



ecosupport

Preliminary Ecological Appraisal

Land off 20 Steele Close,
Eastleigh

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Client:

Mr Darren Murphy

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Report	Preliminary Ecological Appraisal
Site Name	Land at 20 Steele Close, Eastleigh
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Executive Summary

Ecosupport Ltd was instructed by Mr Darren Murphy to undertake a Preliminary Ecological Appraisal (PEA) of habitats associated with a parcel of land immediately adjacent to 20 Steele Close, Eastleigh in order to identify any potentially important ecological features that may be affected by the proposed development.

As part of this assessment, the following surveys were undertaken:

- Desktop survey completed using freely available online resources (February 2022)
- Extended phase I habitat survey (February 2022)
- Preliminary roost assessment (trees) (February 2022)

The following important ecological features were identified on site following the conclusion of the above survey work and may be subject to adverse impacts in the absence of suitable mitigation / compensation:

- 1 tree has ***moderate potential*** and two trees have ***low potential*** for roosting bats
- Potential for foraging and commuting bats
- Potential for common reptile species
- Potential for breeding and nesting birds
- Potential for Dormice in immediately adjacent habitat

In the absence of any mitigation measures, the proposed development is anticipated to result in ***certain adverse effects*** (significance level to be determined following additional survey work).

Suitable mitigation measures will be outlined within reports that will accompany this document following the conclusion of the additional survey work recommended.

1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was commissioned by My Darren Murphy to conduct a Preliminary Ecological Appraisal (PEA) of habitats associated with 20 Steele Close, Chandler's Ford. The purpose of this survey was to assess any ecological impacts that may arise as a result of the proposed development. The objectives of the survey were as follows:

- Identify and classify any priority habitats;
- Assess the ecological value of the site;
- Identify any signs of protected species and potential features that may support them;
- Make recommendations for further survey work as necessary;
- Make recommendations for any necessary ecological avoidance, mitigation and compensation measures;
- Make recommendations for site ecological enhancements as per planning policy.

NB If the development does not take place within 18 months¹ of this report then the findings of this survey will no longer be considered valid and may require updating.

1.2 Site Description & Location

The site comprises of areas of disturbed modified grassland, hedgerow borders, bare ground, hard standing and ornamental shrubs. To the north of the site are some mature trees that lean into the site and were therefore included in the initial survey. The site is located at 20 Steele Close, Chandler's Ford, Eastleigh Hampshire, SO53 3AA (centred on OS grid reference SU 4419 0271) (**Fig 1**).

The surrounding landscape includes a small area of woodland to the North of the site, Oakmount Road and the M3 to the East (including a corridor of deciduous woodland bounding the motorway), and residential properties to the South and West. The wider environment is urbanised with the site situated in the middle of Chandler's Ford.

¹ <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

Figure 1. The redline displays the site boundary to be impacted by the proposed development (March 2022).



1.3 Proposed Development

The proposals entail the construction of one detached dwelling with an associated garden and off-road parking (**Fig 2**).

2.0 RELEVANT LEGISLATION AND POLICY

2.1 Legislation

2.1.1 *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (2019)*

This instrument makes changes to the three existing instruments which transpose the Habitats and Wild Birds Directives so that they continue to work (are operable) upon the UK's exit from the European Union (EU). These include The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Marine Habitats and Species Regulations 2017. This instrument also amends section 27 of the Wildlife and Countryside Act 1981 to ensure existing protections continue. The intention is to ensure habitat and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU.

This transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

In order for activities that would be likely to result in a breach of species protection under the regulations to legally take place, a European Protected Species (EPS) licence must first be obtained from Natural England.

2.1.2 *The Wildlife and Countryside Act (1981) (as amended)*

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

2.1.3 *The Countryside and Rights of Way Act (2000)*

This Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

2.1.4 *NERC Act*

The Natural Environment and Rural Communities (NERC) Act 2006 requires that public bodies have due regard to the conservation of biodiversity. This means that Planning authorities must consider biodiversity when planning or undertaking activities. Section 41 of the Act lists species found in England which were identified as requiring action under the UK Biodiversity Action Plan and which continue to be regarded as conservation priorities under the *UK Post – 2010 Biodiversity Framework*.

2.1.5 Protection of Badgers Act

The Protection of Badgers Act (1992) relates to the welfare of Badgers (*Meles meles*) as opposed to nature conservation considerations. The Act prevents:

- The wilful killing, injury, ill treatment or taking of Badgers and / or
- Interference with a Badger sett
- Damaging or destroying all or part of a sett
- Causing a dog to enter a set and
- Disturbing a Badger while it is occupying a sett

Provisions are included within the Act to allow for the lawful licensing of certain activities that would otherwise constitute an offence under the Act.

2.1.6 Overview of Legal Protection of Bats

All bat species, and their roosts, are afforded full legal protection in the UK, by a selection of legislation (both domestic and international). Under this collection of legislation, it is an offence to:

- Deliberately take, injure or kill a wild bat
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats
- Damage or destroy a bat roost or maternity site (even if bats are not occupying a roost at the time of such impact)
- Intentionally or recklessly obstruct access to a bat roost

This interpretation is provided by the Bat Conservation Trust (2019).

2.2 Policy

2.2.1 National

Section 15 of the National Planning Policy Framework (NPPF, 2021) 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural environment. They should do this by protecting and enhancing sites of biodiversity and minimising impacts on and providing net gains for biodiversity, including establishing coherent ecological networks.

