

**Preliminary Ecological Appraisal
Land to the southwest of
8 Carbone Hill,
Northaw,
Potters Bar, EN6 4PL**



NKM Associates

28th July 2022

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SUMMARY

On land to the southwest of 8 Carbone Hill, Northaw, planning permission is to be sought for the re-development of the site.

In July 2022, NKM Associates was instructed to carry out a Preliminary Ecological Appraisal of the site. This was undertaken to determine the presence of any important habitats or species which might be impacted on by potential re-development.

A search of ecological data for the area revealed a number of records of European Protected Species, UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plan (LBAP) species within a 2.0 km radius of the site.

There were a number of bat records in the area. These included Brown Long-eared *Plecotus auritus*, Common and Soprano Pipistrelle *Pipistrellus pipistrellus* and *P. pygmaeus* and Noctule *Nyctalus noctula* approximately 250 metres to the east, Brown Long-eared bat, Common Pipistrelle, Daubenton's *Myotis daubentonii* and Natterer's *Myotis nattereri* approximately 750 m southwest.

Badgers *Meles meles* no records of Badger were found.

Great Crested Newts *Triturus cristatus* no records of GCN were found.

Otters *Lutra lutra* no records of GCN were found.

Water Vole *Arvicola amphibius* no records of GCN were found.

Within the 2.0 km search area there were two statutory sites, these being Northaw Great Wood Site of Special Scientific Interest (SSSI) and Local Nature Reserve (LNR) approximately 0.1 km to the north and Broxbourne Woods SSSI and Special Area of Conservation (SAC) approximately 2.0 km northeast.

The Phase 1 Habitat survey took place on 28th July 2022, in warm and bright conditions, with no wind.

The site was dominated by bare ground and close mown amenity grass the latter very dry due to the drought conditions.

The remainder of the site consisted mature trees and shrubs around the boundaries.

The site was poor in floristic diversity, with no rare vascular plants recorded, and all species common and widespread. There were no invasive or notifiable species.

4 species of bird were observed during the visit, all present outside the site boundaries. All were Species of Low Conservation Concern (RSPB Green list).

No old or in-use birds' nests were found, although the trees and hedgerows did provide some suitable habitat for nesting.

Since all in-use bird's nests and their contents are protected from damage or destruction, any tree and shrub removal should be undertaken outside the period 1st March to 31st August inclusive. If this time frame cannot be avoided, a close inspection of the trees and shrubs to be removed should be undertaken prior to clearance. Work should not be carried out within a minimum of 5.0 metres of any in-use nest, although this distance could be more depending on the sensitivity of the species. Any in-use should be allowed to fledge before it is disturbed.

The proposed development is unlikely to lead to the loss of bird nesting sites as there is an abundance of suitable habitat in the surrounding area.

All trees on site were surveyed for features such as decay cavities, woodpecker holes, fissures and exfoliating bark, that would be considered suitable for bat roosting and/or hibernation. No suitable features were observed.

The site was thought to be of low value to foraging or commuting bats, as there was very limited vegetation to attract invertebrates.

There were no signs of Badger activity within the site, and it was considered unsuitable for reptiles and amphibians, as there were no permanent or ephemeral still water or wetland features, no potential refugia or hibernacula and no suitable foraging areas. As such, the presence of reptiles, Great Crested Newts, or other amphibians is unlikely.

Although no evidence of reptiles or amphibians was found, there is potential for small mammals to be present on site. As such, care should be taken at all times during any vegetation removal and topsoil stripping. Any small mammals disturbed or uncovered should either be caught by hand and relocated to a safe area or left to vacate the work site in their own time.

It was also possible to assess the potential importance of the habitats within the application site to invertebrates.

Since the majority of the site was bare ground and dry amenity grass, it was concluded that there was low potential for invertebrate assemblages, in particular those species listed as a priority in the UK Biodiversity Action Plan and/or Local Biodiversity Action Plan.

If excavations are to be undertaken, it should be noted that open trenches could potentially trap wildlife, especially if these fill up with water. If trenches cannot be infilled immediately then they will either be covered overnight or escape routes will be provided. These can be in the form of branches or boards placed on the bottom of the trench, with their upper ends above ground level and touching the sides, or sloping ends left in trenches.

