

GEOSPHERE ENVIRONMENTAL

PRELIMINARY ECOLOGICAL APPRAISAL REPORT

REPORT NUMBER: 7128,EC,PEA,AS,TA,AC,24-01-2023,V1

CLIENT REF: SRP1121-GEL-XX-XX-T-O-0301-EcologicalPreliminarySurveyReport

SITE: SRP1121 Steyning Grammar School, Shooting Field, Steyning,
West Sussex, BN44 3RX

DATE: 24/01/2023



DOCUMENT CONTROL SHEET

Report Number: 7128,EC,PEA,AS,TA,AC,24-01-2023,V1
Client Ref: SRP1121-GEL-XX-XX-T-O-0301- EcologicalPreliminarySurveyReport
Client: Arcadis LLP
Project Name: SRP1121 Steyning Grammar School, Shooting Field, Steyning, West Sussex, BN44 3RX
Project Number: 7128,EC
Report Type: Preliminary Ecological Appraisal
Status: Final
Date of Issue: 24 January 2023

Issued By:

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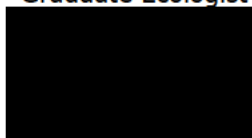
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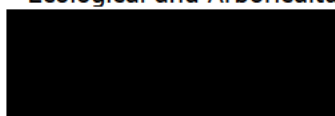
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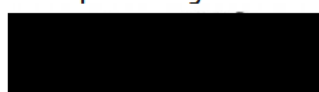


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Version Record:

Version	Date	Document Details	Prepared By	Admin
V1	24/01/23	Original Report	AS	CD

Executive Summary

Report Description	This Preliminary Ecological Appraisal report has been prepared by Geosphere Environmental Limited for Arcadis LLP and relates to the proposed school redevelopment of the site at SRP1121 Steyning Grammar School, Shooting Field, Steyning, West Sussex, BN44 3RX. The purpose of this report is to identify potential ecological constraints to development, particularly in relation to potential legally protected species onsite, confirm the need for further survey work to confirm all baseline ecological conditions, if necessary and highlight opportunities for ecological enhancement.
Summary of Main Findings	The site comprises modified grassland, scattered trees, woodland and an area of hardstanding with brick built and portacabin classrooms and car park. The findings of the survey confirm that the habitats onsite have the potential to support reptiles, foraging and roosting bats, breeding birds and Hedgehog. The site is not considered suitable for Otter Water Vole and Hazel Dormouse
Ecological Constraints	The constraints to development will be the removal of habitats considered suitable for protected species, including trees and hedgerows suitable for foraging bats, Hedgehog, foraging and hibernating reptiles and breeding birds. Also, a constraint is the potential removal of buildings suitable for roosting bats.
Avoidance measures & Timings of Works to reduce impact	Birds: Given the onsite presence of potential bird nesting habitat, any clearance of vegetation, or buildings that support suitable nesting features, should be timed to avoid the bird breeding season (March-August inclusive). If this is not possible, these habitats can only be removed following confirmation by a suitably qualified Ecologist that they are not in active use by nesting birds. Roosting and foraging bats: Retention and protection of the buildings and trees with roost suitability. Avoidance of additional external lighting. Reptiles: Existing amenity grassland should continue to be regularly maintained to a low sward height. Vegetation clearance should be carried out under Method Statement to minimise the risk of harm to reptiles, if present. Hedgehog: If hibernation habitat (log piles, dense scrub) is cleared over winter (November to February) an Ecological clerk of works should be present to supervise works, to ensure Hedgehogs are not harmed during the works. Excavations during development or ground investigation works should be covered overnight to prevent entrapment of Hedgehogs and other mammals.
Further Survey Work Required	The following are recommended at the appropriate time of year to establish an ecological baseline: • Roosting bats: Emergence/re-entry survey (one event) to determine likely presence/absence of roosting bats in any buildings with bat roost suitability that may require demolition/refurbishment (buildings B4, B5 B7 and B11). • Foraging bats: If works that may affect bat foraging and commuting habitat (additional external lighting, removal of woodland, etc), foraging activity

	surveys are restricted to May to September inclusive and will require one survey transect for each season Spring (April to May) Summer (June to August) and Autumn (September to October) supported by static monitoring.
Biodiversity Enhancement Opportunities	The following has been recommended for consideration within the final development scheme: • Planting native species beneficial to wildlife. • Inclusion of new areas of natural habitat within the scheme. • Inclusions of log piles in connectivity with boundary vegetation. • Bird and bat boxes, planting native species and log piles should be included within the final development design to improve the site for birds, bats and reptiles.
Conclusions	Provided the recommendations within this report are followed and the mitigation hierarchy of avoidance, mitigation, compensation and enhancement is implemented throughout the detailed design process, potential negative effects from development on important ecological features will be negligible.

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1. INTRODUCTION

1.1 Purpose

This Preliminary Ecological Appraisal report has been prepared by Geosphere Environmental Limited for Arcadis LLP and relates to the proposed school redevelopment of the site at SRP1121 Steyning Grammar School, Shooting Field, Steyning, West Sussex, BN44 3RX for which detailed planning permission will be sought. The purpose of this report is to:

- Identify if important ecological features are present that may be affected by development proposals.
- Determine if further survey work is necessary, and if so, provide detailed scope for any further survey and assessment that may be required to support a planning application.
- Highlight opportunities for ecological enhancement.

Any limitations and conditions pertaining to the report are stated within Appendix 1, with a full list of technical references provided within Appendix 2.

