

Table 7: Ponds within 500 metres of Site Boundary - Details

Pond No.	NGR	Location in Relation to Site Boundary	HSI Score	HSI Suitability	Waterbody Description	Access Possible	Further Survey
1	SU 45429 21513	70 metres west	0.72	Good	Large woodland pond	Yes	eDNA and Presence/Absence Assessment
2	SU 45448 21462	60 metres west	0.61	Average	Medium sized woodland pond	Yes	eDNA and Presence/Absence Assessment
3	SU 45346 21485	145 metres west	0.48	Poor	Small woodland pond	Yes	eDNA and Presence/Absence Assessment
4	SU 45340 21491	150 metres west	0.36	Poor	Lake within woodland	Yes	eDNA and Presence/Absence Assessment
5	SU 45269 21343	245 metres west	0.66	Average	Medium sized woodland pond	Yes	eDNA and Presence/Absence Assessment
6	SU 45406 21492	100 metres west	0.54	Below Average	Small woodland pond	Yes	eDNA and Presence/Absence Assessment
7	SU 45401 21384	75 metres west	0.52	Below Average	Small woodland pond	Yes	eDNA and Presence/Absence Assessment

Great Crested Newt eDNA Survey Results

The Great Crested Newt eDNA survey produced positive results for the presence of great crested newt within Pond 7, but negative results for the presence of great crested newts within Ponds 1 to 6.

Great Crested Newt Presence/Absence Survey Results

The Great Crested Newt presence/absence surveys confirmed the presence of the species within Pond 7 with a peak count of 9 individuals recorded, along with the presence of great crested newt eggs. Populations of smooth newt *Lissotriton vulgaris* and palmate newt *Lissotriton helveticus* were also recorded within Pond 7. No great crested newts were recorded within Ponds 1 to 6.

A summary of the great crested newt presence/absence survey results from Pond 7 is provided in **Table 8** and on **Map 5**.

Table 8: Summary of great crested newt presence/absence survey results

Survey Date	Number of Individuals Recorded			
	Great crested newt	Smooth Newt	Palmate Newt	Common Newt
8 th June 2023	-	-	-	-
10 th April 2024	7	-	1	31
17 th April 2024	-	4	3	4
24 rd April 2024	1	-	-	5
29 th April 2024	9 and Eggs	5	5	15 and Eggs
8 th May 2024	-	2	1	8
17 th May 2024	6	1	5	3
Peak Count	9	5	5	31

4.11.2 Evaluation

Population Class Size Assessment

It is difficult to establish the true size of a population of great crested newt, due to variations in sampling efficiency and the complex population dynamics involved. Hence, population estimation methods can only give an indication of whether the population is small, medium or large in terms of the number of newts present in the breeding pond.

In accordance with Natural England guidance (English Nature, 2001) survey results should be expressed as peak adult counts per pond per night gained through field survey methods, and a total site count, if appropriate.

Populations can then be classed as:

- 'small' for maximum counts up to 10;
- 'medium' for maximum counts between 11 and 100; or
- 'large' for maximum counts over 100.

Evaluation

Based on guidance by Natural England the site is assessed as supporting a small population of great crested newt. The woodland habitats on site are well connected to the off-site woodlands which support the breeding ponds and are therefore likely an important resource for the local population in the woods. Therefore the site is assessed as being of local value to support great crested newt.

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC returned records of 214 notable species of invertebrates within the desktop study area. Some of these species include woodland specialists as well as saprophytic species such as stag beetle *Lucanus cervus* and it is possible these species could occur within the woodland habitats on site.

Field Survey Results

The woodland habitats provide opportunities for notable woodland invertebrate species and the presence of deadwood within the woodland would make it suitable for saprophytic species such as stag beetle. The grassland, bramble scrub, line of trees and non-native hedgerows on site are likely to support a range of common and widespread invertebrate species but is less suitable for notable species. Overall, the site is assessed as having suitability to support invertebrates.

4.12.2 Evaluation

The habitats on site represent a small proportion of the habitats available to invertebrates in the local area. Therefore the site is assessed as being of site value for invertebrates.

4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Consultation with HBIC returned 49 records of European hedgehog *Erinaceus europaeus*, five records of common toad *Bufo bufo* and two records of harvest mouse *Micromys minutus*.

Field Survey Results

The woodland habitats provide opportunities for European hedgehog and common toad while being well connected to off-site habitats via adjacent woodland which include potential breeding habitats for common toad. The habitat on site is unsuitable for harvest mouse due to the grassland supporting a short grass sward and therefore this species is not considered further in this report.

4.13.2 Evaluation

The habitats on site represent a small percentage of habitats available to European hedgehog and common toad in the wider area, therefore the site is assessed as being of site value only for these species.