The plan states to protect and enhance biodiversity plans should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks. This includes the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them. Plans should identify the protection and recovery of priority species and opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.2.2 Local – Eastleigh Borough Council

New Strategic Policy S10 'Green Infrastructure' is subject to proposed amendments that are currently out to public consultation. These include re-numbering the Policy to S9 Green Infrastructure which is still to seek the provision of connected habitats, linking the network of designated sites and existing priority sites.

This new strategic policy cross-refers to new Policy DM11 Nature Conservation which is also proposed to be amended to read...

'Policy DM11, Nature conservation

General Approach

1. The Council will work with statutory and voluntary agencies and developers, and will determine planning applications, to:

- a. Protect, conserve and enhance all:*
- i. international, national and local nature conservation designations; and*
 - ii. networks of natural habitats and features, including the Local Ecological Network, Priority Biodiversity Areas and Priority Biodiversity Links, watercourses, wetland complexes, woodland trees, and trees and hedgerows important to biodiversity and local character;*

and facilitate their adaptation to climate change wherever possible;

b. Assist in achieving national, county and local biodiversity targets as set out in Biodiversity Action Plans (BAPs);

c. Seek a net gain of biodiversity on all development sites (including sites for redevelopment) through the protection, enhancement and connection of existing and provision of new habitats and features of nature conservation interest compatible with the native biodiversity characteristics of the Borough, having regard to local geodiversity and soils; and

d. Contribute to major elements of the PfSH Green Infrastructure Strategy and other strategies for the provision and enhancement of multifunctional green infrastructure including green routes, ecological networks and biodiversity enhancements (see strategic policy S910).

International Designations

2. Development which is likely (either individually or in combination with other developments) to adversely affect the integrity of an international or European nature conservation site will not be permitted subject only to imperative reasons of overriding public interest in the absence of alternative solutions. A 'project level' Habitat Regulations Assessment will be required. Any mitigation measures required to ensure no adverse impact must be implemented at the appropriate time.

3. The Council will work with PfSH, Natural England, the Environment Agency and other wildlife organisations to develop and implement with developers a strategic approach to the protection and enhancement of international and European sites from the direct and indirect effects of development. Within Eastleigh Borough this will include:

*a. Implementing:
i. the Solent Recreation Mitigation Strategy (requiring contributions from residential developments within 5.6 kilometres of the Solent Special Protection Area to the Strategy); and
ii. the interim and any future New Forest Recreation Mitigation Strategy if required; or alternative agreed site specific measures to address recreational disturbance;*

b. preserving the water quality and flows within the Itchen and Hamble, Southampton Water and Solent;

c. protecting the River Itchen SAC, in particular the maintenance and where appropriate restoration of habitats and qualifying species to favourable conservation status (as defined by article 1 of the Habitats Directive); and

d. seeking contributions towards measures set out in the Southern Damsely Conservation Strategy (or other strategy) specifically to deliver biodiversity net gain.

National and Local Designations

4. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on a Site of Special Scientific Interest (SSSI), Site of Importance for Nature Conservation (SINC) or Local Nature Reserve (LNR) as shown on the policies map (or on a more recent plan provided by the Hampshire Biodiversity Information Centre) unless it can be demonstrated that:

- a. there are no alternative solutions;
- b. the adverse effects are unavoidable;
- c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;
- d. there is an overall biodiversity net gain; and
- e. if there are any residual adverse effects, the benefits of the development clearly outweigh the adverse effects on the nature conservation value of the site and any broader impacts on national and local designations.

Priority habitats, protected and priority species and the local ecological network

5. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on priority habitats, protected or priority species, or on the local ecological network unless it can be demonstrated that:

- a. there are no alternative solutions;
- b. the adverse effects are unavoidable;
- c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;
- d. there is an overall biodiversity net gain; and
- e. if there are any residual adverse effects, the benefits of the development clearly outweigh the adverse effects on priority habitats, priority and protected species, and the local ecological network.

Irreplaceable habitats

6. Development will not be permitted if it results in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons and a suitable compensation strategy exists.

Buffers

7. Buffers free from development will be provided to designated sites to avoid/mitigate impacts, including recreational impact and impacts on edge habitats, and to maintain dark skies.

Surveys

8. Development will not be permitted unless it can be demonstrated that:

- a. there have been thorough habitat and species surveys;
- b. the great crested newt strategic survey and strategy have been considered in all developments within 500m of a great crested newt pond; and
- c. the strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat networks.'

2.3 Biodiversity Action Plans & UK Post-2010 Biodiversity Framework

The UK Post-2010 Biodiversity Framework (JNCC & DEFRA, 2010) supersedes the UK Biodiversity Action Plan 1992-2012 (UKBAP), setting out goals relating to nature conservation at a UK scale, for example the reduction and reversal in the decline of threatened species and improving the status of biodiversity. The specific habitats and species contained within the UKBAP continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework, and are required to be a material consideration in the planning process under the 2019 NPPF.

3.0 METHODOLOGY

3.1 Desk Study

3.1.1 Designated sites and priority habitat

Given the scale of proposals it was not considered proportionate to submit a full data request to the local records centre however, a search using online resources was undertaken

3.1.2 Waterbodies

Any ponds located within 250m of the proposed development were searched for using Ordnance Survey maps and available aerial images.

3.2 Field Survey

3.2.1 Habitats

The field survey work which forms the basis of the findings of this report was carried out by Leah Murphy under the supervision of Lyndsey McBean BSc (Hons) PGCert CIEEM (class level I bat licence number 2018-38386-CLS-CLS; class level I Dormouse licence number 2020-44360-CLS-CLS) Project Ecologist with Ecosupport Ltd (4 years' post-graduation experience) with assistance from Philip Hemborough on the 25th of February 2022.

