Arc Ecology

LAND AT MANCHESTER ROAD, TUNSTEAD MILTON - TREE SURVEY AND PROTECTED SPECIES APPRAISAL

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INTRODUCTION

Arc Ecology were commissioned to undertake a protected species and tree appraisal of an area of land off Manchester Road, Tunstead Milton, Derbyshire to attempt to determine the presence/absence of any such species within the site prior to a planning application being submitted for the development of the site.

Given the habitats known to be present within the site, particular emphasis was given to the potential for the site to support roosting bats, badger, great crested newt and nesting birds.

SITE DESCRIPTION

The site lies to the east of the centre of the village of Tunstead Milton, Derbyshire at OSGR SK 034 799 (approximate site centre) and consists of a single Dutch barn set within an area of amenity land and hard-standing, raised gardens for vegetable growing, a small pond used for keeping wildfowl on and a large area of outgrown pastoral land containing a number of trees (see Plate 1 and Photographs 1-??????).

BUILDING 1

This is a large Dutch barn of wood and panelling construction with a corrugate steel roof in the western section of the site (see Photograph 1). Internally there is no roof void and the interior is bright and draughty, making it largely unsuitable for roosting bats. Externally there are bird nesting boxes mounted, but it was not possible to clarify whether these were in use at the time of survey.

AMENITY LAND

To the north and west of the Dutch barn are areas of amenity land consisting of well-managed lawns. In the area to the north, there is a single plum tree (*Prunus sp.*).

SMALL-HOLDING AREA

To the south of the Dutch barn is an area that could best be described as smallholding consisting of a gravelled area with raised beds for vegetable growing and further south a shed for wildfowl and a small pond. The pond contains no emergent vegetation (see Photograph 2).

YOUNG PLANTATION FRUIT TREES

To the south of the Dutch barn and in a fenced off area to the east of it, there are a number of sapling fruit trees planted within areas of overgrown grassland (see Photograph 3).

PASTORAL LAND

The majority of the site consists of outgrown pastoral land containing tall ruderal vegetation and other angiosperms and a number of trees, predominantly in a line running north to south and dividing the pastoral area almost in half, but with other individual trees to the east and west of this main line (see Photographs 4 and 5, Figure 1 and Appendix A).

Dominant plant species in this area consist of common grasses including red fescue (*Festuca rubra*), rough meadow grass (*Poa trivialis*), Cock's foot (*Dactylis glomerata*), Timothy (*Phleum pratense*) and false oat grass (*Arrhenatherum elatius*) with other vegetation including red clover (*Trifolium repens*), meadow buttercup (*Ranunculus acris*), broad-leaved dock (*Rumex obtusifolium*), nettle (*Urtica daioca*), plantain (*Plantago minor*), dandelion (*Taraxacum officionale*). In the south-eastern section of the site there is also large numbers of slender thistle (*Carduus tenuiflorus*), spear thistle (*Cirsium vulgare*) with scattered soft rush (*Juncus effusus*) and common spotted orchid (*Dactylorhiza fuchsii*).

TREES

As mentioned there are a number of trees within the site (for trees surveyed see Figure 1 and Appendix A).

Within the amenity area in the north-western part of the site there is a single small plum tree. In the south-eastern part of the site between the Dutch barn and the wildfowl pond there are three small hawthorn (*Crataegus monogyna*) trees and a single large beech tree (*Fagus sylvatica*).

Approximately mid-way across the site there is a line of trees running north to south with a single tree to the west of this and three trees to the east of it. These are predominantly beech but also include a single sycamore (*Acer pseudoplatanus*) and a single hawthorn (see Photograph 6).

The final trees within the site boundary consist of three beech trees together on the south-eastern boundary.

There are also a large number of trees bounding the site along roadways on the northern and eastern borders and within an area of woodland to the south of the site including beech, sycamore, hawthorn, blackthorn (*Prunus spinosa*), elder (*Sambuchus niger*), holly (*Ilex aquifolium*) and hazel (*Corylus avellana*).

These trees were not included in the tree survey as they are outside the site boundary.

Photograph 1 - Dutch barn

Photograph 2 - Pond within site

Photograph 3 - Plantation young fruit trees

Photograph 4 - Western area of pastoral land

Photograph 5 - Western area of pastoral land

Photograph 6 - Line of trees within centre of site

METHODOLOGY

BATS

An appraisal of the site for presence/absence of bats was undertaken on the 19th June 2014 by a suitably qualified ecologist and current holder of a Level II Class Licence to survey for bats.