5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ENHANCEMENT MEASURES

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy¹⁵ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 174 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposed development entails the construction of 49 residential units with associated infrastructure and landscaping. Access will be created from Knowle Hill to the south of the site. Full lighting proposals were not available at the time of preparing this report but it is assumed that new external lighting will form part of the proposals. New ponds and sustainable drainage systems (SuDS) will be created as part of the landscaping proposals.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

5.3 Designated Sites

5.3.1 Potential Impacts and Effects

The proposals will result in a net increase in residential units, which will in turn lead to an increase of nitrogen discharge in the River Itchen designated sites. There are no anticipated impacts to designated sites during construction. The site also lies within the 5.6 kilometre development buffer of the Solent SPAs. Therefore there will be an increase in recreational pressure as a result of the net gain in residents as a result of the proposals.

¹⁵ 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'.

5.3.2 Mitigation Measures

A Nutrient Neutrality Assessment will be carried out to determine the increase in nitrogen discharge will be from the proposals. Credits will be purchased from Eastleigh Borough Council to offset the increase into the River Itchen designated sites.

Financial contributions will be required to offset the impacts of the increase in recreational pressure on the Solent SPAs. The simplest way to mitigate the impact of this is through financial contribution to the Solent Disturbance Mitigation Project (SDMP). A sliding scale of contribution is based on the property size and as of 1st April 2023 is as follows:

- £443 for each 1 bedroom property
- £639 for each 2 bedroom property
- 834 for each 3 bedroom property
- £980 for each 4 bedroom property
- £1,150 for each 5 bedroom property

5.3.3 Significance of Residual Effects

Following mitigation, there will be no residual effects on designated sites.

5.3.4 Compensation

No compensation measures are proposed with regards to designated sites.

5.3.5 Enhancement

No enhancement measures are proposed with regards to designated sites.

5.4 Habitats

5.4.1 Potential Impacts and Effects

The proposals will result in the loss of approximately 2.63 hectares of modified grassland habitats on site. The woodland, bramble scrub, line of trees and non-native hedgerows will be retained as part of the proposals. Retained habitats may be damaged through accidental contact with heavy machinery.

5.4.2 Mitigation Measures

Any retained trees will be protected during the construction period with Root Protection Zones established in accordance with BS 5837:2012 (British Standards, 2012). A suitable buffer will be established between retained habitats and construction works.

5.4.3 Significance of Residual Effects

Following mitigation, there will still be a loss of habitats on site. As the habitats to be lost are common and widespread and are low distinctiveness, it is considered that the loss is only at the site level.

5.4.4 Compensation

The proposals include new grassland sowing, scattered tree planting and the creation of new ponds to the south of the site. A Biodiversity Metric Assessment will be carried out to determine the change in biodiversity on site post-development.

5.4.5 Enhancement

There are no enhancement measures proposed with regards to habitats.

5.5 Bats

5.5.1 Potential Impacts and Effects

New lighting installed along new roads and porches may disturb foraging and commuting bats along the site boundaries. There will be no significant long-term loss of foraging and commuting habitat and no potential for habitat fragmentation.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.5.2 Mitigation Measures

New external lighting will comprise hooded luminaires mounted horizontally with no light output above 90° and directed away from vegetation, particularly the boundary woodland and waterbody habitats where possible. Light spill from porches facing the woodland boundaries will be minimised through the installation of Passive Infrared Sensor lighting.

Ideally the bulbs should be LED and be a warm light source (2700 Kelvin or lower). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife. The new lighting should be task related and lux level should be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels and mitigation options as described within the Bats and Artificial Lighting in the UK report will be followed (Institution of Lighting Professionals, Bat Conservation Trust, 2023).

5.5.3 Significance of Residual Effects

Following mitigation there are no anticipated residual effects on bats.

5.5.4 Compensation

No compensation measures are proposed with regards to bats.

5.5.5 Enhancement

As a measure of enhancement, Vivara Pro Build-in Woodstone Bat Tubes (or similar) will be installed in at least 20% of new residential units. The bat tubes will be installed as high as possible but at a minimum height of three metres on the eastern and southern elevations.

5.6 Badger

5.6.1 Potential Impacts and Effects

The proposals may cause disturbance to badger within setts if this species colonises the site prior to works commencing. The proposals will also result in the loss of badger foraging and commuting habitats.

Badger are protected from killing and injury, and their setts protected from damage and interference, under the Protection of Badgers Act 1992. Refer to **Appendix 3** for details.

5.6.2 Mitigation Measures

An updating badger survey will be carried out approximately three months prior to construction works starting to determine if setts have been created on site. If any setts are identified in or within 30 metres of the construction zone and cannot be retained within the proposals, then these would need to be closed under a Natural England licence. If a main sett is identified within the construction zone, a suitable alternative will need to be created and its use demonstrated prior to the main sett being closed.

5.6.3 Significance of Residual Effects

Following mitigation, there will be a loss of foraging and commuting habitats for badger. This is considered to be significant at the site level only.