1. INTRODUCTION

1.1 Background and survey objectives

In July 2022, NKM Associates was instructed by Ian Cooper, to carry out a Preliminary Ecological Appraisal of land to the southwest of 8 Carbone Hill, Northaw. This was undertaken to determine the presence of any important habitats or species which might be impacted on by potential development of the site.

A search of ecological data for the area revealed a number of records of European Protected Species, UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plan (LBAP) species within a 2.0 km radius of the site.

1.2 Site description

The site was dominated by bare ground and close mown amenity grass the latter very dry due to the drought conditions.

The remainder of the site consisted mature trees and shrubs around the boundaries, with bare earth underneath. Species included Alpen Rose *Rhododendron ferrugineum*, Western brackenfern *Pteridium aquilinum*, Arrow bamboo *Pseudosasa japonica*, Great Laurel *Rhododendron maximum*, Golden Bamboo *Pseudosasa aurea*, Common Holly *Ilex aquifolium*, Drooping sege *Carex pendula*, Cherry Laurel *Prunus laurocerasus*, Pontic rhododendron *Rhododendron ponticum*, Pacific rhododendron *macrophyllum*, Hawthorn, Oak, Leyland cypress, Ash, Hornbeam, Scots Pine, Holly, Sycamore, Spruce and Birch.

The Ordnance Survey Grid Reference is TL 29230 03680, centred on the middle of the site.

1.3 Proposed works

The site is to be redeveloped for residential use.

2. METHODOLOGY

2.1 Desk study

A detailed desk study was undertaken to determine the nature conservation designations and protected species that had been recorded within a 2.0 km radius of the site. This involved contacting statutory and non-statutory organisations, and then assimilating and reviewing the data provided.

The consultees for the desk study were:

- ❑ Welwyn Hatfield Planning website www.planning.welhat.gov.uk
- ❑ Multi Agency Geographic Information (MAGIC) website www.magic.gov.uk

2.2 Habitat survey

A Preliminary Ecological Appraisal was carried out across the whole of the survey site. It was conducted using standard JNCC (2003) techniques and methodologies.

The Phase 1 visit took place on 28th July 2022, in warm and bright conditions, with no wind.

2.3 Protected species survey

During the surveys the potential for other protected and important species was assessed. This included European Protected Species, legally protected species and Local Biodiversity Action Plan Species (and habitats).

2.3.1 Badgers

Badgers are generally nocturnal and evidence of their presence in an area often comes from field signs rather than sightings of the animals. Useful field signs include:

- ❑ Setts (main, outlying, annex or subsidiary)
- ❑ Tufts of hair caught on barbed wire fences
- ❑ Conspicuous Badger paths
- ❑ Footprints
- ❑ Latrines – small, excavated pits in which droppings are deposited;
- ❑ 'Snuffle holes' – small scrapes where Badgers have searched for insects and plant tubers
- ❑ Day nests – bundles of grass and other vegetation where Badgers may sleep above ground
- ❑ Scratch marks on trees (usually near the sett)

Daytime surveys looking for field signs can be carried out at any time of the year, and should be non-intrusive, but nocturnal surveys of setts (if required), are only likely to be effective from April to November, when Badgers are most active, and any cubs present will have emerged.

Main setts

These usually have a large number of holes with large spoil heaps, and the sett generally looks well used. They usually have well used paths to and from the sett and between sett entrances. Although normally the breeding sett is in continual use, it is possible to find a main sett that has become disused because of excessive digging or for some other reason, in which case it is recorded as a disused main sett.

Annex setts

These are always close to a main sett, usually less than 150 m away, and are usually connected to the main sett by one or more obvious, well worn paths. They consist of several holes, but are not necessarily in use all the time, even if the main sett is very active.

Subsidiary setts

These often these have only a few holes, are usually at least 50 m from a main sett, and do not have an obvious path connecting them with another sett. They are not continuously active.

Outlying setts

These usually only have one or two holes, often have little spoil outside the hole, have no obvious path connecting them with another sett, and are only used sporadically. When not in use by badgers, they are often taken over by foxes or even rabbits. However, they can still be recognised as badger setts by the shape of the tunnel (not the entrance hole), which is at least 250 mm in diameter and rounded or flattened oval in shape.

A search for evidence of Badger presence on site was undertaken as part of the Preliminary Ecological Appraisal.

2.3.2 Bats

To fully assess bat occupation of a particular site, the Bat Conservation Trust (2016) recommends that information gathered from a desk study of known bat records, and a daytime site walkover, is used to inform the type and extent of future bat survey work, potentially including nocturnal surveys.

