

**LAND WEST OF ALLBROOK WAY, KNOWLE HILL,
EASTLEIGH, HAMPSHIRE**

ECOLOGICAL IMPACT ASSESSMENT

Final Document (Revision 1)

October 2024

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EclA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

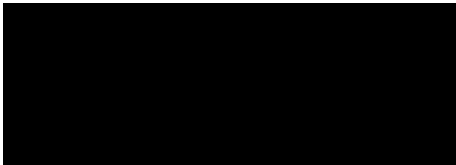
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ECOSA Quality Assurance Record

This report has been produced in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The Ecological Impact Assessment and report has been prepared in line with the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018) and survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

Description:	Ecological Impact Assessment
Produced For:	Bargate Homes Ltd.
Issue:	Final (Rev. 1)
Report Reference:	23.0064.0002.F1
Date of Issue:	17 th October 2024
Date of Survey Works:	Various dates between June 2023 and May 2024
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ECOLOGICAL IMPACT ASSESSMENT

Table of Contents

EXECUTIVE SUMMARY	1
1.0 INTRODUCTION	2
1.1 Background.....	2
1.2 The Site	2
1.3 Aims and Scope of Report.....	2
1.4 Site Proposals.....	3
2.0 PLANNING POLICY CONTEXT	4
2.1 Introduction	4
2.2 National Policy	4
2.3 Local Policy.....	5
3.0 METHODS.....	7
3.1 Introduction	7
3.2 Zone of Influence	7
3.3 Scoping.....	7
3.4 Desk Study	7
3.4.1 <i>Biological Records Centre</i>	7
3.4.2 <i>Multi-Agency Geographic Information for the Countryside</i>	8
3.4.3 <i>Other Sources of Information</i>	8
3.5 Field Survey.....	9
3.5.1 <i>Survey Methods</i>	9
3.5.2 <i>Survey Details</i>	10
3.5.3 <i>Field Survey Limitations</i>	10
3.6 Hazel Dormouse Survey.....	10
3.6.1 <i>Survey Methods</i>	10
3.6.2 <i>Survey Details</i>	11
3.6.3 <i>Survey Limitations</i>	12
3.7 Reptile Survey	12
3.7.1 <i>Survey Methods</i>	12
3.7.2 <i>Survey Details</i>	13
3.7.3 <i>Survey Limitations</i>	13
3.8 Great Crested Newt Survey.....	13
3.8.1 <i>Survey Methods</i>	13
3.8.2 <i>Survey Details</i>	15
3.8.3 <i>Survey Limitations</i>	16
3.9 Criteria used to Assess Ecological Value	17
4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION	18
4.1 Introduction	18
4.2 Statutory and Non-statutory Designated Sites	18
4.2.1 <i>Baseline Ecological Conditions</i>	18
4.2.2 <i>Evaluation</i>	20
4.3 Habitats.....	20
4.3.1 <i>Baseline Ecological Conditions</i>	20
4.3.2 <i>Evaluation</i>	23
4.4 Bats.....	23
4.4.1 <i>Baseline Ecological Conditions</i>	23
4.5 Otter.....	25

4.5.1	Baseline Ecological Conditions	25
4.6	Badger	25
4.6.1	Baseline Ecological Conditions	25
4.6.2	Evaluation	26
4.7	Hazel Dormouse	26
4.7.1	Baseline Ecological Conditions	26
4.8	Water Vole	26
4.8.1	Baseline Ecological Conditions	26
4.9	Birds	27
4.9.1	Baseline Ecological Conditions	27
4.9.2	Evaluation	27
4.10	Reptiles	27
4.10.1	Baseline Ecological Conditions	27
4.10.2	Evaluation	29
4.11	Great Crested Newt	29
4.11.1	Baseline Ecological Conditions	29
4.11.2	Evaluation	32
4.12	Invertebrates	33
4.12.1	Baseline Ecological Conditions	33
4.12.2	Evaluation	33
4.13	Other Relevant Species	34
4.13.1	Baseline Ecological Conditions	34
4.13.2	Evaluation	34
5.0	ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/	
ENHANCEMENT MEASURES	35	
5.1	Introduction	35
5.2	Scheme Design	35
5.3	Designated Sites	35
5.3.1	Potential Impacts and Effects	35
5.3.2	Mitigation Measures	36
5.3.3	Significance of Residual Effects	36
5.3.4	Compensation	36
5.3.5	Enhancement	36
5.4	Habitats	36
5.4.1	Potential Impacts and Effects	36
5.4.2	Mitigation Measures	36
5.4.3	Significance of Residual Effects	37
5.4.4	Compensation	37
5.4.5	Enhancement	37
5.5	Bats	37
5.5.1	Potential Impacts and Effects	37
5.5.2	Mitigation Measures	37
5.5.3	Significance of Residual Effects	37
5.5.4	Compensation	38
5.5.5	Enhancement	38
5.6	Badger	38
5.6.1	Potential Impacts and Effects	38
5.6.2	Mitigation Measures	38
5.6.3	Significance of Residual Effects	38
5.6.4	Compensation	38
5.6.5	Enhancement	38
5.7	Birds	39
5.7.1	Potential Impacts and Effects	39
5.7.2	Mitigation Measures	39
5.7.3	Significance of Residual Effects	39
5.7.4	Compensation	39
5.7.5	Enhancement	39
5.8	Reptiles	39
5.8.1	Potential Impacts and Effects	39