An internal and external inspection of the single building was carried out to attempt to prove presence/absence of the use of the buildings by roosting bats and all trees within the site were assessed to determine whether they possessed features such as flaking or raised bark, rot holes, crack and crevices or dense ivy covering that could potentially support roosting or resting bats.

Any evidence of the presence of bats, such as droppings; staining or scratch marks on brickwork and wood or the presence of the animals themselves was recorded. The appraisal was augmented by the use of ladders, a strong torch (Cluson 'Clulite' CB2), a Stagg Electronics 'Batbox Duet' heterodyne bat detector and a Provision 100 endoscope where required.

The survey was carried out in accordance with current guidelines given by Mitchell-Jones (2004) and the Bat Conservation Trust (2012).

GREAT CRESTED NEWT

Appraisal of habitats suitable for great crested newt were undertaken according to guidelines given by English Nature (2001) and consisted of inspection of the pond within the site for its potential to support populations of great crested newt.

BADGER

Appraisal of the site for signs of the presence of badgers were undertaken according to guidelines given by Harris *et al.* (1989). The appraisal included searches for evidence including setts, latrines, snuffle holes (foraging signs) and hairs on hedges, shrubs and fences.

NESTING BIRDS

The appraisal for nesting birds was undertaken following guidelines given in Bibby *et al.* (2000) and consisted of inspection of the buildings for evidence of current or historic nesting.

TREES

The trees within the site boundary were assessed according to guidance given by the British Standards Institution (2012). The exceptions to this were the smaller trees including the plum in the north-western amenity section of the site, the very young plantation fruit trees and the three small hawthorns in the south-western section of the site as these were determined to be shrubs more than trees.

CONSTRAINTS

There were no constraints to the survey and all areas of the site were accessible.

SURVEY RESULTS

BATS

The Dutch barn within the site was bright and draughty due to its construction and was considered to offer minimal suitability to support populations of roosting or resting bats.

None of the trees surveyed had features considered suitable to support roosting bats.

While it is possible that bats use the site for foraging and commuting purposes, the potential for there to be a roost within the site is considered to be negligible and no further survey for bats with regard to this site is necessary.

Bats are therefore discounted from the remainder of this report.

GREAT CRESTED NEWT

A small pond present within the site was appraised for its potential to support great crested newt.

The pond is used for wildfowl and has no emergent vegetation suitable for great crested newt breeding and no areas of shelter suitable for this species.

The pond is assessed to have negligible potential to support any populations of great crested newt and therefore this species is discounted from the remainder of this report.

BADGERS

There was no evidence of the current or historic presence of badgers within the site, although it is possible that they are present in the wider area.

Badgers are therefore not currently considered to pose a constraint to the proposed development and are discounted from the remainder of this report.

NESTING BIRDS

There was no current or historic evidence of the presence of nesting birds found within the survey area during the survey, although there is suitable nesting habitat present within trees and shrubs within the area and there were nest-boxes placed both on the Dutch barn and within a number of the beech trees in the central line of trees and it was not possible to assess on the day of survey whether these were in use.

TREES

The results of the tree survey are given in Figure 1 and Appendix A.

CONSTRAINTS AND RECOMMENDATIONS

NESTING BIRDS

All nesting birds are protected under the Wildlife and Countryside Act 1981, which makes it an offence to kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

A number of bird species are also listed as Species of Principal Importance under the provisions of the NERC Act 2006. The National Planning Policy Network document 'ODPM Circular 06/2005' gives guidance on the treatment of Species of Principal Importance and states that local authorities should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations.

There was no current or historic evidence of the presence of nesting birds seen during the survey, although the trees and shrubs offer potentially suitable habitat for nesting bird species and there are nest-boxes placed on the building and within trees throughout the site, making it possible that nesting birds could use the site for nesting at any time. Due to this, if possible, any work within the site likely to cause disturbance should avoid the nesting season for birds (February to September inclusive).

If this is not possible, then an appropriately experienced ecologist should conduct an investigation of the trees, shrubs and nestboxes to determine whether they are in use by nesting birds immediately prior to work commencing. If nesting birds are found to be present at this time, all work likely to cause disturbance should cease until the young have fledged and the nest is no longer in use.

TREES

The trees within the site are not known to be covered by a Tree Protection Order (TPO) and the site does not appear to fall within the Chapel-en-le-Frith Conservation Area. Therefore, while it is good practice to retain trees where possible, the decision to retain or remove the trees appears to be at the site owners discretion.