Habitats on site pre-development were identified in accordance with the categories specified for a UK Habitats survey, using Habitat Definitions Version 1.1 (UKHab Ltd., 2020). This was chosen as an appropriate habitat categorisation system as it fits within the Biodiversity Metric 3.0 calculation.

UKHab represents a relatively new method for classifying habitats which has been produced to provide an up-to-date replacement for the current industry standard phase 1 survey method. One of the main benefits of UKHab is that it supports the evaluation of habitats for ECIA and no net loss/ net gain analysis, providing a more detailed interpretation of habitat types, which is important for assessing the distinctiveness and condition of habitats against which biodiversity net gain is measured.

The standard UK Habs survey methodology has been 'extended' in this report to include the following:

- Floral species lists for each identified habitat;
- Descriptions of habitat structure, the evidence of management and a broad assessment of habitat condition;
- Mapping of additional habitat types (e.g. hardstanding);
- Identification of Priority Habitats under Section 41 of the NERC Act;
- Evidence of, or potential for, the presence of certain species/groups

3.2.2 Badger

The site was thoroughly searched for evidence of use by Badgers (*Meles meles*), with the specific aim of identifying the presence and location of any setts. In accordance with the *Badgers and Development: A Guide to Best Practice and Licensing* (Natural England, 2011) guidance, the survey accounted for a 30m from the site's boundary (observed where possible

i.e. does not conflict with private dwellings). Evidence of Badgers could include latrines, dung pits, feeding remains and foraging evidence, trails and setts.

3.2.3 Bats

An assessment was made of the suitability of the trees on site to support roosting bats based on the presence of any Potential Roost Features (PRFs). This involved the use of 8 x 42 close focus binoculars and a high-powered torch (where required) for a more detailed inspection of any features along with an internal inspection of the accessible loft space. The survey conformed to current best practice guidance as described *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016) and was undertaken by Leah Murphy under the guidance of Lyndsey McBean (NE class level I bat licence number 2018-38386-CLS-CLS) on the 25th of February 2022.

3.3 Assessment Methodology

3.3.1 Introduction

The methodology for the assessment of the likely ecological effects of the proposed development is based on IEEM's *Guidelines for Ecological Assessment in the UK* (CIEEM 2018). Although this assessment does not constitute a formal Ecological/ Environmental Impact Assessment, the IEEM guidelines provide a useful framework for assessing ecological impacts at any level.

3.3.2 Valuation

Features of ecological interest are valued on a geographic scale. Value is assigned on the basis of legal protection, national and local biodiversity policy and cultural and/or social significance.

3.4 Limitations

Although the survey was taken outside the optimum timing for the identification of botanical interest, it was considered that the majority of species present could be suitably identified; this was therefore not considered to represent a significant limitation to the overall assessment.

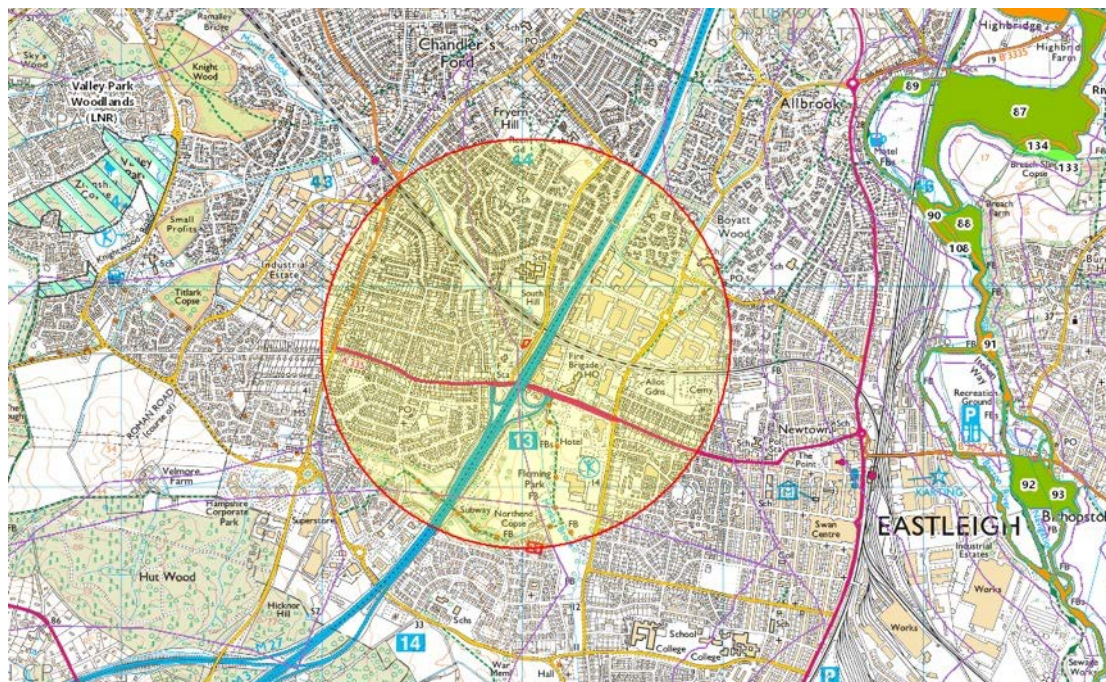
4.0 ECOLOGICAL BASELINE

4.1 Designated Sites

4.1.1 Statutory

The online data search showed no statutory designated sites within 1km of the proposed development (shown in **Fig 2**).

Figure 3. Map which indicates the proximity of the site to the nearby statutory designations.