5.6.4 Compensation

The new habitat planting proposed in Paragraph 5.4.4 will replace lost foraging habitats for badger.

5.6.5 Enhancement

No enhancement measures are proposed with regards to badger.

5.7 Birds

5.7.1 Potential Impacts and Effects

The proposals will not result in a loss of nesting habitats for breeding birds. Therefore there are no anticipated impacts with regards to breeding birds as a result of the proposals.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981 (as amended). Refer to **Appendix 3** for details.

5.7.2 Mitigation Measures

As there are no anticipated impacts on breeding birds there are no mitigation measures are proposed.

5.7.3 Significance of Residual Effects

There are no residual effects anticipated on breeding birds.

5.7.4 Compensation

No compensation measures are proposed with regards to breeding birds.

5.7.5 Enhancement

As a measure of enhancement, bird boxes will be incorporated in every Bargate home in line with the company's policy. The type of bird boxes to be installed will include a mixture of Vivara Pro Woodstone Sparrow nest boxes, Woodstone Build-in Swift nest boxes and Woodstone Bui-in Open Hole nest boxes or similar alternatives. The bird boxes will be installed as high as possible to prevent interference. Swift boxes will be installed in pairs on the eastern or northern elevations. Putting boxes on southern elevations should be avoided to prevent overheating of chicks in hot weather.

5.8 Reptiles

5.8.1 Potential Impacts and Effects

The proposals will result in loss of approximately 2.63 hectares of grassland, including suitable reptile habitat, during the construction phase within the site. The suitable reptile habitats are restricted to the margins of the site.

Construction activities on areas of reptile habitat have the potential to result in direct harm to the population of slow-worm and grass snake recorded at the site.

Widespread reptile species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm. Refer to **Appendix 3** for details.

5.8.2 Mitigation Measures

Given the presence of low populations of slow-worm and grass snake within the site it will be necessary to ensure that these animals are not harmed during the necessary ground clearance works prior to development and that animals are not present within the development area during construction works. It is proposed that a translocation exercise will be undertaken in order to safeguard the population during the construction works.

Prior to the commencement of the works semi-permanent exclusion fencing will be erected around the perimeter of the construction area in order to ensure that reptiles do not enter the construction area during works. The retained area of woodland to the west of the site, would serve as the receptor site for any reptiles captured as part of the translocation exercise.

Following the installation of the exclusion fencing, reptile capture and removal will be undertaken by a suitably qualified ecologist between April and October (weather dependent) when reptiles are not in hibernation. A high density of refugia will be distributed throughout areas of suitable habitat and inspected on a daily basis in suitable weather conditions until five 'clear' visits have been achieved. It is envisaged that the translocation exercise will take a minimum of 30 days. All captured animals will be placed in a secure container and transported to the receptor site at the end of each visit capture.

Following the completion of the capture exercise, a destructive search will be undertaken of the on-site habitat under supervision of a suitably qualified ecologist. This will entail the methodical removal of any suitable habitat within the site. Any additional reptiles encountered as part of the destructive search will be captured by the ecologist and relocated to the receptor area. Once the destructive search has been completed, and all suitable reptile habitat has been removed from the site, the development work will be able to proceed.

Following the completion of the development, the reptile fencing will be removed under the supervision of a suitably qualified ecologist. This will be undertaken either upon completion of the entire development or on a phased work basis as the development is completed.

5.8.3 Significance of Residual Effects

The proposed translocation will avoid harm to reptiles, however, the loss of suitable reptile habitat cannot be mitigated. AS the habitats support only low populations of reptiles, this is considered to be significant at the site level only.

5.8.4 Compensation

The grassland and pond creation to the south of the site will provide new reptile habitats on site. Once the construction phase has been completed the reptile exclusion fencing will be removed to allow the translocated population to recolonise the site.

5.8.5 Enhancement

It is proposed that three hibernacula will be constructed within the receptor site. The hibernacula will be constructed from logs and stones and will be dug slightly into the ground, with the resultant turf placed over the top of the hibernacula to provide cover.

5.9 Great Crested Newt

5.9.1 Potential Impacts and Effects

The proposals have the potential to result in the killing and injuring of great crested newt during site clearance and the loss of suitable terrestrial habitat in the form of the loss of the grassland field margins.

In England, great crested newt and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, this species is protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.9.2 Mitigation Measures

As a result of the loss of great crested newt terrestrial habitat at the site, a European Protected Species Mitigation (EPSM) licence will be required prior to the development works commencing. This can only be applied for once planning permission is in place with any relevant wildlife conditions discharged.

The EPSM licence application will require the preparation of a clear and reasoned Method Statement which details the methods for maintaining the conservation status of the species at the site.