1.2 Site Description

The site occupies an area of approximately 16.5816 hectares (ha) and is located around National Grid Reference TQ174120. The indicative development boundary is shown on Figure 1 below:



Figure 1. Indicative Site Boundary.

1.3 Proposed Development

The report relates to proposed school redevelopment of the site shown in Figure 1. There is currently no development plan available.

2. LEGISLATIVE AND POLICY CONTEXT

2.1 Current UK Legislation

The main legislation that applies to ecological issues within England and Wales is as follows:

- The Environment Act 2021 Act became law on 9 November 2021 and introduces a framework to improve and protect the natural environment, overseen by the newly created Office for Environmental Protection. The Act introduces new statutory requirements, including the duty for local authorities to create new local nature recovery strategies. The Act also introduces a new mandatory requirement for developments to achieve measurable biodiversity net gain. A two-year transition period for this requirement is included in the Act, with provision for secondary legislation to set a date for the requirement to come into force. It is likely this will be late 2023 or later. Once in force, all planning permissions in England (subject to exemptions) must be granted subject to a new general pre-commencement condition that requires approval of a biodiversity gain plan. The planning authority would only approve the biodiversity gain plan if the biodiversity value attributable to a development exceeds the pre-development biodiversity value of the onsite habitat by 10%.
- The Conservation of Habitats and Species Regulations 2017 (as amended) transposes European Union Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (formally the EC Habitats Directive) into national law. Under the regulations, public bodies have a duty in exercising their functions to provide for the protection of 'Habitats Sites' and 'European Protected Species' (EPS).
- The Wildlife and Countryside Act 1981, (WCA) (as amended) provides detail on a range of protection and offences relating to wild birds, other animals, and plants. The level of protection depends upon which Schedule of the Act the species is listed on. Licences are available for specific purposes to permit actions that would otherwise constitute an offence in relation to species.
- The Natural Environment and Rural Communities, (NERC), Act 2006 imposes an obligation on all public bodies, including local authorities, to consider whether their activities can contribute to the protection of wildlife. 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 and states that: "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."

Species-specific conservation legislation is detailed within Appendix 3.

The reader is referred to the original legislation for definitive interpretation.

2.2 Planning Policy

The recommendations of this report are in line with the key principles of the Ministry of Housing, Communities and Local Government (MHCLG) (2021) National Planning Policy Framework (NPPF) (ref. **R.1**) and Government Circular 05/06: Biodiversity and Geological Conservation (ref. **R.2**).

Local planning policies relating to ecology are invariably based upon the conservation of species protected under the above legislation, including species and habitats of principal importance listed under Section 41 of the NERC Act 2006 and the protection of designated sites.

All of these features are considered within the scope of this Preliminary Ecological Appraisal and therefore any recommendations made herein are likely to be in line with this policy.

3. METHODOLOGY

3.1 Technical Approach

The PEA has been undertaken following guidelines provided by CIEEM's Guidelines for Preliminary Ecological Appraisal, (ref. **R.3**), and BS 42020: 2013 Biodiversity standards, (ref. **R.4**) to provide an indication of the ecological value of the site and the potential for the site to be used by protected species.

Scientific names and common names of plant species identified are as they appear in Stace, (ref. **R.5**).

The conclusions and recommendations for further works are in accordance with current legislation and guidance.

3.2 Personnel

This report was produced by Ariana Segura MSc (Graduate Ecologist) and Tracy Amies BSc (Ecological and Arboricultural Assistant), who are experienced in producing preliminary ecological appraisals and impact assessments. This report was reviewed and approved by Alanna Cooper BSc (Hons) CEnv CSci C.WEM MCIEEM MCIWEM (Principal Ecologist), who is experienced in ecological consultancy including the production of preliminary ecological appraisals and impact assessments.

3.3 Ecological Desk Study

A data search was conducted of freely available biological records. The sources of information included:

- The Multi-Agency Geographic Information for the Countryside (MAGIC) online database (ref. **R.6**) was consulted to obtain geographic information on key statutory designated nature conservation sites and other ecological features of relevance to the site;
- Sussex Biodiversity Centre (SxBC) was contacted to provide details of legally protected species and non-statutory designated conservation sites within 2km of the site. Only records of protected species from within the last ten years are considered within this report;
- Ordnance survey maps were used to identify ponds/ditches within 500m of the site to assess the potential for Great Crested Newt (GCN) within the immediate vicinity of the site.

A desk-based search for ponds within 500m of the site was undertaken using the MAGIC online database basemaps (ref. **R.6**).

3.4 Preliminary Ecological Appraisal

The surveys used to inform the Preliminary Ecological Appraisal comprise of a habitat survey and protected species scoping survey. The preliminary ecological appraisal considers findings of the outcome of the survey work alongside any features highlighted by the desk study.

The site survey was undertaken on 11 January 2023 by Tracy Amies BSc (Ecological and Arboricultural Assistant). The weather conditions at the time of the survey were dry and windy with a wind speed of 24mph, cloud cover was 25% and an approximate temperature of 7°C.

A list of plant species was compiled in accordance with methodology required to establish UK Habitat Classification types (ref. **R.7**) aiming to record to level 4, ensuring habitats were recorded to at least level 3 where it was not possible to record to level 4. Level 5 was recorded wherever possible/relevant. Care was taken to accurately record all habitats of principal importance (if present). Secondary codes were added to polygons, where deemed appropriate, taking special care to map mandatory codes for habitat mosaic, complex and origin. Survey was undertaken at the fine scale minimum mapping unit (MMU) of 25m² (polygons) and 1m width/5m long (lines). Key ecological features below the MMU in either area or length were mapped as points.