4.1.2 Non-Statutory

The online data search showed no non-statutory designated sites within 1km of the proposed development (shown in **Fig 3**).

4.2 Vegetation Survey Results

The vegetation within the site has been described below using the broad Phase I habitat classification terminology as described with JNCC (2010). The below species noted should not be considered an exhaustive list and instead refer to dominant, characteristic and other noteworthy species associated with each community within the survey area. The habitat types on site comprise of:

- g4 (230) Vegetated Garden
- u1b6- Developed Land, Sealed Surface
- u1c- Bare Ground
- h2b- Hedgerow
- w1g7- Other Broadleaved Woodland (immediately adjacent)

4.2.1 g4 (230)- Vegetated Garden

Modified grassland is the dominant habitat making up most of the site with grass being of a very short sward height. Species present include Perennial Ryegrass (*Lolium perenne*), Germander Speedwell (*Veronica chamaedrys*), Broadleaved Plantain (*Plantago major*), Catsear (*Hypochaeris radicata*), Ribwort Plantain (*Plantago lanceolata*), Buttercup (*Ranunculus sp.*), Lawn Moss, Celandine (*Ficaria verna*), and Ground Ivy (*Glechoma hederacea*). Areas also appear to be have been previously disturbed with patches of bare earth scattered throughout the grassland, however, this is now regrowing (**Fig 4**).

Figure 4. Area of modified grassland which is the dominating habitat on site (February 2022).



To the south-east of the site is an ornamental shrub archway separating the site from the garden associated with 20 Steele Close. Along the south border of the site are also occasional planted ornamental shrubs (**Fig 5**).

Figure 5. Side view of ornamental shrub archway to south-east of the site (February 2022).



4.2.2 u1b6- Developed Land, Sealed Surface

To the South of the site there is a driveway that extends past the house into a parking area. There is a very light covering of moss around the edges of the concrete but otherwise this habitat is relatively uninhabitable to flora species (**Fig 6**).

Figure 6. Hard standing driveway at the South entrance to the site (February 2022).



4.2.3 u1c-Bare Ground

To the north of the site is very shaded by the woodland behind the site and has therefore very little flora species. There are small tufts of Perennial Ryegrass (*Lolium perenne*) in places and a few bits of Ground Ivy (*Glechoma hederacea*) (**Fig 7**). To the west of the site, there is also a planter containing bare ground habitat. Species in the planter were more extensive and included Lords and Ladies (*Arum maculatum*), Petty Spurge (*Euphobia peplus*), Creeping Buttercup (*Ranunculus repens*), Celandine (*Ficaria verna*), Ribwort Plantain (*Plantago lanceolata*) and Ground Ivy (**Fig 8**).

Figure 7. Area of bare ground to the North of the site shaded by woodland (February 2022).



Figure 8. Bare ground habitat in planter to the west of the site (February 2022).



4.2.4 h2b- Hedgerow

The east of the site is bordered by a planted hedgerow. The hedgerow is made up of ornamental plants to the south and Hawthorn (*Crataegus monogyna*) to the north with the occasional Ash (*Fraxinus excelsior*). There is very little understory due to dense coverage from trees behind the hedgerow, but species include Ivy (*Hedera helix*), Lords and Ladies (*Arum maculatum*), Holly (*Ilex aquifolium*) and Bramble (*Rubus fruticosus*) (**Fig 9 & 10**).

Figure 9. South half of hedge made up of ornamental species (February 2022).



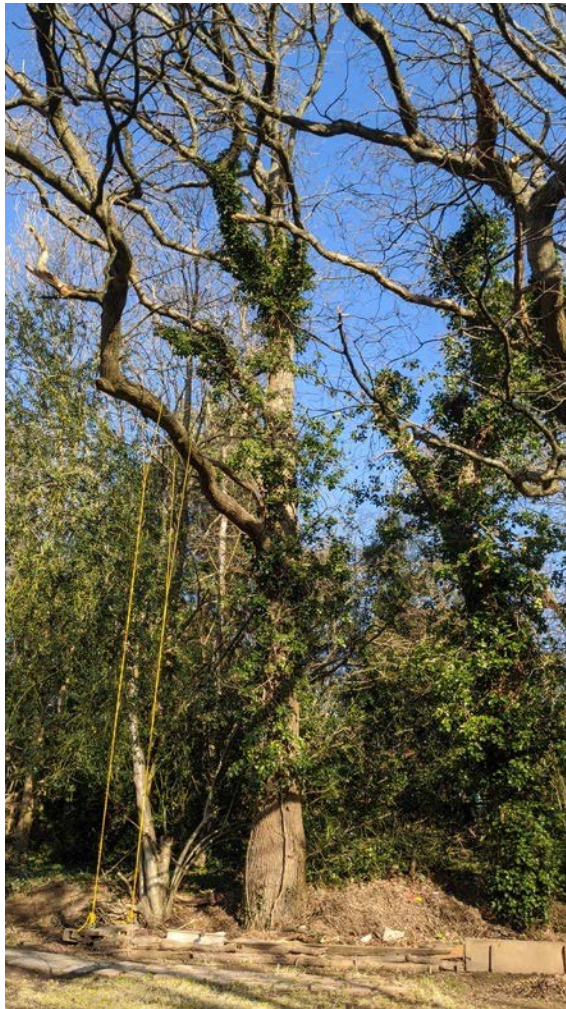
Figure 10. North side of hedge made up of Hawthorn (February 2022).