A translocation exercise will need to be undertaken in tandem with the reptile translocation exercise detailed in Paragraph 5.8.2. Exclusion fencing will be installed around the boundary of the site. This will prevent movement of great crested newt into the development area following the translocation of animals. This fence will be maintained in good condition throughout the development. Internal drift fencing to aid

the capture of animals will also be installed which will be removed prior to the commencement of the development.

The area enclosed by the exclusion fencing will then be subject to trapping and translocation of newts. This will be carried out by installing pitfall traps at 10 metre intervals along the full length of the exclusion fencing and the drift fence. Great crested newts fall into these traps and this is an effective method of capturing and removing them. Additionally, refuge traps (carpet tiles or similar) will be placed across the site in between the installed pitfall traps.

Once installed, the pitfall traps will require inspection every morning shortly after sunrise in order to remove animals from the traps. Any great crested newt captured will then be relocated beyond the exclusion fence to the receptor site located within the retained woodland to the west of the site.

Trapping and translocation must be undertaken during suitable weather conditions between March and October. According to the current guidance (English Nature, 2001), trapping should be undertaken for a minimum of 30 days where a low population of great crested newt is found to be present. The translocation exercise will be deemed complete once five clear days no capture has been achieved.

Following the completion of the translocation, a destructive search will be undertaken of the translocation area. This will entail the methodical removal of any suitable habitat using an excavator under ecological supervision. Any additional great crested newt encountered as part of the destructive search will be captured by the ecologist and relocated to the receptor area. Once the destructive search has been completed, and all suitable great crested newt habitat has been removed from the site, the development work will be able to proceed.

5.9.3 Significance of Residual Effects

Following the implementation of the mitigation measures outlined above there will still be a loss in great crested newt habitat which is considered to be significant at the site level. This is considered to be significant at the site level.

5.9.4 Compensation

The proposals will deliver new pond and grassland habitats to the south of the site. This will create new breeding opportunities on site for great crested newt.

5.9.5 Enhancement

As a measure of enhancement, the proposed hibernaculas to be constructed in the woodland, will provide additional sheltering opportunities for great crested newt.

These will be constructed in line with the specification included in the great crested newt mitigation guidelines (English Nature, 2001).

5.10 Invertebrates

5.10.1 Potential Impacts and Effects

The woodland habitats will be retained on site, therefore there are no anticipated impacts on notable invertebrate species.

5.10.2 Mitigation Measures

No mitigation measures are proposed with regards to invertebrates.

5.10.3 Significance of Residual Effects

There will be no residual effects on invertebrates as a result of the proposals.

5.10.4 Compensation

No compensation measures are proposed with regards to invertebrates.

5.10.5 Enhancement

The proposed pond creation will create opportunities for aquatic invertebrates on site.

5.11 Other Relevant Species

5.11.1 Potential Impacts and Effects

Site clearance works have the potential to result in direct harm to both European hedgehog and common toad. The proposals will also result in the loss of suitable habitats for European hedgehog and common toad.

The installation of residential fencing at the site also has the potential to result in fragmentation of habitat for European hedgehog and other small mammal species.

5.11.2 Mitigation Measures

The sensitive clearance measures associated with reptile and great crested newt (see Paragraphs 5.8.2 and 5.9.2) will ensure that both European hedgehog and common toad, amongst a wide range of other species, are protected as site clearance works progress. If individuals are encountered during clearance works they will be moved to the receptor site.

In order to ensure continued permeability of the site for European hedgehog and other small mammal species, holes of 130 millimetres x 130 millimetres will be installed in new close board fencing. The gaps will be labelled as 'hedgehog highways' to inform new homeowners of the purpose of the holes. These holes will only be installed within fences where there are no level differences between gardens, due to the sloping nature of the site making it unsuitable to have holes in every fence.

5.11.3 Significance of Residual Effects

Following the implementation of mitigation measures no significant residual effects on any other relevant species are anticipated.

5.11.4 Compensation

No specific compensation for other relevant species is proposed.

5.11.5 Enhancement

The delivery of the enhancement measures set out in Paragraph 5.4.5 will provide an enhancement over the baseline situation including the delivery of new ponds which would provide a specific enhancement for common toad and other amphibians.

As an enhancement measure for European hedgehog, two hedgehog domes will be installed within public open spaces on site, one to the north of the site and one to the south. The hedgehog domes should be sited partially under cover to avoid being disturbed by residents.

5.12 Cumulative Effects

Assuming that the mitigation and compensation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area.

6.0 CONCLUSIONS

6.1 Conclusion

The site is located within the River Itchen development buffer and supports roosting, foraging and commuting bats, low populations of slow-worm and grass snake and a small population of great crested newt. Adverse impacts on these ecological features have been identified and appropriate mitigation measures proposed. Post-development, no residual or cumulative impacts are anticipated. The site will be enhanced for bats through the installation of an additional bat roosting features, for birds through the installation of nesting features, for reptiles through the creation of hibernacula and for great crested newt through the creation of new ponds and hibernacula. As such it is considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including Policy CP21 of the Joint Core Strategy and the NPPF (see Section 2.0).