The diurnal walkover provides an opportunity to check for signs of occupancy, such as droppings, scratch marks, feeding remains, carcasses, or even animals in residence, whilst nocturnal surveys (if required) allow numbers and species of bats to be confirmed. The latter are also used to determine the presence or absence of bats, where signs of bat activity are indeterminate or absent, but suitability of roosting is considered medium to high.

Roosting places vary depending on the species. Pipistrelles usually inhabit narrow cracks or cavities around the outside of buildings, but they will roost in similar niches inside larger barns. Typical sites include soffit spaces, gaps behind fascia boards and end rafters, crevices around the ends of projecting purlins, under warped or lifted roof and ridge tiles, or in gaps in stone and brickwork where mortar has dropped out.

Larger species such as Brown Long-eared Bats *Plecotus auritus*, Myotis bats (Natterer's *Myotis nattereri* and Whiskered/Brandt's *M. mystacinus*/*M. brandtii*), and Lesser Horseshoe Bats *Rhinolophus hipposideros*, like to roost in the roof voids of buildings, and can often be found hanging singly or in small groups from ridge boards or roof timbers, especially where they butt up against gable walls or chimney breasts. They especially favour older structures with timber frames. Here they squeeze into tight crevices making them difficult to observe.

Diurnal walkovers can be carried out at any time of the year, but nocturnal surveys should only be undertaken when bats are out of hibernation and in their summer roosts. The

recommended period is from May to September inclusive, with May to August optimum and September sub-optimum. The season can be extended into October, although particularly cold weather will render this inadvisable. Indeed, the air temperature at the start of each survey must be at least 10°C or above.

Nocturnal survey visits will be a minimum of two weeks apart, and the number of surveys is dependent on the evidence found or the suitability of the site to bats.

Where bats are found, or there is evidence of bat occupation or activity, i.e., that bat use is confirmed, the number and timing of nocturnal survey visits will be decided by the ecologist and will be appropriate for the type of roost. In general, at least two nocturnal surveys will be carried out, both of which can be emergence surveys, or one emergence and one dawn re-entry.

Where there is no evidence of bat presence, and no suitability for roosting, no nocturnal surveys will be needed.

For a site with no evidence but low suitability, just one nocturnal survey is required, this to be in the optimum period, and either an emergence or a dawn re-entry.

For medium suitability a minimum of two nocturnals are needed, of which one must be in the optimum period, and one must be a dawn re-entry survey. With high suitability, three nocturnals will be necessary, of which two must be in the optimum period. At least one of these must be a dawn re-entry survey, with the third visit either an emergence or a dawn re-entry.

For sites < 5 ha in size, and/or regularly shaped structures, at least two surveyors must be present, with more surveyors at larger sites and more complex buildings, e.g., those with multiple elevations and/or roof structures.

On 28th July a thorough inspection of trees on land to the southwest of 8 Carbone Hill was made by Neil Musgrave (Natural England bat licence No. 2020-44602-CLS-CLS).

8x42 binoculars and a Fenix TK75 torch were used. On this occasion an endoscope was not used.

The result of the survey is detailed in Section 3.

2.3.3 Birds

Most resident and migrant birds breed in the spring and summer, although Woodpigeons *Columba palumbus* and Collared Doves *Streptopelia decaocto* nest throughout the year, and as a result could be on eggs in almost any month.

In season, signs of breeding include singing males, display and copulation, birds gathering nesting materials, adults carrying food, calling chicks, etc.

In winter none of these activities may be occurring, so a survey for old nests and/or nest holes is the most reliable method of determining the presence or absence of breeding birds.

This was carried out during the Preliminary Ecological Appraisal, along with a general site walkover to identify the presence of foraging birds.