4.2.5 w1g7- Other Broadleaved Woodland

The final habitat type is woodland which is not on site but some of the mature trees within the woodland lean over the site boundary (**Fig 11**). Three of these trees supported bat potential and these have been described in greater detail in **Section 4.3.2** as part of the preliminary roost assessment.

Figure 11. Woodland at north of site with trees leaning into the site (February 2022).



4.3 Bat Survey Results

4.3.1 Preliminary Roost Assessment (trees)

Three trees on the North boundary of the site held bat potential which is shown below (Figs 11-13).

Figure 12. Tree 12 located to the West of the North boundary. Low potential due to ivy cover (February 2022).



Figure 13. Tree 10 located in the middle of the North boundary. Moderate potential due to ivy cover and small hole in branch (February 2022).

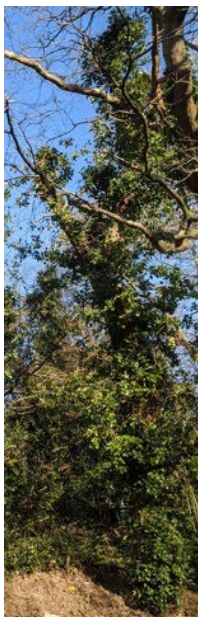
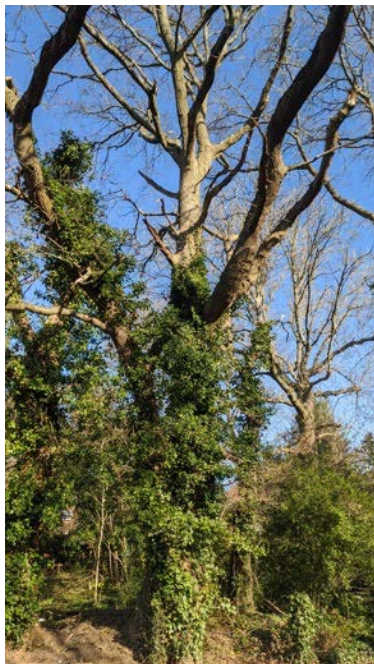


Figure 13. Tree 8 located to the East side of the North boundary. Low potential due to ivy cover (February 2022).



4.3.2 Foraging and Commuting Habitat

The amenity grassland, bare ground and hard standing which dominates the majority of the site is of low value to foraging bats due to its structural homogeneity and low flora diversity. The hedgerow borders however, and woodland habitat are considered to be favourable for commuting and foraging bats, with nearby vegetated road verges offering corridors for bats between habitats. Therefore, habitats located along the boundaries are of **low potential** for commuting and foraging bats.

4.4 Badgers

4.4.1 Site Survey

During the PEA, no evidence of resident Badgers was noted on or around site. The woodland behind the site, however showed signs of mammal trails but it cannot be conclusively said whether these are from badgers or not. The hedgerow border offers some suitability and therefore it is considered to be of **low potential** for foraging Badgers.

4.5 Reptiles

4.5.1 On Site Suitability

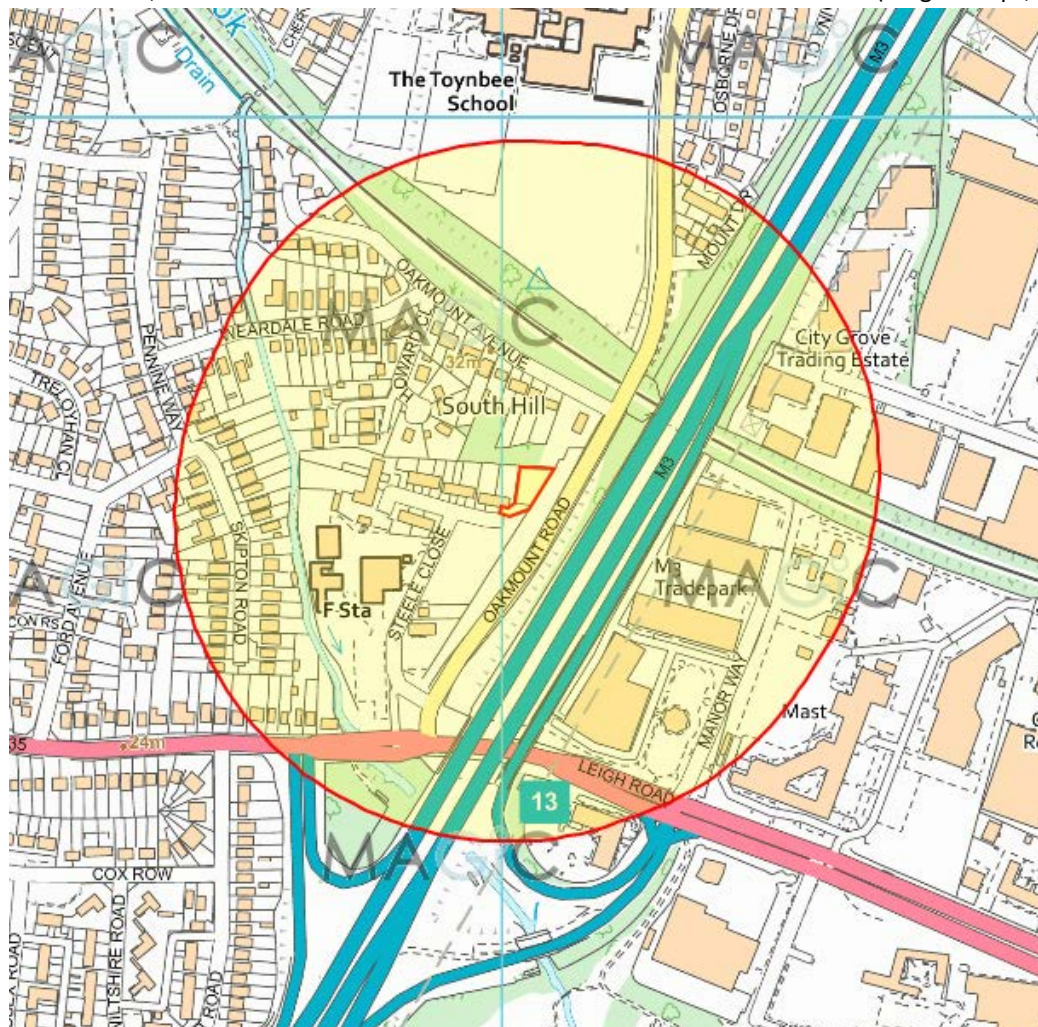
The grassland areas on site are of a low sward height and forb diversity resulting in a lack of heterogenous structure favoured by reptiles. Despite this, degraded reptile mats were noted on site which suggests surveys have been completed on the site historically. To the north-east of the site there are several piles of leaves and debris which may offer a suitable location for hibernating reptiles as well as the hedgerow and woodland understory offering cover for common reptile species such as Slow Worms (*Anguis fragilis*). All being taken into account; it is considered the site is of **low potential** for reptiles.