The frequency and cover of each species identified as they are distributed in each habitat is estimated using the DAFOR scale, (ref. **R.8**), as follows:

- Dominant - >75% cover;
- Abundant – 51-75% cover;
- Frequent – 26-50% cover;
- Occasional – 11-25% cover;
- Rare – 1-10% cover;
- Locally dominant (LD), abundant (LA) and frequent (LF) is also used where the distribution is patchy.

Where relevant, habitats are compared to UK BAP definitions to determine if they meet the criteria to be considered habitats of principal importance (ref. **R.9**).

The site was assessed for its suitability to support protected species and other species of conservation importance, which could pose a planning constraint. All signs and areas of habitat considered suitable for protected species or those of conservation interest, were recorded and photographed. These include burrows, droppings, footprints / paths, hairs, refuges and particular habitat types, such as ponds, known to be used by certain class of fauna. Sites are taken in the context of their surroundings and so include the immediate environs outside of site boundaries, where appropriate.

Any mammal paths found were noted down and followed where possible.

All ponds within 500m of the site were also assessed for their suitability for Great Crested Newt (*Triturus cristatus*) if the ponds were publicly accessible or if access had been granted prior to the survey. This includes a habitat suitability index (HSI) assessment (ref. **R.10**) which assesses the pond based upon a number of factors including the size, water quality, permanence, shading, presence of fish, the number of nearby ponds and macrophyte cover. A score between 0 and 1 is given; where 0 represents poor suitability and 1 represents excellent suitability.

An external inspection of the buildings was undertaken to identify the suitability of the building to provide potential roost space for bats, in line with the Bat Conservation Trust (BCT) survey guidelines (ref. **R.11**). In particular, potential access points and evidence of bats were searched for. This was carried out in full day light with the aid of binoculars to identify the following features:

- Age and structure of the building;
- Condition of the roof noting any missing, dislodged or lifted tiles that would provide entry;
- Condition of the walls, doors and windows that may also provide entry;
- Windowsills, walls and sheltered areas are searched for bat droppings;
- Grease marks, scratch marks and urine staining around possible entry points.

All established trees that could be accessed onsite were inspected and assessed in terms of their suitability (negligible, low, moderate or high) to support roosting bats, in line with the Bat Conservation Trust (BCT) survey guidelines (ref. **R.111**).

3.5 Ecological Evaluation

The ecological evaluation detailed below is based upon CIEEM Guidelines for Ecological Impact Assessment in the United Kingdom, (ref. **R.12**).

CIEEM Guidelines state that the value or potential value of an ecological resource or feature should be determined within a defined geographical context as follows:

- On an International scale, e.g. Ramsar, SAC or SPA site;
- On a UK scale, for example a SSSI or a National Nature Reserve, (NNR);
- On a National scale, e.g. a reserve of importance to England/Northern Ireland/Scotland/Wales;
- On a Regional scale, e.g. a local site with important regional habitats or UKBAP species;
- On a County scale, e.g. a local site with a habitat that is characteristic of the County or rare on a County scale, or with LBAP species;
- On a District scale, e.g., a site with wildlife corridors likely to improve the biodiversity of the area;
- Local or Parish, e.g. areas of green space in a predominantly urban environment;

The potential for protected species to use the habitats onsite contributes significantly towards the potential value of the habitats onsite.

3.6 Site-specific Limitations

Due to the time of year the survey was undertaken, some plant species are not identifiable. However, this does not affect classification of habitats present.

The woodland in the north of the site was not fully accessed as the sloping ground and waterlogged nature of the ground underfoot meant the lone surveyor did not enter the area.

Where access was not practicable, observations of habitats as far as possible were used to inform the habitat mapping.

4. RESULTS

4.1 Designated Sites

All relevant desk study data relating to designated sites is attached in Appendix 4.

There are no designated sites within the site boundary.

Consultation of the MAGIC online interactive mapping tool confirms the presence of eight nationally important and six locally important statutory designations present within a 10km search radius of the site boundary. There are no internationally important statutory designations within the 10km search radius.

4.2 Habitats

The results of the habitat survey are detailed below and annotated on Figure 2 below:

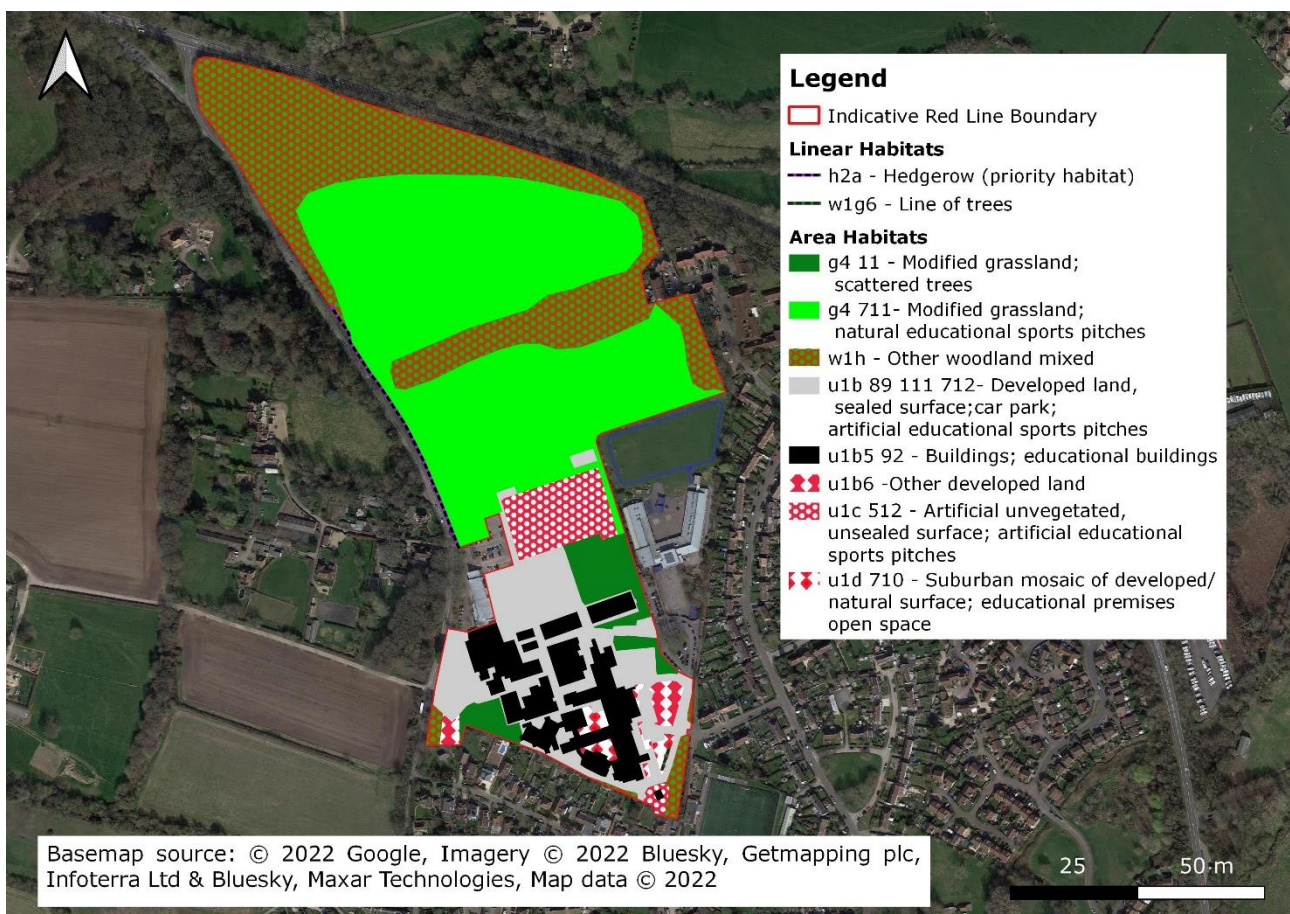


Figure 2. Habitat Survey Plan.

A search of Magic Map (ref. **R.6**) identified the following for habitats of principal importance near the site. Two areas of deciduous woodland exist within the site, in the northern part of the school site boundary and top eastern area. Sections of ancient woodland can be found close within the site boundary, including 2.22ha of ancient woodland called "Nash Wood" lies approximately 371 metres (m) northeast of the site

boundary, 6.04ha of ancient and semi-natural woodland 602m northwest of the site and 0.84ha, 513.8m west of the site.

The following area-based habitat types were recorded within the survey area:

- Modified grassland; scattered trees- g4 11;
- Modified grassland; natural educational sports pitches – g4 711;
- Other woodland mixed – w1h;
- Developed land, sealed surface; car park; artificial educational sports pitches – u1b 89 111 712;
- Buildings; educational buildings – u1b5 92;
- Other developed land – u1b6;
- Artificial unvegetated, unsealed surface; artificial educational sports pitches – u1c 512;
- Suburban mosaic of developed/natural surface; educational premises open space – u1d 710.

Linear habitats recorded within the survey area include:

- Hedgerow (priority habitat) – h2a;
- Line of trees – w1g6.

The following habitat types recorded within close proximity of the survey area were also observed:

- Residential areas;
- Arable farmland;
- Woodland.

4.2.1 Modified grassland; scattered trees – g4 11

Three areas of modified grassland with scattered trees are onsite; two to the east and one to the southeast and comprise accessible areas of grassland with frequent Perennial Ryegrass (*Lolium perenne*) and fescues (*Festuca* sp), occasional Daisy (*Bellis perennis*) and Dandelion (*Taraxacum officinale*). The largest area to the east has a small group of Ornamental Cherry trees (*Prunus* sp); the smaller area to the east has a group of Beech (*Fagus sylvatica*) and Pedunculate Oak (*Quercus robur*). The south-eastern area has a few Beech trees. All three areas are used by students at break times and are mowed regularly.

4.2.2 Modified grassland; natural educational sports pitches – g4 711

This area of modified grassland consists of 7.5Ha of sports pitches. The main grass species present were fescues and Perennial Ryegrass with occasional Daisy, Clover (*Trifolium* sp), Cat's Ear (*Hypochaeris* sp), Dandelion with rare Chickweed (*Stellaria* sp). An area of less mown grass occurred to the east of the northern-most sports field included occasional Creeping Buttercup (*Ranunculus repens*) and Yorkshire Fog (*Holcus lanatus*). Both areas of the modified grassland were waterlogged and were out of use at the time of survey (see Target Note 4 in Appendix 5).

4.2.3 Other woodland, mixed – w1h

The woodland covers 2.6Ha to the north and east of the site with a belt of woodland running east/west across the central area of the modified grassland and some smaller areas on the south and southeast boundaries.

