only on an occasional basis. Irregularly used summer roosts can be very hard to find without unreasonable survey effort.

Mating roosts

Around September bats will gather in roost to mate; these are often in different locations than summer or breeding roosts.

Hibernation roosts

As bats in hibernation roosts are highly vulnerable to disturbance and bats can be present in large numbers these are considered to be among the most important bat roosts. Many species of bats roost in large and nationally important hibernation roosts associated with underground sites, many of which are well known and protected. However, the most common bat in the UK (the common pipistrelle) is largely unaccounted for in winter but thought to disperse and roost individually or in small groups in thermally stable cracks and crevices in thick walls or trees.

Local Status

39. The application site is within the natural range of species of bats listed in Table 1.

Table 1: Bat species recorded within 100km of the application site

Species	National status
Pipistrelles (<i>Pipistrellus pipistrellus</i> and <i>P. pygmaeus</i>)	widespread/common
Nathusius' Pipistrelle (<i>Pipistrellus nathusii</i>)	widespread/rare
Noctule (<i>Nyctalus noctula</i>)	widespread/frequent
Leisler's (<i>Nyctalus leisleri</i>)	widespread/rare
Brown long-eared (<i>Plecotus auritus</i>)	widespread/common
Natterer's (<i>Myotis nattereri</i>)	widespread/frequent
Daubenton's (<i>Myotis daubentonii</i>)	widespread/common
Whiskered/Brandt's (<i>Myotis mystacinus</i> and <i>M. brandtii</i>)	widespread/scarce
Alcathoe's (<i>Myotis alcathoe</i>)	Local/unknown

Method

40. A thorough daytime inspection of the site was made in May 2012 in order to look for evidence of bats and assess bat roosting potential. Evidence of bats may take the form of droppings, feeding remains, live bats, dead bats, stains on masonry or timber from the oils in bats' fur and claw marks made by bats regularly roosting in the same location.
41. Bat roosting potential of the building was classified according to the following criteria set out in table 2, developed with reference to the Bat Mitigation Guidelines (2004), Bat Workers Manual (2004) and the Bat Conservation Trust Good Practice Guidelines (2007).

Table 2: Bat roosting potential in buildings

Roosting potential	Criteria
Good	Buildings that have many areas suitable for roosting with a large number of potential access points. These are normally in sheltered locations, subject to low variation in temperature. Buildings with good potential could be used for a whole range of roosts including maternity roosts.
Moderate	Buildings with a smaller number of areas suitable for roosting, but still supporting features that could be attractive to bats and potentially support maternity roosts.
Limited	Buildings with limited roosting opportunities. These may be in locations that are subject to wide temperature fluctuations and drafts. They could be used as occasional or transient roosts, but are unsuitable for maternity roosts. Buildings that would otherwise be moderate to good potential but have reduced value due to other factors such as exposed location, separation from nearby foraging, or presence of strong lighting.
Very Limited	Buildings that have no obvious places for bats to roost, but could be used on a sporadic or occasional basis for feeding or solitary day roosting.
None	Buildings which appear unsuitable for roosting bats due to clear lack of roosting spaces such as voids etc and/or absence of suitable access points.

42. Survey work was directed by Anne Proud BA (Hons), MSc AIEEM. Anne has over 5 years experience of carrying out bat surveys in a professional capacity, holds a

Natural England scientific licence for all counties of England (20113139) and is an active member of the West Yorkshire Bat Group.

Results

43. The application site comprises a collection of attached brick built industrial buildings along with a section of existing office block.



Figure 7

General view of industrial buildings viewed from the west.



Figure 8

Section of existing office buildings to be affected by the proposals.

44. The industrial buildings are arranged in an L shape with a row of single storey flat roofed units attached to a three storey section. The solid walls are all constructed from brick with a series of flat felt roofs with low parapet walls offering no features likely to give access to bats.
45. The three storey section has a brick built chimney attached to the west facing wall. This chimney has not been tied in to the external wall but sealed with a line of mortar which is missing in places giving access to a void between the brickwork.



Figure 9

View of gaps between chimney and exterior wall.

46. According to staff on site, bats have been seen roosting within these gaps on a regular basis with four bats found within the building itself (believed to have entered via an open window). The bats have not been seen for some years and no evidence of roosting such as droppings were visible on external walls during this inspection.
47. At the north eastern elevation is a single storey extension with solid brick walls and pitched slate roof.



Figure 10

Single storey pitched roof section

48. The solid wall construction offers little in terms of roosting potential; however, there are a number of gaps within the slate roof, where mortar is missing from the ridge, which could provide occasional roosting space. This building has no accessible loft space but a false ceiling creates a small roof void which could potentially offer larger roosting space if bats could gain access via gaps in the roof.