Assuming that the trees are to be retained then the following should be adhered to in order to avoid damage to the roots during construction.

No construction materials should be stored within the RPA of the trees (Appendix A) and vehicle access during construction should be excluded from the RPA to avoid compaction of the roots. The RPA should be clearly marked out and signed as an exclusion zone prior to work commencing and all site staff made aware of the limitations on work within this zone.

If any areas of hard-standing are required within the RPA then the following methodology should be observed.

Construction of hard-standing areas within tree root zones

With reference to BS 5837:2012, where the construction of permanent hard surface within the root area of trees is required, ideally a non-dig design should be used to avoid root loss or damage caused by excavation.

The construction area should be levelled by filling hollows and removing protrusions and hard landscaping. No soil excavation, other than the removal of the turf layer should be carried out during this process and any filling material used should be porous to allow water and oxygen to reach the soil.

If any roots are to be pruned, sharp cutting tools should be used to ensure that damage to the root system is minimized. No roots, greater than 25mm in diameter should be pruned where possible.

A geo-textile membrane should be laid over the whole surface, including any retained hard surfaces and fixed into position with ground pegs.

If edging blocks or stone are to be used to retain the drive surface within the trees root zone, the mix into which they are set should be laid directly onto the geo-textile membrane over the supporting base. No deeper excavations should be made to accommodate the footing of the edging detail.

A geoweb material can then secured over the membrane and an aggregate sub-base material can be laid onto the geoweb. The depth of the sub-base aggregate should be the same depth as the geoweb and no less than 100mm. This aggregate should be a granular no fines material that is typically 20-40mm diameter. This will allow continued passage of oxygen to the root system of the tree.

The sub-base material should be compressed to make it ready for final surface treatment. This surface can also be used as a temporary works access route prior to the laying of the final surface.

Final surface details for residential purposes should be of a porous nature and should be bedded in using a lean mix that is also highly porous.

OTHER PROTECTED AND NOTABLE FLORA AND FAUNA SPECIES

There was no evidence of the presence of any other notable flora and fauna species noted during the survey and there are no habitats present within the site considered suitable to support such species.

SUMMARY

- A tree survey and protected species appraisal was carried out on a site off Manchester Road, Tunstead Milton, High Peak, Derbyshire by Arc Ecology on the 19th June 2014.
- No evidence of the presence of bats was found either externally or internally on the building within the site, and there were no features found on trees within the site suitable to support roosting bats.
- Bats are not considered to pose a constraint to the proposed development and no further survey for bats is thought to be necessary.
- No current or historic evidence of the presence of badgers was found within the site and badgers are not considered to pose a constraint to the proposed development of the site.
- No further survey for badgers with regard to the site is considered to be necessary.
- There was no particularly suitable habitat for great crested newt within the site.
- Great crested newt are not considered to pose a constraint to the proposed works and no further survey for this species is necessary.
- There was no evidence of the current or historic presence of nesting birds found during the survey, but there is suitable habitat for nesting birds present within the site.
- Due to this, work on the site should preferably avoid the nesting season for birds (February to September inclusive).
- If this is not possible, then the site should be checked by an appropriately experienced ecologist immediately prior to work commencing to determine whether nesting birds are present.
- If nesting birds are found to be present at this time, all work likely to cause disturbance should cease until the young have fledged and the nest is no longer in use.
- There are a number of trees within the site, but they are not known to have TPO's on them or to be in part of a Conservation Area.
- If the trees within the area are to be retained, then appropriate methodology should be followed to avoid damage to the root system of the trees.

REFERENCES

Bat Conservation Trust (2012).
Bat Surveys - good practice guidelines. Bat Conservation Trust, London.

Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000).
Bird Census Techniques: 2nd Edition. Academic Press, London.

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BS5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations. BSI, London

Harris, S., Creswell, P. & Jefferies, D. (1989)
Surveying Badgers. An occasional publication of the mammal society - No 9. Mammal Society, London.

Mitchell-Jones, A.J. (2004).
Bat Mitigation Guidelines. English Nature, Peterborough.