4.6 Great Crested Newts

4.6.1 Waterbodies Within 250m

No water bodies were identified within 250m of the proposed site (**Fig 14**).

Figure 14. Location of ponds within 250m of the site. The inner red outline indicates the approximate site location, and the circle indicates the 250m buffer around the site (Magic Maps, 2022).



4.6.2 On Site Suitability

Like with reptiles, the on-site habitats are not favourable to newts but the leaf litter and understory to the woodland and hedgerow could provide some shelter to commuting or hibernating GCN.

4.6.3 Evaluation

As there are no records of GCN within 1km of the site, no ponds within 250m of the site and connectivity from the surrounding area is broken up by roads, including the M3 to the East, the site is considered to hold **negligible potential** for GCN.

4.7 Hazel Dormouse

4.7.1 On Site Suitability

The hedgerow and woodland habitat could be considered suitable for Hazel Dormice and connectivity to other nearby habitats is maintained through hedgerows and tree lines that follow the nearby main roads (and adjacent to this the M3 corridor). The site itself, however, does not support the variety of native wooded habitats favoured by Dormiceis with the suitable habitats only along the borders of the site. Therefore, it is considered the site is of **moderate potential** for Hazel Dormice within immediately adjacent habitat.

4.8 Nesting and Breeding Birds

4.8.1 On Site Suitability

During the PEA, no bird nests were recorded but the habitats on site offered suitable nesting potential to many garden species. It is considered the trees and hedgerow offer **low potential** for common nesting and breeding birds.

The habitats on site also provide opportunities for foraging birds from the wider landscape.

4.9 Other species

4.9.1 On Site Suitability

Hedgehogs may occasionally use the site for commuting and foraging purposes and the adjacent woodland provides sheltering opportunities.

5.0 LIKELY ECOLOGICAL IMPACTS IN ABSENCE OF MITIGATION

5.1 Introduction

The CIEEM guidelines (CIEEM 2018) require that the potential impacts of the proposals should be considered in absence of mitigation. In order for a significant adverse effect to occur, the feature being affected must be at least of local value. However, in some cases, features of less than local value may be protected by legislation and/or policy and these are also considered within the assessment. Although significant effects may be identified at this stage of the assessment, it is often possible to provide appropriate mitigation.

5.2 Site Preparation and Construction

5.2.1 Impacts to Designated Sites

Due to the lack of designated sites within close proximity and the scale of the proposed development, *it is considered no adverse impact is likely.*

5.2.2 Impacts to Habitats

The development will result in the loss of modified grassland and bare ground with these habitats considered to be of value to the site at *site level* of significance. The development will, however, be taking place adjacent to mature trees and hedgerow which could be harmed through dust deposition and root zone compaction (with these features considered to be of *local* value). *Therefore, a potential minor adverse impact upon habitats of value at the local level is possible.*

5.2.3 Impacts to Wildlife

There were a range of suitable habitats present on site noted which could be used by breeding and nesting birds. Therefore, an *adverse impact is possible* if clearance works are undertaken without adequate mitigation.

There are areas of habitat that could be used by common reptile species on-site. As such, removal of suitable habitat without adequate mitigation would constitute an offence under the W&CA, 1891 and It is considered this would result in a *minor adverse impact at a site-local level.*

Suitable habitat for foraging and commuting bats was also identified. Consequently, construction works could result in the disturbance of foraging habitat and commuting routes. In the absence of mitigation, this is considered to have a likely *minor adverse impact at a site-local level.*

Suitable habitat for foraging and commuting mammals, including Badger and Hedgehogs was identified. Consequently, any open excavations at night could result in the entrapment of any foraging and commuting small mammals, this has the potential to result in *adverse impacts* for these animals.

Damage of boundary habitat or on-site hedgerows, should adequate mitigation not be implemented, could result in disturbance to and loss Dormouse habitat and bat roosts. This would likely constitute a *adverse impact upon the local population and an adverse impact at a local-county level.*

5.3 Site Operation

5.3.1 Impacts to Wildlife

The development is taking place in an area within which night time lighting is minimal and therefore any additional lighting associated with the development could result in disturbance to bats along with any other nocturnal wildlife present). Therefore, a minor ***adverse impact is likely*** on any bats present in the vicinity due to lighting.