To the north the woodland was on a slope down to the Black Sewer river and Steyning Bypass and consisted of mature Alder (*Alnus glutinosa*), Pedunculate Oak (*Quercus robur*), Sweet Chestnut (*Castanea sativa*), Larch (*Larix decidua*), Ash (*Fraxinus excelsior*), Silver Birch (*Betula pendula*) with Spruce (*Picea* sp) and Scots Pine (*Pinus sylvestris*) with an understorey of Hazel (*Corylus avellana*), Holly (*Ilex aquifolium*), Elder (*Sambucus nigra*), Dogwood (*Cornus sanguinea*) and Bramble (*Rubus fruticosus*). Undergrowth identifiable included clumps of Sedge (*Carex* sp), Wild Teasel (*Dipsacus fullonum*) and Burdock (*Arctium* sp).

The boundary between grassland and woodland to the north was notable for an approximately 230m length (2-3m wide and up to 1m deep) of organic waste (grass clippings, pruning's etc.) which seems to have built up over some time and appears to be a barrier to water draining from the field (Target Notes 1-3 in Appendix 5).

The central area of woodland was drier, and the understorey species included, in addition to those already listed, Rhododendron (*Rhododendron ponticum*), Yew (*Taxus baccata*), Privet (*Ligustrum vulgare*), Blackthorn (*Prunus spinosa*) and Hawthorn (*Crataegus monogyna*).

4.2.4 Suburban mosaic of developed/natural surface; educational premises open space – u1d 710

These areas form 'quads' within the school buildings which are in use by students both as recreational areas and through-routes between buildings. They consist of areas of well-worn grass with occasional introduced shrubs.

4.2.5 Hedgerow (priority habitat) – h2a

This hedgerow runs along the western boundary of the playing fields until it becomes woodland. The hedge consists of frequent Field Maple (*Acer campestre*) with occasional Beech, Sycamore (*Acer pseudoplatanus*), Ash Hawthorn, Laurel (*Prunus laurocerasus*) with Bramble and Ivy (*Hedera helix*) throughout. The hedge was frequently flailed to a height of around 1.5m with a width of 1m. Under the edge of the hedgerow were Cleavers (*Galium aparine*), Nettles (*Urtica dioica*), Broad-leaved Dock (*Rumex obtusifolius*) and Lords and Ladies (*Arum maculatum*).

4.2.6 Line of trees – w1g6

The line of trees on site is towards the southeast and consists of a 22m line of mature Lombardy Poplar (*Populus nigra var. italica*).

4.2.7 Habitats Outside the Development Zone

To the south and the east of the site lies the town of Steyning, and it's associated residential areas. The Steyning Bypass runs along the northern boundary of site.

The best connectivity with the immediate surrounding landscape occurs towards the west where the woodland continues with hedgerows connecting arable and grass fields. The wider landscape is typical of the West Sussex countryside with a patchwork of fields and woods.

4.3 Species

4.3.1 Species Discounted from Further Consideration

Legally protected species for which there is no suitable habitat onsite include Otter (*Lutra lutra*), Water Vole (*Arvicola amphibius*) and Hazel Dormouse (*Muscardinus avellanarius*). These species are therefore not considered further in this report.

4.3.2 Plants

Sussex Biodiversity Record Centre (SxBC) has returned 118 records of rare or otherwise notable plants recorded in the last 10 years within 2km of the site. This includes species such as Bluebell (*Hyacinthoides non-scripta*) that may be present in the woodland at the site.

Given the nature of the identified habitats (i.e., themselves common and widespread) within and immediately adjacent to the proposed works areas, no notable plant species are expected within the affected areas.

Rhododendron (*Rhododendron ponticum*), an invasive species listed on Schedule 9 of the Wildlife and Countryside Act, was recorded in woodland on site.

4.3.3 Invertebrates

SxBC has returned 2242 records of invertebrates recorded in the last 10 years within 2km of the site. This includes species such as Barred Tooth-striped (*Trichopteryx polycommata*) that could make use of the Ash and Wild Privet present onsite.

The mosaic of woodland, grassland and scrub habitats on site could support assemblages of rare and or notable invertebrates.

4.3.4 Great Crested Newt

SxBC has returned 2 records of Great Crested Newt (*Triturus cristatus*) recorded in the last 10 years within 2km of the site. The closest record is 969m from the site, separated from site by the Steyning Bypass.

Nine ponds are located within 500m of the site, referenced ponds 1 to 9 and shown on Figure 3 below. All ponds were on private property and inaccessible to the surveyor.