2.3.4 Great Crested Newts

A survey for Great Crested Newts (GCN) may be indicated when background information on distribution suggests that they may be present. More detailed indicators are:

- ❑ *Any historical records of Great Crested Newts on the site or in the general area*
- ❑ *A pond on or near the site (within around 500 m), even if it holds water only seasonally*
- ❑ *Sites with refuges (such as piles of logs or rubble), grassland, scrub, woodland or hedgerows within 500 m of a pond.*

There are several field survey methods which can be employed depending on the time of year:

- ❑ *Bottle or funnel trapping – adults ideally February to May, with June and July sub-optimal, and August to September for detection of larvae (i.e. young)*
- ❑ *Egg search – April to June ideally, with March and July sub-optimal*
- ❑ *Torch survey – March to May for adults, with February and June to July sub-optimal, and August to September for larvae*
- ❑ *Netting – March to May for adults, with February and June to July sub-optimal, and August to September for larvae*
- ❑ *Pitfall trapping – March to May and September for adults, with February, June to August and October sub-optimal*
- ❑ *Refuge search – April to September ideally, with March and October sub-optimal.*

The latter two methods involve terrestrial habitats, the others aquatic habitats, for which a minimum of 4 visits per year are recommended, with at least 2 visits between mid-April and mid-May to record peak numbers (English Nature, 2001).

None of these methods were carried out at land off Millers Close, as there was nothing to suggest that newts would be present.

2.3.5 Otters

Otters are nocturnal and are active all year round. They are large with an adult male reaching up to 1.2 m from nose to tail and weighing about 10 kg.

Feeding mainly on fish and amphibians, Otters live by undisturbed waters where there is plenty of cover, mostly by freshwater lakes, rivers and quiet small streams as well as some coasts.

An Otter may use over 40 km of river and needs many resting places throughout this range. A female otter will give birth to 1 to 3 cubs in a natal holt, which is often away from the main river and must be completely undisturbed. Field signs include:

- ❑ *Prints in soft mud;*
- ❑ *Spraints (faeces);*
- ❑ *Holts.*

A search for evidence of Otter presence on site was undertaken as part of the Preliminary Ecological Appraisal.

2.3.6 Reptiles

Commoner reptiles which may be encountered in rural areas include Grass Snake, Slow-worm *Anguis fragilis*, and Common Lizard *Zootoca vivipara*.

During the winter months, from mid-October to late February or early March, they are in hibernation, usually deep in underground hibernacula, such as holes and cracks in the ground, among rocks or the roots of large trees, down animal burrows, or in piles of rubble or stone.

In the spring and summer they live above ground in well-vegetated places, with Grass Snakes often near or in water. Being cold-blooded all reptiles like to bask, and can often be found in open places.

There are very few signs of reptile presence, but these include:

- ❑ Shedded skin (snakes);
- ❑ Eggs (but not Common Lizard which gives birth to live young).

All potential refugia on site were checked where possible as part of the Preliminary Ecological Appraisal.

2.3.7 Water Voles

The Water Vole is the largest of the British voles. It lives in a series of holes or burrows at the water's edge and can be found along the banks of ditches, streams, rivers, lakes and canals.

Although Water Voles live in colonies, the breeding females are territorial, each defining their contiguous territory with latrines during the breeding season. This lasts from March to October.

The Water Vole is herbivorous, feeding primarily on the lush aerial stems and leaves of waterside plants. Its activity is normally confined to the area within two metres of the watercourse, the bankside vegetation in this area not only essential for food, but also for cover from predators.

Water Vole activity can be assessed by looking for the following signs:

- ❑ Burrows;
- ❑ Faeces and latrines;
- ❑ Feeding stations;
- ❑ Runs;
- ❑ Paw prints in areas of soft mud;
- ❑ Feeding 'lawns';
- ❑ Predator field signs.

A search for evidence of Water Vole presence on site was undertaken as part of the Preliminary Ecological Appraisal.

3. RESULTS

3.1 Desk study

3.1.1 Designated sites

Statutory Sites

Within the 2.0 km search area there were two statutory sites, these being Northaw Great Wood Site of Special Scientific Interest (SSSI) and Local Nature Reserve (LNR) approximately 0.1 km to the north and Broxbourne Woods SSSI and Special Area of Conservation (SAC) approximately 2.0 km northeast.

Northaw Great Wood SSSI and LNR

Prominently situated in two valleys dissecting the London Clay plateau of south Hertfordshire are Great Wood and Well Wood which together comprise one of the county's most extensive areas of ancient hornbeam *Carpinus betulus* dominated woodland. The acid soils range from poorly to freely draining with a corresponding richness in plant communities. Traditional woodland management practices of coppice-with-standards and pollarding are still pursued, so ensuring survival for the site's important wildlife features.

Broxbourne Woods SSSI and SAC

The site is a series of woods lying mainly on the London Clay with some gravel deposits; the varied geology combines with the former land use to produce a mosaic of vegetation. Most of this large woodland block is ancient with associated areas of secondary woodland which have developed by natural succession on old fields or woodland glades.