Figure 10

Close up view of slate roof showing gaps at ridge.

53. The office buildings at the northern end of the site are also of solid brick construction faced with stone on the southern elevation. Part of this building is to be demolished to improve vehicle access to the site.



Figure 11

Office building to be demolished:
southern elevation

58. The stonework is in a sound condition with no clear entry points for bats while the eaves are well sealed with no visible gaps.
59. This building has a pitched slate roof which is in a variable condition, with a number of slipped slates and missing mortar at the ridge, providing potential access points for bats.

Figure 12

Slate roof of office building showing gaps on north facing elevation



64. An internal inspection showed all sections of the slate roof to be unlined and no evidence such as droppings was found within the accessible loft areas although the loft spaces had a heavy accumulation of dirt which meant that smaller numbers of droppings would not have been easily visible.

Assessment

65. The site is assessed as having moderate bat roost potential. Bats have previously used the gaps behind the chimney as a roost and although site staff have not seen them for some years it is still possible that they may be using the space in smaller numbers which may pass unobserved. There are also a number of features within the slate roofs on the site which could provide roosting space for occasional or solitary roosting bats and potentially give access to larger spaces within the roof voids.
66. The site is located close to the River Don and areas of woodland which would provide excellent foraging for local bat populations increasing the potential that bats could use the buildings on site as a roost.
67. Emergence surveys are recommended to establish if bats are roosting on site and the client has commissioned Brooks Ecological to carry out these studies.

Overall Evaluation and Recommendations

68. The site is predominantly made up of buildings and hard standing supporting a small range of common species poor habitats.
69. The wooded area to the east of the site which may form part of the application has a range of common shrubs and semi-mature trees. Although the loss of this small area is unlikely to have any significant impact on the wider landscape, it does contain a small number of bluebells which are listed under the local BAP. If this woodland is to be cleared, then provision should be made to move the bluebells to adjacent areas of woodland.
70. The invasive plant Japanese Knotweed has been found in several locations on the site. This should be removed by a specialist contractor.
71. The following precautions are considered necessary in relation to the site's development:
 - To prevent the proposed works impacting on nesting birds, clearance of the trees and scrub on site will need to be undertaken outside of the breeding bird season which is 1st March – 31st August inclusive. Any clearance that is required during the breeding bird season should be preceded by a nesting bird survey to



ensure that the Wildlife and Countryside Act (1981) is not contravened through the destruction of nests and that any active nests are identified and adequately protected during the construction phase of the development.

- Buildings on site are assessed as having moderate potential to support bats. Emergence surveys have now been commissioned by the owners and will be carried out during June 2012, the optimal time for bat surveys.
- Although the River Don has potential to support both otter and white clawed crayfish, the proposals to the existing site footprint are unlikely to have any impacts on this habitat. However, if the clearance of woodland on the banks is likely to cause direct impacts on the river in terms of debris etc. then both an otter and crayfish survey is recommended to assess the presence or likely absence of these species to ensure that wildlife legislation is not contravened.

Enhancement

72. In line with planning guidance now outlined in the National Planning Policy Framework (NPPF) development should take account of the value of ecosystem services and enhance ecological networks. Proposals include provision for a range of tree and shrub planting throughout the site which should include native species already present within the woodland corridor to the south e.g. hawthorn (*Crataegus monogyna*), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), hazel (*Corylus avellana*) and alder.

References

IEA. (1995). *Guidelines for Baseline Ecological Assessment*. Chapman and Hall

Nature Conservation Committee (1990). *Handbook for Phase 1 Habitat Survey: A technique for environmental audit*. NCC

Bat Conservation Trust (2012) *Bat Surveys – Good Practice Guidelines*

English Nature (2004) *Bat Mitigation Guidelines*. English Nature, Peterborough.

JNCC (2004) *The Bat Workers Manual*. 3rd Edition.



WESLEYAN
CHURCH

SAVILLE LANE

MANCHESTER ROAD

RIVER DON

River Don

Brooks
Ecological
Grounded advice

2 High Street
Yeadon
Leeds
LS19 7PP
www.brooks-ecological.co.uk

T: 0113 250 6101

Site: Saville Lane, Thurstlton

Title: Ecological Features Plan

Drawing Number: BE/D/1255/01

Scale: Do not scale Date: May 2012

Revision: _____

-  Amenity grass
-  Shrub planting
-  Hard standing
-  Buildings retained
-  Buildings demolished
-  Trees/woodland
-  Japanese knotweed