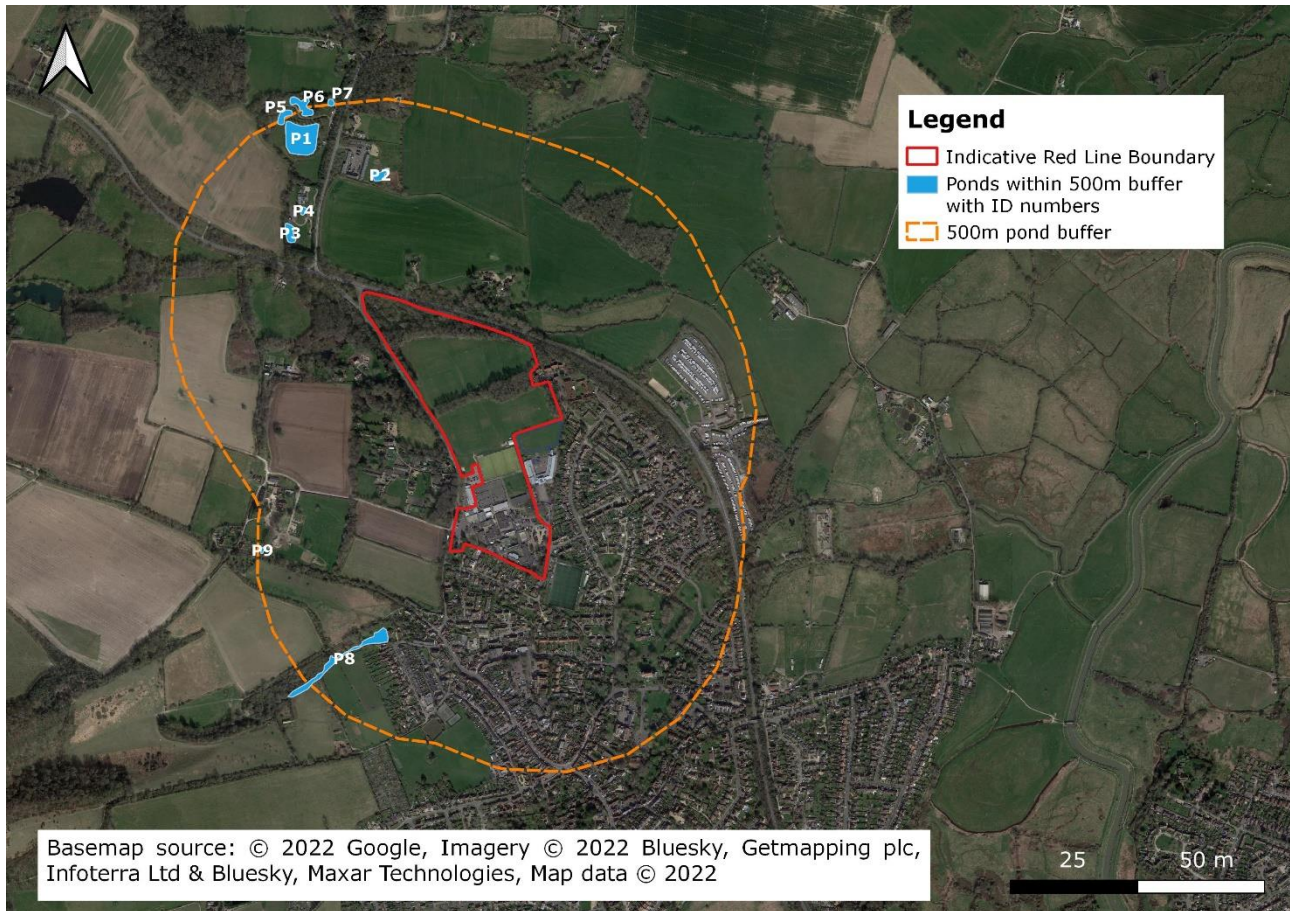


Figure 3. Ponds within 500m of the Site Boundary.

A Habitat Suitability Index (HSI) assessment was not undertaken as access was not possible to assess the suitability of each pond to support Great Crested Newts. An assessment from aerial photographs was carried out and the results are summarised in Table 1 overleaf:

Table 1 – HSI Scores of Ponds

Pond	Distance From Site	Connected or Separated from Site	Pond Size (m ²)	HSI Score	Pond Suitability for Great Crested Newts
1	383m northwest	Separated by Steyning Bypass and Horsham Road.	5972	Unknown as it could not be accessed.	Aerial photographs show this body of water to be part of a coarse fishing centre and is considered unsuitable for breeding Great Crested Newts.
2	294m north	Separated by Steyning Bypass.	780	Unknown as it could not be accessed.	Aerial photographs show this body of water to be in a private garden and is considered unsuitable for breeding Great Crested Newts.
3	222 northwest	Separated by Steyning Bypass and Horsham Road.	923	Unknown as it could not be accessed.	Aerial photographs show this body of water to be in a private garden and is considered unsuitable for breeding Great Crested Newts.
4	260m northwest	Separated by Steyning Bypass and Horsham Road.	229	Unknown as it could not be accessed.	Aerial photographs show this body of water to be in a private garden and is considered unsuitable for breeding Great Crested Newts.
5	496m northwest	Separated by Steyning Bypass and Horsham Road.	758	Unknown as it could not be accessed.	Aerial photographs show this body of water to be part of a coarse fishing centre and is considered unsuitable for breeding Great Crested Newts.
6	478m north	Separated by Steyning Bypass and Horsham Road.	1412	Unknown as it could not be accessed.	Aerial photographs show this body of water to be part of a coarse fishing centre and is considered unsuitable for breeding Great Crested Newts.
7	490m north	Separated by Steyning Bypass and Horsham Road.	231	Unknown as it could not be accessed.	Aerial photographs show this body of water to be part of a coarse fishing centre and is considered unsuitable for breeding Great Crested Newts.
8	260m southwest	Separated from site by Horsham Road and arable fields.	3695	Unknown as it could not be accessed.	Aerial photographs show this body of water to be a swimming pond in a private garden and is considered unsuitable for Great Crested Newts.
9	478m west	Separated from site by Horsham Road, arable fields and an area used for farm storage.	87	Unknown as it could not be accessed.	Aerial photographs show this body of water to be a swimming pond in a private garden and is considered unsuitable for Great Crested Newts.

Pond 3 is the only pond within 250m of the site boundary, as in Figure 4 overleaf. However, it is at the northern end of the site where it is assumed no development work will be carried out. Figure 4 overleaf shows a 250m buffer around all identified ponds.