5.8.2	<i>Mitigation Measures</i>	40
5.8.3	<i>Significance of Residual Effects</i>	41
5.8.4	<i>Compensation</i>	41
5.8.5	<i>Enhancement</i>	41
5.9	Great Crested Newt.....	41
5.9.1	<i>Potential Impacts and Effects</i>	41
5.9.2	<i>Mitigation Measures</i>	41
5.9.3	<i>Significance of Residual Effects</i>	42
5.9.4	<i>Compensation</i>	42
5.9.5	<i>Enhancement</i>	42
5.10	Invertebrates.....	43
5.10.1	<i>Potential Impacts and Effects</i>	43
5.10.2	<i>Mitigation Measures</i>	43
5.10.3	<i>Significance of Residual Effects</i>	43
5.10.4	<i>Compensation</i>	43
5.10.5	<i>Enhancement</i>	43
5.11	Other Relevant Species.....	43
5.11.1	<i>Potential Impacts and Effects</i>	43
5.11.2	<i>Mitigation Measures</i>	43
5.11.3	<i>Significance of Residual Effects</i>	44
5.11.4	<i>Compensation</i>	44
5.11.5	<i>Enhancement</i>	44
5.12	Cumulative Effects.....	44
6.0	CONCLUSIONS	45
6.1	Conclusion.....	45
6.2	Updating Site Survey	45
7.0	REFERENCES	46
Map 1	Site Location Plan	
Map 2	Baseline Habitat Map	
Map 3	Hazel Dormouse Survey	
Map 4	Reptile Survey	
Map 5	Great Crested Newt Survey	
Appendix 1	Proposed Site Layout	
Appendix 2	Sites Designated for Nature Conservation	
Appendix 3	Relevant Legislation	
Appendix 4	Protected and Notable Species Appraisal Methods	
Appendix 5	Appraisal Criteria for Bats	
Appendix 6	Statutory Designated Sites within the Desktop Study Area	
Appendix 7	Baseline Habitats	

EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Bargate Homes Ltd to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Land West of Allbrook Way, Eastleigh. The site comprises a grassland field bounded by mature hedgerows and trees. The proposals entail the redevelopment of the site to provide 49 residential units. The main findings of the Ecological Impact Assessment are:

- The River Itchen SAC has been identified within the Zone of Influence. An appropriate financial contribution and nitrate offset will be provided to address identified impacts;
- The habitats present are relatively common and widespread including lowland mixed deciduous woodland, modified grassland, bramble scrub and non-native hedgerow;
- The site provides habitat for roosting, foraging and commuting bats, badger, breeding birds, slow-worm, grass snake, great crested newt in their terrestrial phase, invertebrates, European hedgehog and common toad;
- The proposals have the potential to result in the net loss of habitats within the site. There is also the potential for harm to slow-worm, grass snake, great crested newt, European hedgehog and common toad;
- Mitigation proposed includes sensitive timings of clearance works, a European Protected Species Mitigation (EPSM) licence in respect of great crested newt and translocation of great crested newt, slow-worm and grass snake to an off-site receptor;
- The proposals include new habitat such as native thicket planting, grassland and native hedgerows. Dwellings will incorporate new bat roost features and bird nesting features;
- Given the impacts identified, and the mitigation, compensation and enhancement measures proposed it is considered that the proposals accord with all relevant local and national planning policy;
- If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Bargate Homes Ltd to undertake an Ecological Impact Assessment to support a Reserved Matters Application (Planning reference: O/19/86980) for the redevelopment of Land West of Allbrook Way, Knowle Hill, Eastleigh SO50 4LZ (hereafter referred to as the site).

Previously, Species Ecological Consultancy were contracted to carry out an Ecological Impact Assessment (Species Ecological Consultancy, 2020) to support the outline planning application. A number of protected species surveys were carried out in 2018 as part of the works including bat activity surveys, otter surveys, breeding bird surveys, hazel dormouse surveys, reptile surveys and great crested newt surveys. Given that the previous survey works are now out of date, further survey works are required. It was agreed with Eastleigh Borough Council on 24th April 2023 that only the hazel dormouse, reptile and great crested newt surveys would require updating. The remaining survey works did not require updating due to the lack of change to the site and therefore it was considered that the results would likely be the same.

1.2 The Site

The site is located in Eastleigh, Hampshire, centred on National Grid Reference (NGR) SU 4557 2136 (**Map 1**).

The site comprises a grassland field bounded by woodland to the north, west and of the site, with a central hedgerow, a tree line to the south and a line of scrub to the east.

The wider landscape to the north-west of the site comprises woodland and ponds, and to the south-west lies a residential area. A public footpath runs alongside the western side of the site, between the site and the adjacent woodland. The A335 (Allbrook Way) runs alongside the eastern boundary of the site, beyond which lies further grassland fields.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study and relevant species-specific surveys carried out between 11th May 2023 and 8th November 2023. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or

compensate for significant adverse effects¹ ecological features and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;
- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²;
- To provide an assessment of the significance of any residual effects;
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

The proposals entail the redevelopment of the site to provide 49 residential units with associated landscaping, lighting and access.

The Ecological Impact Assessment is based on the proposals plan produced by Pegasus Group, dated 15th October 2024 (Drawing No. P23-0088_04_D) (**Appendix 1**).

Full planning permission is being sought during 2024 with construction proposed to commence soon after permission has been granted.

¹ For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.

² In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and 'Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Eastleigh Borough Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the most recent revised NPPF published in December 2023. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF *"Plans and decisions should apply a presumption in favour of sustainable development"*. However, Paragraph 182 goes on to state that *"The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."*

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 174 states that the planning system should contribute to and enhance the natural environment by *"...minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures..."*.

A number of principles are set out in Paragraph 180, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats³, including ancient woodland⁴. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in

³ The NPPF defines irreplaceable habitats as *"Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."*

⁴ Natural England defines ancient woodland as *"An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."*

place. Paragraph 180 also states *“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.”*. Paragraph 181 also sets out that potential SPAs, SACs and listed or proposed Ramsar sites or sites acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states *“the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat”*. Paragraph 99 states *“it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted”*.