5.3.2 Impacts to Designated Sites

The net increase in houses on-site as a result of the development will have a significant impact on the nearby Solent & Southampton Water SPA/Ramsar through both an increase in recreational pressure and through the addition of increased nitrate input into the aquatic environments during the operational stage.

In addition, the site lies within 13.8km of the New Forest SPA which has recently been identified as the distance from the site in which recreational impact from any net increase in dwellings will result in a significant increase in recreational pressure to the designated site (Footprint Ecology, 2020).

6.0 RECOMMENDATIONS

6.1 Introduction

The below sections outline a number of recommendations for further survey work required to fully assess the potential ecological impacts of the development and ensure and proposed mitigation and compensation appropriate and proportionate. In addition to this, ecological enhancement measures are outlined to protect existing features of value on site and provide a biodiversity net gain post development.

6.2 Site Preparation and Construction

6.2.1 Avoidance of Nesting Birds

In order to avoid disturbance / harm to nesting birds or damage to their nests, all construction works impacting suitable habitat (i.e. tree, shrub and scrub removal) will be undertaken outside of the bird nesting season (bird nesting season is typically between March – August, dependent on weather). If this is not possible, any potential nesting sites must be checked by a suitably qualified Ecologist. If an active nest is identified a 5m buffer will be established, within which no works will be able to take place until the Ecologist has confirmed the fledglings have left the area of impact.

6.3.2 Protective Fencing

Tree protective fencing will protect boundary vegetation from direct impact and from severance or asphyxiation of the roots. Fences must be installed at the distance of the branch spread away from the tree trunk (British Standard 5837:2012 Trees in relation to construction) at a distance half the height of the tree and be of chestnut paling or of another similarly robust style of fencing. No vehicles will enter the protective ring fencing and no materials will be stored within their circumference. All protective fencing must be in place prior to any construction machinery arriving on site, before any works on site get underway, and will remain in place until all work is completed. This will minimise the level of disturbance within the boundary vegetation during construction.

6.3.3 Lighting during the Construction Phase

In order to avoid any disturbance to bats (and other potential nocturnal wildlife) construction works should be limited to daylight hours and should not be undertaken 30 minutes prior to dusk through to dawn. All lighting should be sensitive to the use of the site by nocturnal wildlife, for example by including low-level downward-facing / hooded lights that are sensor-operated where possible.

6.3.4 Avoidance of Entrapment during the Construction Phase

During construction, any excavations on site should be covered nightly and/or include a suitable escape ramp for the protection of wildlife e.g. Hedgehogs (a suitable escape ramp can be created using wooden planks placed at a 45-degree angle or provision of a sloping end wall). Any temporarily exposed open pipe systems should be covered.

6.3.5 Precautionary Measures for Reptiles

Habitats on-site should be continuously managed to a sward height of no higher than 15cm to discourage reptiles from dispersing within the site boundary prior to works commencing.

An updated walkover should be completed prior to work commencing to assess the site's suitability for reptiles and a reptile mitigation strategy should be produced should the site's suitability improve.

6.4 Mitigation for Operation Impacts

6.4.1 Sensitive Lighting Strategy

A document (*Guidance Note 08/18 Bats and Artificial Lighting in the UK*) has recently been produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented with a view to ensuring light spill onto the new roosts and flight lines to the woodland are kept at or below 1 Lux.

'Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires:

- *All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.*
- *A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.*
- *Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).*
- *Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.*
- *The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.*
- *Column heights should be carefully considered to minimise light spill.*
- *Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light.*
- *Luminaires should always be mounted on the horizontal, ie no upward tilt.*
- *Any external security lighting should be set on motion-sensors and short (1min) timers.*
- *As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed (Fig 15).*
- *The use of low-level bollard lighting for the driveway leading to the house can also be considered where appropriate.*

Figure 15. (a) Shield ‘barn doors’ (b) cowl hood; (c) shield and; (d) external louvre Images from ILP (2011).



6.4.2 Solent SPAs

The site lies within the vicinity of the recreational zone of influence for the Solent & Southampton Water SPA. In order to mitigate for the likely increases in residential pressure upon this SPA, due to the high densities of wildfowl and waders for which the area is predominantly protected, the Solent Recreation Mitigation Strategy (SRMS) has been introduced in collaboration with Natural England, comprising a partnership of all local councils. Mitigation towards the SPA must be provided for all new recreational developments within the 5.6km disturbance zone of the SPA.

The simplest method of providing a necessary suitable and appropriate level of mitigation towards the SPAs associated with the Solent is via financial contributions. These contributions are used to enable the continued use of the coastline in a way that reduces the risks to the bird species of international importance that use the area, for example funding a team of rangers and implementing initiatives to encourage responsible dog walking (Solent Recreation Mitigation Partnership, 2014). It is considered that the contribution, in compliance with the recommendations presented within the SDMP, provides a suitable level of mitigation for the potential adverse impacts associated with the proposed scheme upon the Solent SPA.

In April 2021, the standard rates were updated to the following:

- £361 for 1 bedroom dwelling
- £522 for 2 bedroom dwelling
- £681 for 3 bedroom dwelling
- £801 for 4 bedroom dwelling
- £940 for 5 bedrooms or more
- Flat rate: £604

Therefore, a contribution will be made either prior to planning permission being granted, by completing the Agreement and sending the completed form along with mitigation contribution to the Planning Agreements Officer at the Local Planning Authority or by completing a Unilateral Undertaking before planning permission is granted with the per dwelling payment made before the development is implemented.