Nationally the woods are regarded as the best remaining example of the south eastern Sessile Oak-Hornbeam woods with associated flora and fauna. The Pedunculate Oak-Hornbeam variant is also represented, adding variety to the site.

Northaw Great Wood lay to the north of the site and is separated from the site by a road, dwellings and their gardens. Broxbourne woods was separated by intervening land use, including main and local roads and residential areas. There was no direct connectivity to any of the designated sites, as such, the designated sites will not be impacted upon by the proposed development.

3.1.2 Protected species

A search of ecological data for the area revealed a number of records of European Protected Species, UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plan (LBAP) species within a 2.0 km radius of the site.

There were a number of bat records in the area. These included Brown Long-eared, Common and Soprano Pipistrelle and Noctule approximately 250 metres to the east, Brown Long-eared bat, Common Pipistrelle, Daubenton's and Natterer's approximately 750 m southwest.

Badgers no records of Badger were found.

Great Crested Newts no records of GCN were found.

Otters no records of GCN were found.

Water Vole no records of GCN were found.

3.2 Habitat survey

3.2.1 *Habitat descriptions*

The following habitats were recorded across the site:

- ❑ Bare ground;
- ❑ Amenity grass
- ❑ Scattered trees
- ❑ Introduced shrubs

These habitats are described below and are shown on the Phase 1 Habitat Survey map in Appendix 1.

Bare ground

The site was dominated by bare ground and close mown amenity grass the latter very dry due to the drought conditions (Figs. 1 – 4).



Figs. 1 & 2 Bare ground



Figs. 3 & 4 close mown amenity grass (L) and under the scattered trees and shrubs (R)

3.2.2 *Flora*

The botanical composition of each habitat was typical, and all species recorded were common and widespread.

No rare vascular plants were found, and there were no invasive or notifiable species.

A list of species observed is presented in Appendix 3.

3.3 Protected species survey

3.3.1 Badgers

No evidence of Badger presence was recorded, such as setts, tufts of hair, pathways, footprints or latrines.

3.3.2 Bats

All trees on site were surveyed for features such as decay cavities, woodpecker holes, fissures and exfoliating bark, that would be considered suitable for bat roosting and/or hibernation. No suitable features were observed.

The site was thought to be of low value to foraging or commuting bats, as there was very limited vegetation to attract invertebrates.

3.3.3 Birds

A total of just 4 species of bird were observed during the visit, all were Species of Low Conservation Concern (RSPB Green list).

No old or in-use birds' nests were found, although the hedgerows and trees did provide some suitable habitat for nesting.

A full list of species noted is given in Appendix 4.

3.3.4 Great Crested Newts

The site was considered highly unsuitable for amphibians, as it was very dry, with no permanent or ephemeral still water or wetland features, no potential refugia or hibernacula and no suitable foraging areas.

As such the presence of Great Crested Newts or other amphibians is considered unlikely.

3.3.5 Otters

No evidence of Otter was found during the survey.

3.3.6 Reptiles

The site was considered of very limited value to reptiles, as it was dominated by bare ground. Although some of the bare patches could be used for basking, there were no suitable foraging areas, and no potential refugia or hibernacula. Indeed, the presence of reptiles is considered unlikely.

3.3.7 Water Voles

A survey for Water Voles was undertaken as part of the Phase 1 Habitat Survey. This identified no evidence of Water Voles on or immediately around the site and are considered to be absent.

3.3.8 *Invertebrates*

As most of the site was dominated by bare ground, it was concluded that there was low potential for invertebrate assemblages, in particular those species listed as a priority in the UK Biodiversity Action Plan and/or Local Biodiversity Action Plan.

3.3.9 *Other species*

No other important or notable species were recorded during the site visit.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Site evaluation

The site was concluded to be of very limited wildlife interest.

The close mown amenity grass was very dry and suffering from the drought conditions whilst the rest of the site comprised bare soil, the latter extending under the trees and shrubs.

The site was not diverse in grasses or wildflowers, although it would hold some value for small mammals, and foraging birds.

A diurnal bat survey of the trees on site was carried out as part of the ecological appraisal. This revealed no signs of bat activity or occupation and were considered unsuitable for roosting bats.

Most of the site was thought to be of low value to foraging or commuting bats, as there was little vegetation to attract invertebrates, with no cover.