2.3 Local Policy

The Eastleigh Borough Local Plan 2016-2036 was adopted on 25th April 2022. It sets out the policies and plans to guide future development to 2036 and replaced the ‘saved’ policies in the Adopted Local Plan 2001-2011. A number of policies relate to ecology:

- **Policy S9: Green Infrastructure**

In relation to ecology, this policy states that the council will seek to provide green stepping stones such as street trees, green roofs and walls, pocket parks and urban copses as well as connected habitats linking the network of designated sites and existing propriety habitats, taking account of the Hampshire ecological network map.

- **Policy DM10: Water and Waste Water**

This policy states that where new water supply or waste water infrastructure is required or proposed, the development will be phased alongside the provision of infrastructure to ensure compliance with the Habitats Regulations; that there is no deterioration of the status of water bodies; and the avoidance or mitigation of any other adverse impacts.

- **Policy DM11: Nature Conservation**

This policy states that developments should seek to protect, conserve and enhance international, national and local nature conservations designations

and networks of natural habitats. A 'project level' Habitats Regulations Assessment will be required where there are likely significant effects on international or European nature conservation sites. In particular, reference is made to the Solent, the New Forest and the River Itchen designated sites. The policy also states that a net gain of biodiversity will be sought on all development sites.

Development will not be permitted if it is likely to have adverse effects on priority habitats, protected or priority species, or on the local ecological network, unless it can be demonstrated that there are no alternative solutions, there is an overall biodiversity net gain or the benefits clearly outweigh the adverse effects.

In relation to ecological survey work, the policy states that development will not be permitted unless it can be demonstrated that there have been thorough habitat and species surveys conducted; a great crested newt strategic survey and strategy have been considered in all developments within 500 metres of a great crested newt pond; and a strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat network.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected⁵. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

3.4 Desk Study

3.4.1 Biological Records Centre

Hampshire Biodiversity Information Centre (HBIC) was consulted on 18th May 2023 for the following data:

- Records of non-statutory designated sites (Sites of Importance for Nature Conservation (SINCs)) within one kilometre of the site boundary. See **Appendix 2** for details;

⁵ The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2018).

- Records of legally protected and notable species (flora and fauna) within one kilometre of the site boundary, including Species of Principal Importance (**Appendix 3**); and
- Records of bats within two kilometres of the site boundary. Bat species are highly mobile and therefore the search radius is increased for this species group.

3.4.2 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2024) was reviewed on 9th October 2024 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. See **Appendix 2** for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences have been granted were reviewed. This information allows a greater understanding of the potential for European Protected Species to be present in the local area.

3.4.3 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

Information from a previous report by Species Ecological Consultancy (Species Ecological Consultancy, 2020) is referenced where relevant.

3.5 Field Survey

3.5.1 Survey Methods

The field survey followed UK Habitat Classification (UKHab) methodology (UKHab Ltd, 2023) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features. Habitats described in Section 4.0, have been mapped (**Map 2**) and photographs provided, where relevant.

The UKHab Survey Application, developed using the digital survey platform Coreo was used to map habitats in the field, collect the field survey data and photograph the site.

UKHab Survey

An assessment was made of all habitats within the site, which were classified based on the standardised UKHab survey methodology (UKHab Ltd, 2023). The UKHab classification system comprises two major parts, a hierarchical Primary Habitat system and a list of Secondary Codes. The classification of Primary Habitats is hierarchical with five levels:

Level 1: Major ecosystem, currently covering terrestrial, freshwater and coastal ecosystems.

Level 2: Nine ecosystem types, based upon the Mapping and Assessment of Ecosystems and their Services (MAES) typology and corresponding with major habitat types within the European Nature Information System (EUNIS) habitat classification.

Level 3: 20 broad habitat types, corresponding directly with UK Biodiversity Action Plan Broad Habitats and closely to EUNIS.

Level 4: 80 habitats, including 47 UK Biodiversity Action Plan Priority Habitats, and further splits of Level 3 habitats.

Level 5: 104 habitats, including 69 Habitats Directive Annex 1 habitats and further splits of Level 4 habitats.

It should be noted that not all habitats will be classified to Level 5, for example modified grassland is classified at Level 3 and no Level 4 or Level 5 habitat is

applicable. In addition, where Level 4 or 5 habitats are considered to be present on site there may be a requirement for further surveys by a specialist botanist to confirm or classify these habitat types.

During the field survey notes and photographs were taken in order to evidence the surveyor's classification of each habitat type.

Any invasive species⁶ encountered as an incidental result of the survey were recorded.

Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

3.5.2 Survey Details

The field survey was carried out by Hugh Turner, Principal Ecologist of ECOSA, and Kate Carroll, Field Ecologist of ECOSA on 26th June 2023. The weather conditions were dry with approximately 88% cloud cover, an ambient temperature of 21°C and a moderate breeze.

During the survey, the surveyor was equipped with 10x40 binoculars and a digital camera.

3.5.3 Field Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

3.6 Hazel Dormouse Survey

3.6.1 Survey Methods

The hazel dormouse survey was undertaken in line with current best practice guidelines (Bright, et al., 2006).

⁶ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

The hazel dormouse survey involved the erection of 50 dormouse tubes within suitable dormouse habitat throughout the site at intervals of approximately ten metres. The locations of these tubes are marked on **Map 3**. The nest tubes were subsequently checked for evidence of dormouse on a monthly basis between June and November 2023.