6.2 Updating Site Survey

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.

7.0 REFERENCES

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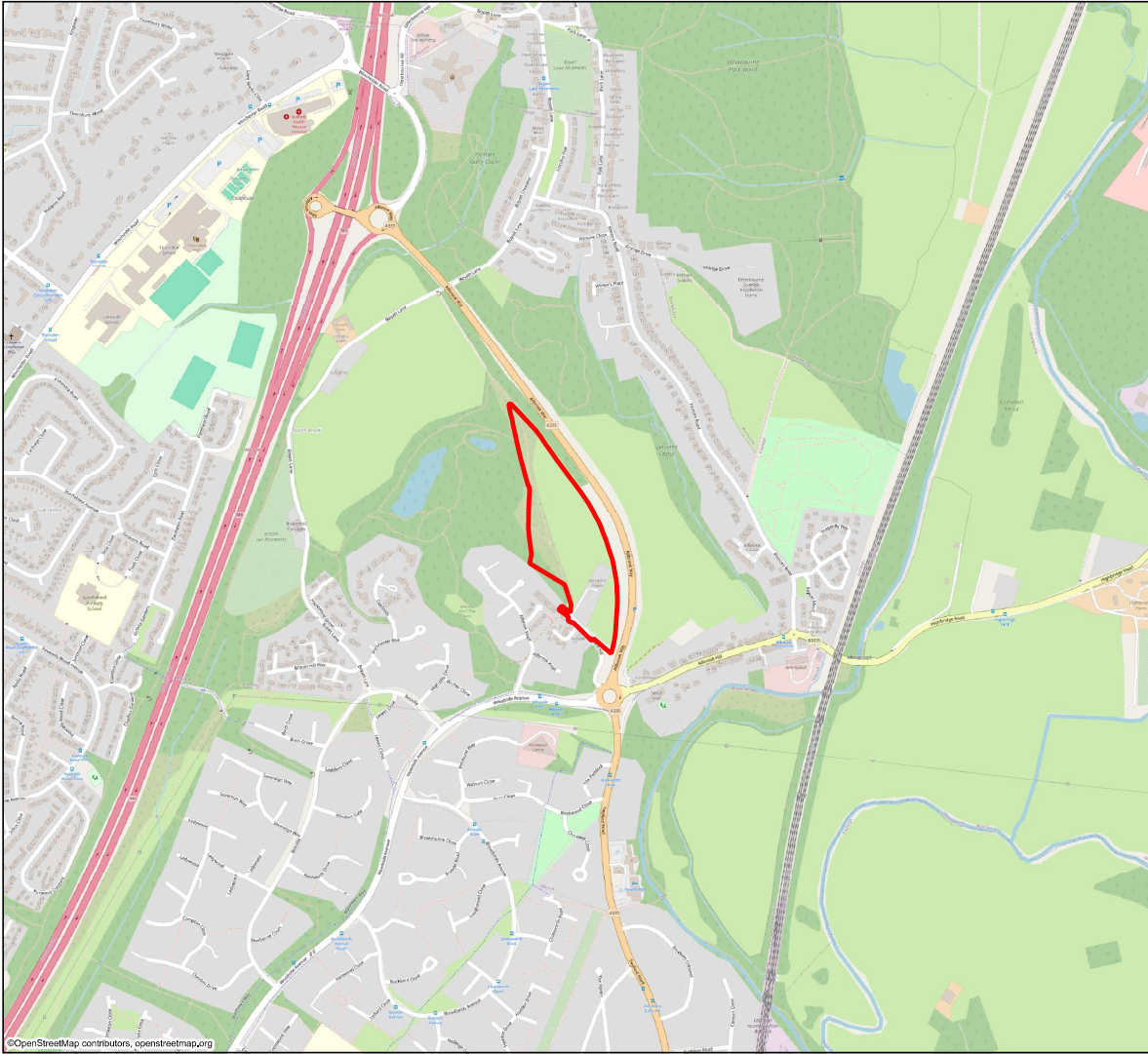
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Map 1 Site Location Plan



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

ECOLOGICAL IMPACT ASSESSMENT

Map 1 - Site Location Plan

Client:	Bargate Homes Ltd
Date:	February 2024
Status:	Draft

KEY
 Site Boundary



Prepared by: JT	Date: 290224
Last amended by:	Date:

ECOSA
Ecological Survey & Assessment
A Trinity Consultants Company
ECOSA Ltd., Ten Hogs House, Manor Farm Offices,
Flexford Road, North Baddeley, Hampshire SO52 9DP
Telephone: 02380 281065 Email: info@ecosa.co.uk
Web: www.ecosa.co.uk