No evidence of breeding birds, particularly in the form of nests, was recorded on the land, although the surrounding hedgerows (outside the site boundary) were considered to hold some potential for nesting birds.

There were no signs of Otters or Water Voles and no evidence of Badger activity.

The site was unsuitable for reptiles and amphibians, due to a lack of any permanent or ephemeral still water or other wetland features, limited foraging opportunities, and no potential refugia or hibernacula.

It was concluded that there was low potential for invertebrate assemblages, in particular those species listed as a priority in the UK Biodiversity Action Plan and/or Local Biodiversity Action Plan. However, a total of three species of butterfly were noted, all common and widespread; Peacock, Small Tortoiseshell and Meadow Brown.

4.2 Possible impacts of proposed work and recommendations

Since all in-use bird's nests and their contents are protected from damage or destruction, any tree and shrub removal should be undertaken outside the period 1st March to 31st August inclusive. If this time frame cannot be avoided, a close inspection of the trees and shrubs to be removed should be undertaken prior to clearance. Work should not be carried out within a minimum of 5.0 metres of any in-use nest, although this distance could be more depending on the sensitivity of the species. Any in-use should be allowed to fledge before it is disturbed.

Although no evidence of reptiles or amphibians was found, the potential for small mammals to be present on site exists, and thus care should be taken at all times during any vegetation removal and topsoil stripping. Any small mammals disturbed or uncovered should either be caught by hand and relocated to a safe area or left to vacate the work site in their own time.

If excavations are to be undertaken, it should be noted that open trenches could potentially trap wildlife, especially if these fill up with water. If trenches cannot be infilled immediately then they will either be covered overnight or escape routes will be provided. These can be in the form of branches or boards placed on the bottom of the trench, with their upper ends above ground level and touching the sides, or sloping ends left in trenches.

4.3 Further surveys

If any tree or shrub/hedge removal cannot be timed appropriately to avoid the bird nesting period (considered to be March to August inclusive), then further surveys of the trees and/or shrubs to be removed will be required.

No other surveys are considered necessary.