In accordance with survey guidance, a value is assigned to each month, which is weighted depending on the likelihood of finding evidence of dormouse in a given month. These scores are based on the erection of 50 dormouse nest tubes. The values for each month that the tubes are in place are then added together. In accordance with survey guidance, absence of dormouse should not be assumed for a search effort of less than 20 points⁷. **Table 1** shows points assigned for each month during the survey undertaken.

Table 1: Hazel dormouse survey Index of Probability scores

Month	Index of Probability Score
June	2
July	2
August	5
September	7
October	2
November	2
Total	<u>20</u>

The level of survey effort carried out at site currently provides a search effort of 20, which allows a robust assessment of the likely absence of dormouse at the site to be undertaken.

3.6.2 Survey Details

The dormouse tubes were erected on 25th May 2023 with monthly visits undertaken between June and November 2023. **Table 2** provides details of each hazel dormouse survey.

⁷ Each month, between April and November, inclusive is assigned an index of probability score, based on optimum survey timings.

Table 2: Hazel dormouse survey details

Survey Date	Weather Conditions
26 th June 2023	Dry, 21°C, 88% cloud cover and a moderate breeze
26 th July 2023	Overcast, 18°C, 100% cloud cover and a moderate breeze
29 th August 2023	Overcast, 18°C, 70% cloud cover and a light breeze
27 th September 2023	Dry, 19°C, 20% cloud cover and a light breeze
8 th November 2023	Overcast, 14°C, 100% cloud cover and a fresh breeze

The hazel dormouse surveys were co-ordinated and led by Hugh Turner, Principal Ecologist of ECOSA assisted by suitably qualified ECOSA surveyors.

The survey was undertaken using 50 dormouse tubes comprising corrugated plastic tubes of standard dimensions (Bright, et al., 2006) with plywood insert secured in the relevant habitat with heavy duty garden wire.

3.6.3 *Survey Limitations*

A hazel dormouse survey was not carried out in October, however as none of the tubes were disturbed or lost, it is considered that the November survey counted for both the October and November check.

3.7 *Reptile Survey*

3.7.1 *Survey Methods*

The reptile survey was undertaken in accordance with current best practice guidelines (Froglife, 2015).

The reptile survey consisted of the laying bitumen felt mats approximately 500 millimetres x 500 millimetres in areas of suitable habitat on the site. Typically, this included areas of suitable habitat with good exposure to the sun. The mats were distributed in all areas considered to offer suitable reptile habitat. The locations of these mats are marked on **Map 4**.

The use of such refugia is an effective way of surveying for all species of reptile and current survey guidance states that seven inspections are sufficient to confirm presence/likely absence. Survey visits were undertaken in marginal weather conditions such as cold but sunny weather or hazy and somewhat overcast conditions, as this will maximise the thermal value of the refugia for basking reptiles.

During each visit surveyors also undertook a visual inspection survey of other suitable refugia in the site and other suitable basking locations. During the survey a note was also made of any suitable hibernation features present within the site.

3.7.2 Survey Details

A total of 60 reptile refugia were distributed on 2nd June 2023 with seven inspection visits undertaken between 20th June 2023 and 10th August 2023. **Table 3** provides details of each reptile survey.

Table 3: Reptile survey details

Survey Date	Air Temperature (°C)	Weather Conditions
20 th June 2023	18	Overcast, 100% cloud cover and a light breeze
5 th July 2023	16	Misty, 100% cloud cover and a light breeze
11 th July 2023	19	Dry, 90% cloud cover and a light breeze
21 st July 2023	18	Overcast, 80% cloud cover and a light breeze
26 th July 2023	18	Dry, 80% cloud cover and a light breeze
1 st August 2023	15	Overcast, 100% cloud cover and a light breeze
10 th August 2023	20	Dry, 95% cloud cover and a light breeze

The reptile survey was coordinated by Hugh Turner, Principal Ecologist of ECOSA assisted by suitably experienced ECOSA surveyors.

3.7.3 Survey Limitations

There were no significant limitations to the reptile survey.

3.8 Great Crested Newt Survey

3.8.1 Survey Methods

Habitat Suitability Index (HSI) Assessment

Those ponds and waterbodies located within a 500 metre radius of the site (**Map 5**), where access permitted, were subject to a Habitat Suitability Index (HSI) assessment (Oldham, et al., 2000). HSI is a numerical index between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of great crested newt such as geographical location, water body size and permanence, presence of predatory fish and wildfowl, availability of suitable terrestrial habitat and proximity to other ponds. Each factor is scored based on its level of suitability for great crested newt. An HSI of 1 is optimal habitat (high probability of occurrence), while an HSI of 0

is very poor habitat (minimal probability of occurrence). The HSI is calculated on a single pond basis, but takes into account surrounding terrestrial habitat and local pond density. If a pond has a very low HSI score (<0.5) there would typically be a minimal chance of great crested newt presence.

This qualitative score can then be used, with caution, to indicate whether further detailed investigations are necessary or whether a particular waterbody can be 'scoped out' as unsuitable for great crested newts. However, professional judgement should be used rather than simply relying on the HSI to eliminate ponds from further assessment. Further detailed investigations would involve targeted surveys carried out between mid-March and mid-June to determine presence/absence of great crested newt and if present then an assessment of population status.

Environmental DNA (eDNA) Survey

The great crested newt environmental DNA (eDNA) sampling was undertaken following current best practice guidelines (Biggs, et al., 2014).

Given the presence of a number of waterbodies within 500 metres of the site boundary an environmental DNA (eDNA) analysis was undertaken to establish the presence / likely absence of great crested newt from within the ponds which were accessible (**Map 5**).