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Map 2 Baseline Habitat Map



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

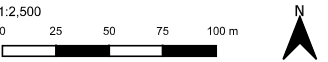
ECOLOGICAL IMPACT ASSESSMENT

Map 2 - Baseline Habitats

Client:	Bargate Homes Ltd
Date:	October 2024
Status:	Draft

KEY

-  Site Boundary
-  Bramble scrub
-  Developed land; sealed surface
-  Lowland mixed deciduous woodland
-  Modified grassland
-  Non-native and ornamental hedgerow
-  Line of trees



Prepared by: KM	Date: 091024
Last amended by: N/A	Date: N/A



ECOSA Ltd., Ten Hogs House, Manor Farm Offices,
Flexford Road, North Badlesley, Hampshire SO52 9DF
Telephone: 02380 281065 Email: info@ecosa.co.uk
Web: www.ecosa.co.uk

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Map 3 Hazel Dormouse Survey



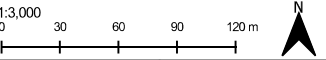
**LAND WEST OF ALLBROOK WAY,
KNOWLE HILL, EASTLEIGH,
HAMPSHIRE**

ECOLOGICAL IMPACT ASSESSMENT

Map 3 - Hazel Dormouse Survey

Client:	Bargate Homes Ltd.
Date:	December 2023
Status:	Final

- KEY**
- Site Boundary
 - Dormouse Tube Locations
 - No Evidence Found



Prepared by: RB	Date: 201223
Last amended by: N/A	Date: N/A



ECOSA Ltd., Ten Hogs House, Manor Farm Offices,
Flexford Road, North Baddesley, Hampshire SO52 9DP
Telephone: 02380 281065 Email: info@ecosa.co.uk
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Map 4 Reptile Survey



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

ECOLOGICAL IMPACT ASSESSMENT

Map 4 - Reptile Survey Results

Client:	Bargate Homes Ltd
Date:	January 2024
Status:	Draft

- KEY**
- Site Boundary
 - Refugia Locations
- Reptile Survey Results**
- Slow worm - Adult
 - Slow worm - Juvenile
 - Grass snake - Adult
 - Grass snake - Juvenile