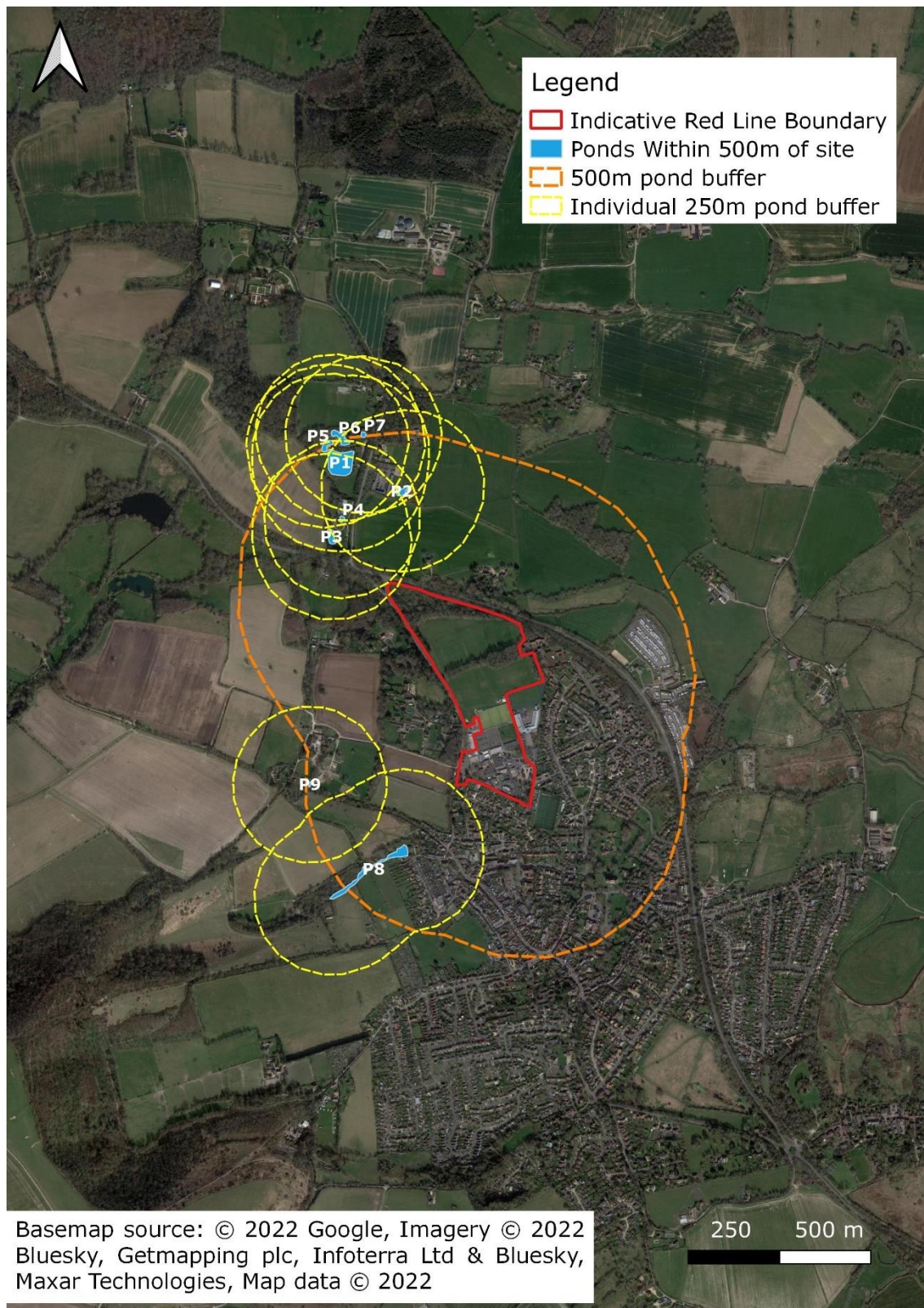


Figure 4. 250m pond buffers and the Site Boundary.

Given the lack of suitable breeding habitat, it is considered unlikely GCN are present at the site. GCN are therefore removed from further consideration in this report.

4.3.5 Reptiles

SxBC has returned 17 records of reptiles recorded in the last 10 years within 2km of the site. Records include Common Lizard (*Zootoca vivipara*), Slow-worm (*Anguis fragilis*), Adder (*Vipera berus*) and Grass Snake (*Natrix helvetica*). The closest is an Adder recorded 1400m from the site.

The habitat onsite, particularly in and at the edge of the woodland areas, is suitable for foraging and hibernation with reasonable connectivity to nearby woodland and hedgerows. Few breeding opportunities were observed onsite, with the exception of the wide area of dumped organic waste bordering the woodland. As this appears to be primarily grass cuttings it presents as a long, low, wide compost heap.

4.3.6 Birds

SxBC has returned 2032 records of birds recorded in the last 10 years within 2km of the site. This includes species such as Turtle Dove (*Streptopelia turtur*) that could make use of the arable fields, woodland and scrub present onsite.