The field sampling entailed the collection of 20 samples of 30 millilitres of water from pre-selected sub-sampling sites around the margin of each waterbody. Sub-sampling sites are chosen to include areas where great crested newt are likely to be present such as areas of vegetation where they may be egg laying and areas of open water where they may be displaying. The 20 samples are then mixed into a single sterile bag from which six samples of water of 15ml are taken each of which is preserved in 35ml of ethanol. The samples are then refrigerated until analysis at the lab. The samples were sent to FERA eDNA testing service for analysis which were analysed in line with current guidance (Biggs, et al., 2014). The samples were taken within the required season (mid-April to June) when great crested newt eDNA is likely to be present within the pond and therefore, the analysis result indicates the presence or likely absence of the species from a given waterbody.

Presence/Absence Surveys

The great crested newt survey methods were undertaken in line with current best practice guidelines (English Nature, 2001). As eDNA surveys returned negative for the presence of great crested newt, only two surveys were carried out, however this is not considered a limitation as the likely absence of great crested newt was confirmed by the eDNA surveys

The survey methods employed were torch searches, egg searches, sweep netting and bottle trapping.

The torch searches consisted of an investigation of the ponds after dark using a one million candlepower torch to search for adult great crested newt. All amphibians encountered were counted and sexed, where possible.

The egg search consisted of a methodical inspection of all suitable marginal vegetation for folded leaves that may indicate great crested newt egg laying activity. If great crested newt eggs were encountered during the survey this methodology was abandoned since exposure of eggs increases their risk of predation. This survey technique is only used to confirm presence and therefore, once presence has been confirmed other methods are utilised in order to determine population size class.

The sweep netting survey consisted of an investigation of each waterbody using a long-handled net. All newts encountered were counted and sexed, where possible. This survey technique is only used to confirm presence and therefore, once presence has been confirmed other methods are utilised in order to determine population size class.

The bottle trapping methodology involved submerging plastic bottle traps into the waterbodies at dusk. During the night newts swim into the traps and are unable to exit until released. The traps are then checked the following dawn and all newts are recorded and released, and the traps removed from the waterbodies. The traps were set at a density of one trap per two metres of waterbody margin where access was possible.

3.8.2 Survey Details

Habitat Suitability Index (HSI) Assessment

The great crested newt HSI assessment was carried out by Megan Woolley, Ecologist of ECOSA (Natural England Great Crested Newt Licence No. 2022-10782-CL08-GCN) on 11th May 2023. The weather conditions were dry with approximately 50% cloud cover, an ambient temperature of 16°C and calm.

Environmental DNA (eDNA) Survey

The eDNA sampling on Ponds 1-6 was carried out by Megan Woolley, Assistant Ecologist of ECOSA (Natural England Great Crested Newt Licence No. 2022-10782-CL08-GCN) and Alina Karateke, Assistant Ecologist of ECOSA on 11th May 2023. The weather conditions were dry with approximately 50% cloud cover, an ambient temperature of 16°C and calm.

The eDNA sampling of Pond 7 was carried out by Hugh Turner, Principal Ecologist of ECOSA, and Kate Carroll, Field Ecologist of ECOSA on 26th June 2023. The weather conditions were dry with approximately 88% cloud cover, an ambient temperature of 21°C and a moderate breeze.

Presence/Absence Surveys

A total of eight survey visits were undertaken, between 17th May 2023 and 17th May 2024. **Table 4** provides details of each great crested newt survey.

Table 4: Great crested newt presence/absence and/or population size class assessment survey details

Survey Date	Survey Techniques	Waterbodies Surveyed	Air Temperature (°C)	Weather Conditions
17 th May 2023	Bottle Trap, Torch, Egg, Sweep Net	Ponds 1 - 6	15°C	Dry, 90% cloud cover and calm.
8 th June 2023	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	17°C	Dry and a light breeze.
10 th April 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	10°C	Dry, no cloud cover and a light breeze.
17 th April 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	14°C	Dry, 10% cloud cover and no breeze.
24 rd April 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	10°C	Dry, no cloud cover and no breeze.
29 th April 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	13°C	Dry, 50% cloud cover and no breeze.
8 th May 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	15°C	Dry, 5% cloud cover and a light breeze.
17 th May 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	16°C	Dry, 50% cloud cover and no breeze.

The great crested newt survey was coordinated by Hugh Turner, Principal Ecologist of ECOSA (Natural England Great Crested Newt Licence No. 2016-24123-CLS-CLS) assisted by suitably qualified and experienced ECOSA surveyors.

3.8.3 Survey Limitations

As Pond 7 was only discovered after the halfway point in May, it was not possible to carry out the full suite of presence/absence surveys or population assessment

surveys in 2023. A further six surveys were therefore carried out between April 2024 and May 2024.

3.9 Criteria used to Assess Ecological Value

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2018) have also been used to inform the assessment.

4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field survey and subsequent protected species surveys. This section also provides an assessment of the ecological value of ecological features present at the site.

4.2 Statutory and Non-statutory Designated Sites

4.2.1 Baseline Ecological Conditions

Details of designated sites are provided in the paragraphs below.

Statutory Designated Sites

There are two statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. These are:

- River Itchen (SAC) – Located 205 metres to the south-east and designated for supporting Annex I habitats (water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation), Annex II species (southern damselfly *Coenagrion mercurial* and bullhead *Cottus gobio*) and Annex II species that are not a primary reason for site selection (white-clawed crayfish *Austropotamobius pallipes*, brook lamprey *Lampetra planeri*, Atlantic salmon *Salmo salar* and otter *Lutra lutra*).
- River Itchen (SSSI) – Located 205 metres to the south-east and designated for supporting chalk stream and river, fen meadow, flood pasture and swamp habitats. It is also designated for supporting notable invertebrate assemblages, breeding bird populations, aquatic species, otter and water vole.