6.4.3 New Forest SPA

Research published by Footprint Ecology (2020) has identified that the majority of visitors to the New Forest designated sites on short visits/day trips originate within a 13.8km radius of the site. Day visitors to the park have been identified with resulting in impacts to sensitive areas through increases in habitat trampling, disturbance of/predation of ground nesting birds, fires, contamination (such as via dog fouling, sunscreen or contamination of water sources from campervans or road runoff), harvesting of sensitive species, visitor expectation of habitat management, and interference of grazing distribution through feeding or livestock or causing livestock worrying. It is predicted by the report there will be an increase of access levels to the National Park of 11% by 2036 as a result of increased housing develop locally.

To offset this increase, it is suggested proposed sites with no means for creating alternative green space should utilise financial contributions to increase visitor capacity of the National Park. Test Valley (2014) published a guide for mitigating against the impacts of increased recreational impact of which it is suggested a financial contribution of **£1300 per dwelling** would be sufficient.

6.5 Recommended Ecological Enhancements

Enhancements will be implemented to increase the value of the site in comparison to the baseline, ensuring a net gain for biodiversity.

6.5.1 Native Tree and Shrub Planting

In line with the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance (2012), any proposed planting on site must aim for a 70:30 ratio in favour of native species over non-natives and ornamentals. In addition, fruit bearing trees provide food sources for birds and small mammals during the autumn and winter and nest sites during the spring and summer.

Species that will be considered include:

Elm (<i>Ulmus</i> spp.)	Rowan (<i>Sorbus aucuparia</i>)
Alder Buckthorn (<i>Frangula alnus</i>)	Holly (<i>Ilex aquifolium</i>)
Blackthorn (<i>Prunus spinosa</i>)	Dogwood (<i>Cornus sanguinea</i>)
Wild Cherry (<i>Prunus avium</i>) Hawthorn (<i>Crataegus monogyna</i>)	Privet (<i>Ligustrum vulgare</i>)
Crab Apple (<i>Malus sylvestris</i>)	Dog Rose (<i>Rosa canina</i>)
	Guelder Rose (<i>Viburnum opulus</i>)

Elder (*Sambucus nigra*)

6.5.2 Bat and Bird Bricks

To act as biodiversity enhancement, the new development will incorporate two Swift bricks and one bat brick.

The 'CJ Wildlife swift maxi nesting box' with entrance via a CJ Wildlife 'Cambridge swift full-face brick' is recommended as it provides ideal nesting opportunities for Swifts and the full-face brick is available in different colours and can also be painted if necessary, to blend in with the surrounding brickwork. If this model is not suitable for the building specifications, an alternative swift box with internal floor space exceeding 400cm squared must be used. This feature should be installed at 6-7m above the ground, ensuring that there is unobstructed access for birds entering and leaving. The box should be installed under the eaves in shaded areas out of direct sunlight and away from windows.

The bat bricks used should be the Ibstock Bat Brick B as they are available in a variety of different brick colours and requires no maintenance (**Fig 16**). Both types of boxes should be positioned as close to the eaves as possible and away from windows and sources of artificial light.

Figure 16. The Ibstock bat brick 'B' that will be incorporated into the newly built unit.



6.5.3 Log Piles

Two log piles will be created on-site, one in the northern boundary and one on the western boundary. These will form ideal places of shelter for important species such as Hedgehogs, and a significant habitat resource for invertebrates, which in turn will benefit local foraging and commuting bird and bat species.

6.4.4 Hedgehog Home

As well as the log piles, a Hedgehog home will also be incorporated into the wider landscaping of the development to enhance sheltering opportunities for local Hedgehogs (such as Igloo Hedgehog home or Hogitat Hedgehog house) (**Fig 17**). This will provide a rapidly declining species with a place to shelter/hibernate.

Figure 17. Igloo Hedgehog House (Amazon, 2020).



7.0 CONCLUSION

A Preliminary Ecological Appraisal was undertaken of the parcel of land off 20 Steele Close in relation to the proposed development of the site. It is considered the land has low-moderate potential to support roosting bats in boundary trees, low potential for reptiles, low potential for breeding and nesting birds, low potential for foraging and commuting mammals, and low potential for Dormice. It is considered that all of these species (i.e. nesting birds, foraging and commuting mammals, reptiles, Dormice, bats) can be safeguarded via the implementation of sensitive timings and precautionary measures, all of which have been detailed in this report. These will ensure that the proposals comply in full with wildlife legislation and policy. Finally, a number of ecological features have been recommended to enhance the site's value for wildlife and increase biodiversity in the local area.

8.0 REFERENCES

Bright, P., Morris, P., & Mitchell-Jones, T., (2006) *The Dormouse Conservation Handbook*, 2nd Edition

CIEEM (2018). *Guidelines for Ecological Assessment in the UK and Ireland*. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists; Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

Eastleigh Borough Council (2006) *Eastleigh Borough Local Plan Review (2001-2011)*

HMSO (1989) *Wildlife and Countryside Act* (amended). HMSO, London.

HMSO (1992) *Protection of Badgers Act*. HMSO, London.

HMSO (2000) *The Countryside and Rights of Way Act*. HMSO, London.

HMSO (2006) *Natural Environment and Rural Communities Act*. HMSO, London.

HMSO (2017) *The Conservation of Habitats and Species Regulations*. Statutory Instrument 2010 No. 490. HMSO, London.

JNCC (2010) Handbook for Phase 1 Habitat Survey

JNCC (2010) Handbook for Phase 1 Habitat Survey

JNCC (2010) *Handbook for Phase 1 Habitat Survey*. Joint Nature Conservation Committee, Peterborough.

Natural England, 2011 *Badgers and Development: A Guide to Best Practice and Licensing*