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APPENDICES

Appendix 1: Phase 1 Habitat Survey Map

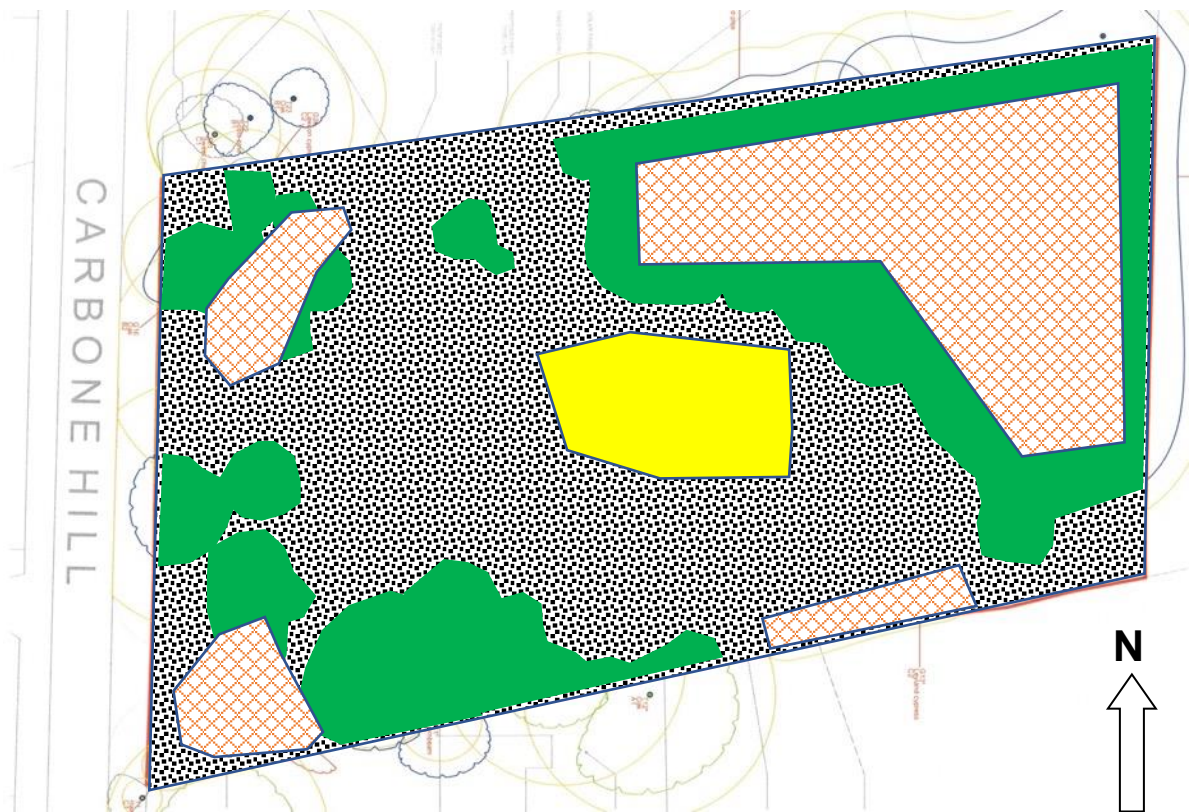
Appendix 2: Target Notes

Appendix 3: Plant species list

Appendix 4: Bird species list

Appendix 5: Relevant legislation

Appendix 1: Phase 1 Habitat Survey Map



Legend

- Survey Boundary
- Amenity grassland
- Scattered trees
- Bare ground
- Introduced shrubs

Appendix 2: Target Notes

No target notes.

Appendix 3: Plant species list

Latin name	Common name
<i>Rhododendron ferrugineum</i>	Alpen Rose
<i>Pteridium aquilinum</i>	Western Brackenfern
<i>Pseudosasa japonica</i>	Arrow Bamboo
<i>Rhododendron maximum</i>	Great Laurel

<i>Pseudosasa aurea</i>	Golden Bamboo
<i>Llex aquifolium</i>	Common Holly
<i>Carex pendula</i>	Dropping Sege
<i>Prunus laurocerasus</i>	Cherry Laurel
<i>Rhododendron ponticum</i>	Pontic Rhododendron
<i>rhododendron macrophyllum</i>	Pacific Rhododendron

Appendix 4: Bird species list

Common name	Latin name
Woodpigeon	<i>Columba palumbus</i>
Blackbird	<i>Turdus merula</i>
Robin	<i>Erithacus rubecula</i>
Blue tit	<i>Cyanistes caeruleus</i>

Appendix 5: Relevant legislation

5.1 – Bats

In England, Scotland and Wales, all bat species are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended), through inclusion in Schedule 5. In England and Wales this Act has been amended by the Countryside and Rights of Way Act 2000 (CRoW), which adds an extra offence, makes species offences arrestable, increases the time limits for some prosecutions, and increases penalties.

All bats are also included in Schedule 2 of the Conservation (Natural Habitats, & c.) Regulations 1994, (or Northern Ireland 1995) (the Habitats Regulations), which defines 'European protected species of animals'.

The above legislation can be summarised thus (Mitchell-Jones and McLeish, 2004):

- ❑ *Intentionally or deliberately kill, injure or capture (or take) bats;*
- ❑ *Deliberately disturb bats (whether in a roost or not);*
- ❑ *Recklessly disturb roosting bats or obstruct access to their roosts;*
- ❑ *Damage or destroy roosts;*
- ❑ *Possess or transport a bat or any part of a part of a bat, unless acquired legally;*
- ❑ *Sell (or offer for sale) or exchange bats, or parts of bats.*

The word 'roost' is not used in the legislation but is used here for simplicity. The actual wording is 'any structure or place which any wild animal...uses for shelter or protection' (WCA), or 'breeding site or resting place' (Habitats Regulations).

As bats generally have both a winter and a summer roost, the legislation is clear that all roosts are protected whether bats are in residence at the time or not.

5.2 – Birds

In Britain, all wild birds, their nests and eggs are protected under the Wildlife & Countryside Act 1981. There are penalties for:

- ❑ *Killing, injuring or capturing them, or attempting any of these;*
- ❑ *Taking or damaging the nest whilst in use;*
- ❑ *Taking or destroying the eggs.*

Neil K Musgrave B.Eng. (Hons)

NKM Associates

**Woodley House, Orchard Close, Mickleton,
Chipping Campden,
Gloucestershire, GL55 6TA**

Tel: 07732 657845

neil@nkmasscoiates.co.uk

Land to the southwest of 8 Carbone Hill, Northaw, Potters Bar

Preliminary Ecological Appraisal

To: Ian Cooper

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