FIGURE 1 - LOCATIONS OF TREES SURVEYED


Briarwood
Ridgegate
Brookfield
Bothan
3 Acers
Amstel
Southview
MS
Higher Birchees
MANCHESTER ROAD
El Nido
Rainbows End
213.7m
Pond
T1
T14
T13
T12
T11
T10
T9
T8
T7
T6
T5
T4
T3
T2
T15
T16
T17
T20
T19
T18
TOM LANE
Canal Feeder

APPENDIX A - BS5837:2012 TREE SCHEDULE

BS5837:2012 TREE SCHEDULE

Tree N°	Species	Height (m)	Stem Diameter @ 1.5m (cm)	Branch Spread Radius (m) N/E/S/W	Age Class	Category Grading	Root Protection Area (m2)	Structural Condition	Management Recommendations
1	Beech (*Fagus sylvatica*)	10	80	4, 4, 4, 4	Ma	B	290	General good condition .	Remove or retain
2	Beech (Fagus sylvatica)	8	90	5, 5, 5, 5	Ma	B	366	General good condition	Remove or retain
3	Sycamore (Acer pseudoplatanus)	15	90	6, 6, 6, 6	Ma	B	366	General good condition	Remove or retain
4	Beech (Fagus sylvatica)	9	60, 50	8, 8, 5, 5	Ma	B	452	General good condition	Remove or retain
5	Hawthorn (Crataegus monogyna)	8	30, 25, 10	3, 3, 3, 3	Ma	B	191	General good condition. Some ivy covering	Remove or retain
6	Beech (Fagus sylvatica)	6	50	3, 3, 3, 3	Ma	B	113	General good condition. Some branches removed within crown	Remove or retain
7	Beech (Fagus sylvatica)	7	40	3, 3, 3, 4	Ma	C	72	Reasonable condition. Large rot hole where second stem has split off	Remove or retain
8	Beech (Fagus sylvatica)	9	90	6, 6, 6, 6	Ma	B	366	General good condition	Remove or retain
9	Beech (Fagus sylvatica)	9	90	5, 5, 5, 5	Ma	B	366	General good condition	Remove or retain
10	Beech (Fagus sylvatica)	10	150	6, 6, 6, 6	Ma	B	707	General good condition, some rot where branch has been removed from stem	Remove or retain

KEY:

Age Class

NP Newly planted

Y Young (<1/3 life expectancy)

M Middle (1/3-2/3 life expectancy)

MA Mature (2/3 life expectancy)

OM Over-mature (In decline)

VET Veteran

BS Category Grading (life expectancy in years)

R Trees for removal (<10)

A High quality trees (>40)

B Moderate quality trees (>20)

C Low quality trees (>10 / <150mm at 1.5m)

BS Sub-category Grading

1 Individual trees with arboricultural value

2 Groups or woodlands with landscape value

3 Trees with historic, conservation or cultural value

Root Protection Area Equation

$$RPA = \left(\frac{\text{Stem Diameter} \times 12^{*}}{1000}\right)^{2} \times 3.142$$

* x 10 for multi-stemmed trees measured above root flare.

BS5837:2012 TREE SCHEDULE

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11	Beech (*Fagus sylvatica*)	10	70, 70	6, 6, 6, 6	Ma	B	707	General good condition .	Remove or retain
12	Beech (Fagus sylvatica)	8	30	3, 3, 3, 2	Ma	B	41	General good condition	Remove or retain
13	Beech (Fagus sylvatica)	10	70	5, 7, 5, 5	Ma	B	222	General good condition	Remove or retain
14	Beech (Fagus sylvatica)	9	90	6, 6, 6, 6	Ma	C	366	Tree stunted and in poor overall condition	Remove or retain
15	Beech (Fagus sylvatica)	5	30, 20, 10	3, 3, 3, 3	Ma	B	163	General good condition.	Remove or retain
16	Beech (Fagus sylvatica)	9	60, 20, 20, 15, 30, 30	5, 5, 5, 5	Ma	B	707	General good condition.	Remove or retain
17	Beech (Fagus sylvatica)	10	40, 40, 40, 20, 20	5, 5, 5, 5	Ma	B	707	General good condition.	Remove or retain
18	Beech (Fagus sylvatica)	10	30	4, 3, 3, 0	Ma	B	41	General good condition, but shaded out on side by trees outside site	Remove or retain
19	Beech (Fagus sylvatica)	10	30	4, 3, 3, 0	Ma	B	41	General good condition, but shaded out on side by trees outside site	Remove or retain
20	Beech (Fagus sylvatica)	10	30	4, 3, 3, 0	Ma	B	41	General good condition, but shaded out on side by trees outside site	Remove or retain

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