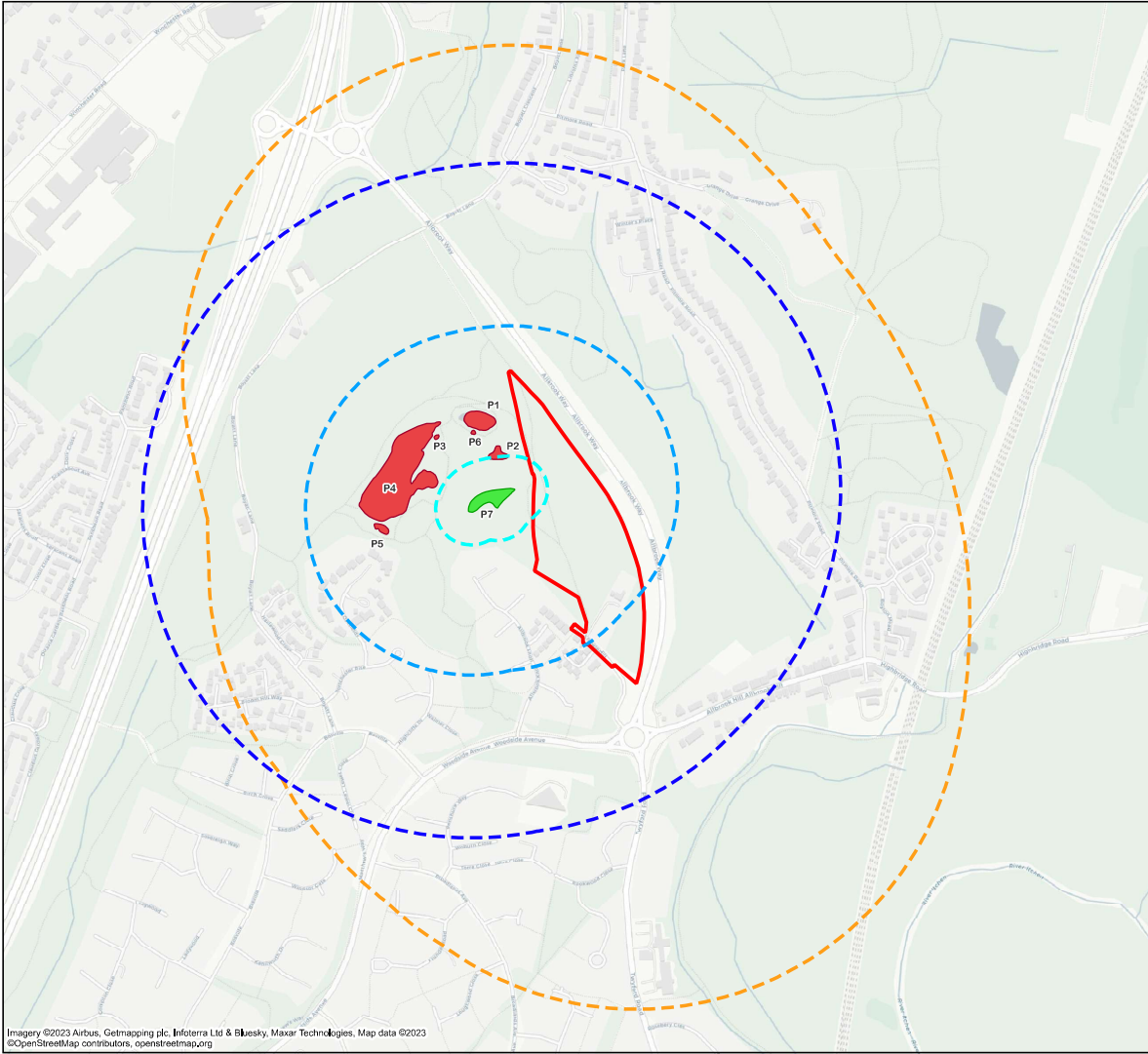


Prepared by: JP	Date: 090124
Last amended by: N/A	Date: N/A

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Ecological Survey & Assessment
A Trinity Consultants Company
ECOSA Ltd., Ten Hogs House, Manor Farm Offices,
Flexford Road, North Baddesley, Hampshire SO52 9DP
Telephone: 02380 281065 Email: info@ecosa.co.uk
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Map 5 Great Crested Newt Survey



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

ECOLOGICAL IMPACT ASSESSMENT

Map 5 - Great Crested Newt Survey Results

Client:	Bargate Homes Ltd
Date:	August 2024
Status:	Draft

KEY

Site Boundary

Site Buffer - 500m

GCN Survey Results

Negative eDNA result

Positive eDNA result; Low GCN population present in 2024

Confirmed GCN Pond Buffers

50m

250m

500m



Prepared by: JP	Date: 010824
Last amended by: JP	Date: 010824

ECOSA
Ecological Survey & Assessment
A Trinity Consultants Company

ECOSA Ltd., Ten Hogs House, Manor Farm Offices,
Flexford Road, North Baddesley, Hampshire SO52 9DP
Telephone: 02380 281065 Email: info@ecosa.co.uk
Web: www.ecosa.co.uk

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Appendix 1 Proposed Site Layout



Total Units	49	51255 sqft
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- | KEY | |
|---|---|
|  | SITE BOUNDARY |
|  | PUBLIC OPEN SPACE (2.16HA) |
|  | EXISTING TREES |
|  | TREE RPA |
|  | AFFORDABLE RENTED DWELLING |
|  | AFFORDABLE SHARED OWNERSHIP DWELLING |
|  | 20M OFFSET FROM SINC BOUNDARY |
|  | WATER MAINS EASEMENT |
|  | PUBLIC RIGHT OF WAY FOOTPATH |
|  | POTENTIAL FOOTPATH CONNECTIONS
(SUBJECT TO FINALISED DETAIL) |
|  | LONG DISTANCE VIEWING CORRIDORS |
|  | PROPOSED LAP |
|  | PROPOSED DRAINAGE ATTENUATION
(SUBJECT TO FINALISED DETAIL) |
|  | BIN COLLECTION POINTS |
|  | INDICATIVE BIN STORAGE IN GARDENS |
|  | CYCLE STORAGE SHEDS
(PROVIDED ON PLOTS THAT DO NOT HAVE GARAGES) |

Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) form a network of protected sites across the European Union and United Kingdom. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to SPAs and SACs.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on SPAs, SACs or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a SPA, SAC or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Non-Statutory Sites

Locally Designated Sites

In addition to statutory designations, local authorities often designate sites of nature conservation importance at the local level. Such designations are named differently by each local authority and may be referred to as Local Wildlife Sites (LWS), Sites of Importance for Nature Conservation (SINC) or Sites of Nature Conservation Importance (SNCI), amongst others. The exact level of protection afforded to these sites varies and is normally defined through local planning policy.

Appendix 3 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
 - To impair its ability to survive, breed, or rear or nurture their young;
 - To impair its ability to hibernate or migrate;
 - To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Great Crested Newt

This species is listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely, to impair its ability to survive, breed, or rear or nurture their young, to impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any one of these species uses for shelter or protection.

Badger

The Protection of Badgers Act 1992 consolidates previous legislation (including the Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991). It makes it an offence to:

- Kill, injure or take a badger;
- Attempt to kill, injure or take a badger; or
- To damage or interfere with a sett.

The 1992 Act defines a badger sett as 'any structure or place which displays signs indicating current use by a badger'.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- Intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also 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.