Further details of the statutory designations listed above are provided in **Appendix 6**.

Non-Statutory Designated Sites

There are eighteen non-statutory designated sites of nature conservation interest situated within one kilometres of the site boundary. These are:

- Allbrook Clay Pit (SINC) – Located directly adjacent to the west of the site boundary, and designated for supporting notable wetland habitats.
- Lincolns Copse (SINC) – Located 45 metres to the north of the site, and designated for supporting notable woodland habitats.

- Allbrook Hill Copse (SINC) – Located 110 metres to the south of the site, and designated for supporting notable woodland habitats.
- Ham Farm Meadow (SINC) – Located 215 metres to the south-east of the site, and designated for supporting notable grassland and wetland habitats.
- Park Lane Footpath Allbrook (SINC) – Located 285 metres to the north-east of the site, and designated for supporting notable woodland habitats.
- Pitmore Copse/Pitmore Gulley Copse (SINC) – Located 355 metres to the north of the site, and designated for supporting notable woodland habitats.
- Meadows at Allbrook (SINC) – Located 440 metres to the east of the site.
- Otterbourne Wood (SINC) – Located 445 metres to the north-east of the site, and designated for supporting notable woodland habitats.
- Pitmore Copse (West) (SINC) – Located 525 metres to the north-west of the site, and designated for supporting notable woodland habitats.
- Breach Farm Meadows (SINC) – Located 570 metres to the south-east of the site, and designated for supporting wetland habitats and one or more notable Hampshire species.
- Meadow between Railway & River Itchen (Winchester) (SINC) – Located 620 metres to the south-east of the site, and designated for supporting notable wetland habitats.
- Meadow between Railway & River Itchen (Eastleigh) (SINC) – Located 620 metres to the south-east of the site, and designated for supporting notable wetland habitats.
- Boyatt Wood – Bosville Extension (SINC) – Located 655 metres to the south-west of the site, and designated for supporting notable woodland habitats.
- Boyatt Wood (SINC) – Located 715 metres to the west of the site, and designated for supporting notable woodland habitats.
- Great Moorlands Copse Complex (SINC) – Located 845 metres to the north of the site, and designated for supporting notable woodland habitats.
- Otterbourne Hill Common (SINC) – Located 940 metres to the north of the site, and designated for supporting notable woodland and grassland habitats.

- Breach & Gully Copses (SINC) – Located 960 metres to the south-east of the site, and designated for supporting notable woodland habitats.
- Boyatt Wood – Woodside Avenue Extension (SINC) – Located one kilometre to the south-west of the site, and designated for supporting notable woodland habitats.

Further information on sites designated for nature conservation are provided in **Appendix 2**.

4.2.2 Evaluation

The River Itchen SAC is of value at the European level, and the River Itchen SSSI is of value at the national level. The SINC located within one kilometre of the site are of value at the county level.

4.3 Habitats

4.3.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with MAGIC produced records of notable lowland mixed deciduous woodland habitat adjacent to the west of the site.

Consultation with HBIC produced records of 44 notable plant species within the desktop study area, however none of these species was recorded on site.

Field Survey Results

Habitats within the site are shown on the Baseline Habitat Map (**Map 2**) and details of how each habitat has been classified based on the UKHab five-level hierarchical system, with relevant secondary codes, are provided in **Appendix 7**. Habitats are described in general terms using standard UKHab terminology. The main habitats recorded on site during the field survey were as follows:

Modified Grassland (g4)

The site is dominated by modified grassland. The site was previously grazed and supports a short grass sward, with areas of bare ground from trampling (**Figure 1** and **Figure 2**). The grass is dominated by perennial rye-grass *Lolium perenne*.



Figure 1: Bare ground patches within grassland



Figure 2: Previously grazed grassland

Other Lowland Mixed Deciduous Woodland (w1f7)

Other lowland mixed deciduous woodland is present to the west of the site and along the boundary to the north and east of the site (**Figure 3**). The woodland comprises species including pedunculate oak *Quercus robur*, ash *Fraxinus excelsior* and hazel *Corylus avellana*. Part of the woodland is considered to be the Habitat of Principal Importance, lowland mixed deciduous woodland.



Figure 3: Woodland along edge of site

Line of Trees

A line of trees is present along the southern edge of the site (**Figure 4**). Some mature trees are present within this area and there are no obvious signs of management.



Figure 4: Unmanaged line of trees along southern boundary

Bramble scrub (h3d)

A line of bramble *Rubus fruticosus* aggregate scrub is present along the eastern boundary of the site, running south from the woodland (**Figure 5**). The habitat is dominated by bramble.



Figure 5: Bramble scrub line along site boundary

Non-native and ornamental hedgerow (h2b)

A cherry laurel *Prunus laurocerasus* hedgerow is present in the centre of the site, separating the site from the adjacent residential property (**Figure 6**). The hedgerow is subject to occasional management and is approximately one and a half metres tall and one metre wide.



Figure 6: Cherry laurel hedgerow bordering adjacent property

4.3.2 Evaluation

The grassland, bramble scrub and non-native hedgerow are of low ecological value, being common and widespread habitats present within the area, and the tree line and deciduous woodland are of greater value, supporting mature trees, while the deciduous woodland is a Habitat of Principal Importance. Therefore the grassland, scrub and non-native hedgerow are considered to be of site value only, while the line of trees and deciduous woodland are considered to be of local value.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced records of the following bat species within the desktop study area: barbastelle *Barbastella barbastellus*, serotine *Eptesicus serotinus*, *Myotis* bat species⁸, Daubenton's bat *Myotis daubentonii*, whiskered/Brandt's bat *Myotis mystacinus/brandtii*⁹, Natterer's bat *Myotis nattereri*, Leisler's *Nyctalus leisleri*, noctule *Nyctalus noctule*, pipistrelle species *Pipistrellus*¹⁰, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, long-eared bat *Plecotus* species¹¹ and brown long-eared bat *Plecotus auratus*. Of

⁸ There are seven species of *Myotis* bats in Britain. *Myotis* bats are very difficult to identify specifically, this can generally only be done by examination of physical features and Phylogenetic Analysis Identification of bat droppings. Many of these bats are common and will utilise buildings for roosting often occupying small and inaccessible voids. For the purpose of this report all species shall be referred to as *Myotis* bats unless a specific identification has been possible.

⁹ Whiskered bat and Brandt's bat cannot be distinguished from each other unless they are examined in the hand. It is widely acceptable to use the category whiskered/Brandt's bat.

¹⁰ There are three species of pipistrelle bat, the common pipistrelle *Pipistrellus pipistrellus*, the soprano pipistrelle *Pipistrellus pygmaeus* and the Nathusius' pipistrelle *Pipistrellus nathusii*. The species can be separated by their echolocations, examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the three species shall be referred to in this report as pipistrelle bat. All three species will roost in similar locations within buildings. The soprano pipistrelle has a tendency to form larger roosts numbering 100's of bats and is associated with wetland habitat. Nathusius' pipistrelle bats frequently share maternity roosts with soprano pipistrelle bats.

¹¹ There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual

these records, HBIC produced records on 44 roosts for serotine, Daubenton's bat, Whiskered bat, pipistrelle species, common pipistrelle, soprano pipistrelle and brown long-eared bat. The most recent roost was a common pipistrelle resting roost recorded in 2021, located approximately 1.2 kilometres from the site. The closest roost to the site was that of brown long-eared bat breeding roost, located approximately 185 metres to the north-east of the site.

Consultation with MAGIC produced records of 14 granted EPSM licences with regards to bat within the desktop study area. These licences affect resting places for common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, brown long-eared and serotine. These licences also affect the breeding sites for common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle and brown long-eared bats. The most recent licence was granted in 2012 and the nearest record is located approximately 375 metres to the north of the site.

During the previous bat surveys carried out by Species Ecological Consultancy (Species Ecological Consultancy, 2020), a total of nine bat species were recorded foraging and commuting on site including common pipistrelle, soprano pipistrelle, serotine, noctule, long-eared bat *Plecotus* species, barbastelle, Natterer's bat, Daubenton's bat and whiskered/Brandt's bat.

Field Survey Results

Tree Assessment

A full assessment of the trees on site to support roosting bats was not carried out, as no trees are currently proposed for removal, however it is considered likely that the mature trees within the woodland and line of trees habitats likely support potential bat roosting features. Therefore the site is assessed as having suitability for roosting bats.

Foraging and Commuting Habitat

The woodland, bramble scrub and line of trees habitats around the boundary of the site provide good opportunities for foraging and commuting bats and provide connectivity to offsite habitats such as the adjacent woodland. While it is considered likely that bats will forage over the grassland of the site, the opportunities are limited due to the management of the grassland reducing the presence of wildflowers that

identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.

would attract food source invertebrates. Overall the site is assessed as being of moderate suitability to support foraging and commuting bats.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced 13 records of otter *Lutra lutra*, the most recent recorded in 2011 within the River Itchen approximately 930 metres to the south-east of the site.

Consultation with MAGIC produced no records of granted EPSM licences with regards to otter within the desktop study area.

Previous surveys carried out by Species Ecological Consultancy recorded no evidence of otter on-site or within the adjacent woodland habitats (Species Ecological Consultancy, 2020).

Field Survey Results

The woodland habitats provide some opportunities for otter to create holts and the off-site waterbodies within the adjacent woodland provide foraging opportunities for otter. However the waterbodies are isolated from the nearby River Itchen by residential development and heavily trafficked roads. Previous surveys recorded otter as being likely absent from the site (Species Ecological Consultancy, 2020) and therefore the species is not considered any further in this report.

4.6 Badger

4.6.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced two records of badger *Meles meles* within the desktop study area, recorded in 2019 and 2020.

Previous survey works carried out by Species Ecological Consultancy recorded no evidence of badger on site (Species Ecological Consultancy, 2020).

Field Survey Results

No evidence of badger was recorded on site during the survey works. The woodland habitats on site provide good sett building opportunities for colonising badger and the site has good connectivity to off-site habitat via the adjacent woodland habitats, while the grassland habitats on site provide good foraging opportunities. Overall the site is considered to be suitable for badger.

4.6.2 Evaluation

The habitats on site offer foraging and sett building opportunities in an area that is mostly dominated by residential development. Therefore the site is assessed as being of local value for badger.

4.7 Hazel Dormouse

4.7.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced one record of hazel dormouse *Muscardinus avellanarius* within the desktop study area.

Consultation with MAGIC produced no records of granted EPSM licences in regards to hazel dormouse within the desktop study area.

Previous survey work carried out by Species Ecological Consultancy recorded no evidence of hazel dormouse on site (Species Ecological Consultancy, 2020).

Field Survey Results

The woodland, bramble scrub and line of trees habitats on site provide good opportunities for hazel dormouse and are well connected to off-site woodland habitats immediately adjacent to the site. Therefore the site is assessed as having suitability to support hazel dormouse.

Hazel Dormouse Survey Results

The hazel dormouse survey confirmed the likely absence of hazel dormouse within the site, as no individuals or nests were recorded during the survey, therefore this species is not considered any further in this report.