Reptiles

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations (in England and Wales only) and the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

Species and Habitats of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

Appendix 4 Protected and Notable Species Appraisal Methods

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as holes, cracks, splits, loose bark and ivy cladding for trees.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

Hazel Dormouse

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.3), and their suitability to be used as a network.

Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the

England Biodiversity List, and Local Biodiversity Action Plan (LBAP) species¹⁶, specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

¹⁶ LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 9**¹⁷.

Table 9: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
Moderate	A structure of tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by other habitat). Suitable, but isolated, habitat that could be used by small numbers of foraging bats such as a lone tree or a patch or scrub.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

¹⁷ Table adapted from (Collins, 2016)

Appendix 6 Statutory Designated Sites within the Desktop Study Area

Details of statutory designated sites within the desktop study area, as listed in Paragraph 4.2.1, are provided in **Table 10**.

Table 10: Statutory Designated Sites Located Within the Desktop Study Area

Site Name	River Itchen
Site Designation	SAC
Approximate Relative Location	205 metres to the south-east
Reasons for Designation:	
Annex I habitats that are a primary reason for selection of this site: - Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation. Annex II species that are a primary reason for selection of this site: Southern damselfly <i>Coenagrion mercurial</i>; and Bullhead <i>Cottus gobio</i>. Annex II species present a qualifying feature but not a primary reason for site selection: - White-clawed (or Atlantic stream) crayfish <i>Austropotamobius pallipes</i>; - Brook lamprey <i>Lampetra planeri</i>; - Atlantic salmon <i>Salmo salar</i>; and - Otter <i>Lutra lutra</i>.	

Site Name	River Itchen
Site Designation	SSSI
Approximate Relative Location	205 metres to the south-east
Reasons for Designation:	
This site is notified for classic chalk stream and river, fen meadow, flood pasture and swamp habitats. The site is also notified for significant populations of the nationally rare southern damselfly <i>Coenagrion mercuriale</i> and assemblages of nationally-rare and scarce freshwater and riparian invertebrates, including the white-clawed crayfish <i>Austropotamobius pallipes</i>. This site is notified for otter <i>Lutra lutra</i>, water vole <i>Arvicola amphibius</i>, freshwater fishes including brook lamprey <i>Lampetra planeri</i> and Atlantic salmon <i>Salmo salar</i>, and the assemblage of breeding birds.	

Appendix 7 Baseline Habitats

Table 11: Summary of Baseline Habitats

Habitat Ref.	1	
Level 1	Terrestrial	
Level 2	Grassland (g)	
Level 3	Modified Grassland (g4)	
Level 4	N/A	
Level 5	N/A	
Secondary Codes	Grazed	
		
Species List		
Perennial rye-grass, great plantain <i>Plantago major</i>, broad-leaved dock <i>Rumex obtusifolius</i>, soft brome <i>Bromus hordeaceus</i>, pineappleweed <i>Matricaria discoidea</i>, white clover <i>Trifolium repens</i>, scentless mayweed <i>Tripleurospermum inodorum</i>, common cat's-ear <i>Hypochaeris radicata</i>, common knapweed <i>Centaurea nigra</i>, common mallow <i>Malva sylvestris</i>, yarrow <i>Achillea millefolium</i>, selfheal <i>Prunella vulgaris</i>, common fleabane <i>Erigeron philadelphicus</i>, read bartsia <i>Odontites vernus</i> and common vetch <i>Vicia sativa</i>.		

Habitat Ref.	2	
Level 1	Terrestrial	
Level 2	Woodland and forest (w)	
Level 3	Broadleaved and mixed woodland (w1)	
Level 4	Lowland mixed deciduous woodland (w1f)	
Level 5	Other lowland mixed deciduous woodland (w1f7)	
Secondary Codes	Line of trees	
		
Species List		
Ash, hazel, pedunculate oak, hawthorn <i>Crataegus monogyna</i> , bramble, enchanter's nightshade <i>Circaea lutetiana</i> , willowherb <i>Epilobium</i> species, wood avens <i>Geum urbanum</i> , blackhorn <i>Prunus spinosa</i> , ivy <i>Hedera helix</i> , cherry laurel, holly <i>Ilex aquifolium</i> , dog rose <i>Rosa canina</i> , black bryony <i>Dioscorea communis</i> , common hogweed <i>Heracleum sphondylium</i> and silver birch <i>Betula pendula</i> .		

Habitat Ref.	3	
Level 1	Terrestrial	
Level 2	Heathland and shrub (h)	
Level 3	Dense scrub (h3)	
Level 4	Bramble scrub (h3d)	
Level 5	N/A	
Secondary Codes		
		
Species List		
Bramble		

Habitat Ref.	4
Level 1	Terrestrial
Level 2	Heathland and shrub (h)
Level 3	Hedgerows (h2)
Level 4	Non-native and ornamental hedgerow (h2b)
Level 5	N/A
Secondary Codes	
	
Species List	
Cherry laurel	