4.8 Water Vole

4.8.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced 106 records of water vole *Arvicola amphibius* within the desktop study area. The most recent record was in 2020, and the closest record was 110 metres to the east of the site.

Field Survey Results

The site does not support any suitable riparian habitats and therefore does not provide foraging or burrowing opportunities for water vole. Therefore the site is considered unsuitable for water vole and the species is not considered any further in this report.

4.9 Birds

4.9.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced 70 notable and protected bird species within the desktop study area. Of these species, there are 32 red-listed¹² species, 16 amber-listed¹³ species, and 19 Schedule 1¹⁴ species. Of these, it is considered possible that species that nest in woodland habitats could occur on site, such as cuckoo *Cuculus canorus*, lesser spotted woodpecker *Dendrocopos minor* and woodcock *Scolopax rusticola*.

Field Survey Results

During the initial survey a number of bird species were recorded on site or flying over including chiffchaff *Phylloscopus collybita*, treecreeper *Certhia Familiaris* and jackdaw *Corvus Monedula*. The woodland, bramble scrub, hedgerow and line of trees habitats provide good nesting opportunities for birds. The grassland habitats on site are heavily grazed and do not provide opportunities for ground nesting birds or significant assemblages of wintering birds.

4.9.2 Evaluation

The habitats on site represent a small portion of the habitats available in the wider area, with the woodland habitats on site making up part of a larger woodland block. Therefore the site is assessed as being of site value only for breeding birds.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced records of three species of reptiles within the desktop study area including slow worm *Anguis fragilis*, grass snake *Natrix natrix* and

¹² The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Red List criteria include species which are: globally threatened; have been subject to historical population decline in UK during 1800–1995; are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.

¹³ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25–49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25–49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.

¹⁴ Birds listed on Schedule 1 of the Wildlife and Countryside Act (1981 as amended) are afforded additional protection making it an offence to: Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or; Intentionally or recklessly disturb the dependent young of any such bird.

common lizard *Zootoca vivipara*. The nearest record for slow worm is located approximately 185 metres to the north of the site and was recorded in 2014.

Consultation with MAGIC returned no records of granted EPSM licences in regards to reptiles within the desktop study area.

Previous reptile surveys carried out by Species Ecological Consultancy recorded low populations of slow-worm and grass snake on site (Species Ecological Consultancy, 2020).

Field Survey Results

While the majority of the grassland supports a grazed, short sward, there are opportunities present for reptiles at the edges where the grass is more tussocky and where the habitats border woodland and scrub, which provide sheltering and hibernation opportunities for reptiles. Therefore the site is assessed as being suitable for reptiles.

Reptile Survey Results

A summary of the reptile surveys at the site is provided in **Table 5** and on **Map 4**. A peak count of seven adult slow-worm, two juvenile slow-worm, two adult grass snakes and one juvenile grass snake were recorded on site during the surveys undertaken.

Table 5: Summary of reptile survey results

Survey Date	Number of Individuals Recorded			
	Slow-worm		Grass Snake	
	Adult	Juvenile	Adult	Juvenile
20 th June 2023	2	1	0	0
5 th July 2023	3	1	0	1
11 th July 2023	4	0	1	0
21 st July 2023	6	0	0	1
26 th July 2023	7	1	0	0
1 st August 2023	3	1	2	0
10 th August 2023	4	2	0	0
Peak Count	7	2	2	1

4.10.2 Evaluation

Population Class Size Assessment

Table 6 shows the current guidance (Froglife, 1999) for assessing the population size of reptiles based on a refugia density of 10 per hectare. A density of 23 refugia per hectare was used on site which was the density used at the site and the population size assessment has been adjusted accordingly.

Table 6: Criteria for population size assessment based upon a refugia density of 10 per hectare

Species	Low Population	Good Population	Exceptional Population
Slow-worm	<12	12-46	>46
Grass snake	<12	12-23	>23

Given the peak count of seven adult slow-worm, the site can be said to support a low population of slow-worm. Given the peak count of two adult grass snake, the site can be said to support a low population of grass snake.

Evaluation

Slow-worm is a common and widespread species across the UK. Slow-worm are likely to be the most frequently encountered reptile as they are often found in gardens, leading to the widespread distribution of records across the county. A low population of slow-worm is therefore considered to be of value at the site level. The site also supports a low population of grass snake, which are also common and widespread throughout Hampshire and is therefore considered to be of value at the site level.

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

Consultation of OS mapping and aerial photography revealed the presence of nine waterbodies within 500 metres of the site, including seven ponds and the River Itchen. The closest pond is 60 metres to the west of the site. Whilst the River Itchen is approximately 205 metres from the site, it is considered unsuitable for great crested newt to travel to the site due to the busy B3335 road inbetween the River Itchen and the site.

Previous survey works carried out by Species Ecological Consultancy recorded the presence of great crested newt within ponds to the west of the site (Species Ecological Consultancy, 2020). Results from eDNA testing recorded the presence of

great crested newt within three of the ponds, however further population assessment surveys only recorded great crested newt in one pond, with a peak count of four great crested newts.

Field Survey Results

There are no waterbodies on site and therefore no breeding opportunities for great crested newt on site. The woodland habitats provide excellent sheltering and foraging opportunities for great crested newt in their terrestrial phase and the site is well-connected to known breeding ponds via adjacent woodland. Therefore the site is assessed as having suitability to support great crested newt.

Great Crested Newt HSI Assessment Results

The results of the HSI surveys returned results of Pond 1 being of 'good' suitability for great crested newt, Ponds 2 and 5 being of 'average' suitability, Ponds 6 and 7 being of 'below average' suitability and Ponds 3 and 4 being of 'poor' suitability (see **Table 7**)