Table 2 below, shows the species of birds that were noted during the survey:

Table 2 – Birds Identified During the Survey			
Common Name	Scientific Name	Status*	Location Notes
Blackbird	<i>Turdus merula</i>	Green	Foraging in woodland
Blue Tit	<i>Cyanistes caeruleus</i>	Green	Foraging in woodland
Carrion Crow	<i>Corvus corone</i>	Green	Flying over
Feral Pigeon	<i>Columba livia domestica</i>	Unlisted	Nesting on school buildings
Great Tit	<i>Parus major</i>	Green	Foraging in woodland
Jackdaw	<i>Corvus monedula</i>	Green	Foraging on grassland
Long-tailed Tit	<i>Aegithalos caudatus</i>	Green	Foraging in woodland
Magpie	<i>Pica pica</i>	Green	Foraging on grassland
Pied Wagtail	<i>Motacilla alba</i>	Green	Foraging amongst school buildings
Robin	<i>Erithacus rubecula</i>	Green	Foraging in woodland
Woodpigeon	<i>Columba palumbus</i>	Amber	Flying over
Status abbreviations: Red / Amber / Green: Birds of Conservation Concern 5 (BoCC 5) status SOPI: species of principal importance, listed on section 41 of the NERC Act 2006 Sch 1: protected species listed on schedule 1 of the WCA 1981 as amended			

The buildings, trees, hedgerow and scrub provide suitable nesting habitat for common and widespread species. These habitats and the grassland also provide suitable foraging habitat for birds.

4.3.7 Bats

SxBC has returned 44 records of bats recorded in the last 10 years within 2km of the site. Records include Barbastelle Bat (*Barbastella barbastellus*), Brandt's Bat (*Myotis brandtii*), Whiskered Bat (*Myotis mystacinus*), Serotine Bat (*Eptesicus serotinus*) Noctule Bat (*Nyctalus noctule*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Common Pipistrelle (*Pipistrellus pipistrellus*), Nathusius's pipistrelle (*Pipistrellus nathusii*), Brown Long-eared Bat (*Plecotus auritus*) and Daubenton's bat (*Myotis daubentonii*).

Some of the buildings and trees onsite are considered suitable for roosting bats; the boundary hedgerows and woodland are suitable for foraging and commuting bats. These features are discussed in further detail below.

4.3.7.1 Buildings

The buildings subject to a preliminary roost assessment are referenced as shown on on Figure 5 below.



Figure 5. Building References for the Preliminary Roost Assessment.

Selected photographs of the scoping survey are included in Appendix 6 and details of the potential roost features identified, and their suitability are provided in Table 3 overleaf:

Table 3 – Bat Roost Suitability of Buildings

Ref. No.	Building Description	Potential Roost Feature	Bat Roost Suitability*
B1	Single storey, brick built, flat roofed building with uPVC windows and doors. In use as classroom.		Negligible
B2	Single storey, brick built, flat roofed building with uPVC windows and doors. In use as classroom.		Negligible
B3	Single storey, metal clad, flat roofed Portacabin style classrooms.		Negligible
B4	Double height, brick built, sports hall/exam hall, flat roofed and with tile clad walls (netted for safety).	A – holes left by fallen wall tiles on northern elevation at 5m above ground level. B – holes left by fallen wall tiles on southern elevation at 3m above ground level. C – holes under roof edge and missing tiles on western elevation, 8m above ground level. (Photographs 11-13)	Low
B5	Single storey, brick built, tile clad, flat roofed classroom building with uPVC windows.	E – lifted flashing above tiled wall on southern elevation. (Photograph 15)	Low
B6	Single storey, brick built, flat roofed classroom building with uPVC windows and cladding.		Negligible
B7	Single storey, brick built, flat roofed classroom building with some uPVC and some aluminium framed windows. Double height boiler room tower to northern end of building.	F – gaps between roof and brickwork on boiler room tower. G – gaps between brickwork and roof on eastern elevation. Signs of wear on some bricks. (Photographs 16-18)	Low
B8	Two storey, flat roofed, wooden clad and brick classroom building with wooden windows.		Negligible
B9	Single storey, brick built dining hall and kitchen building with uPVC windows and doors.		Negligible
B10	Partial single storey and double storey, brick built, flat roofed classroom building with uPVC windows.		Negligible
B11	Single storey, brick built, pitch, tiled roof office building with uPVC windows and wooden soffits/bargeboards.	D – gaps under roof through rotten wooden soffits on western elevation. (Photograph 14)	Low
B12	Double height aluminium clad leisure centre building.		Negligible
*based on external assessment unless stated otherwise			

4.3.7.2 Trees

The preliminary roost assessment of the established trees onsite identified 6 trees of low or higher suitability to support roosting bats. The location of these trees is shown on Figure 6 overleaf.



Figure 6. Trees Identified as Having Bat Roost Potential.

Selected photographs of the scoping survey are included in Appendix 6 and details of the potential roost features identified in these trees and their suitability are provided in Table 4 below:

Table 4 – Bat Roost Suitability of Trees (Ground Level Assessment)			
Ref. No.	Species	Potential Roost Feature/ direction and height on tree	Bat Roost Suitability
T1	Beech	A mature, live tree with a 500mm DBH, approximately 18m tall. Open pruning wound scar, south facing approximately 10m above ground. (Photos 1 & 2)	Moderate
T2	Ash	A mature, live tree with a 400mm DBH, approximately 16m tall. Open pruning wound scar, south facing, approximately 10m above ground. (Photos 3 & 4)	Moderate
T3	Scots Pine	A mature, live tree with a 380mm DBH, approximately 16m tall. Open pruning wound scars/woodpecker holes, south facing approximately 12m above ground. (Photos 3 & 5)	Moderate
T4	Scots Pine	A mature, live tree with a 500mm DBH, approximately 18m tall. Series of woodpecker holes north facing. (Photo 4)	Moderate
T5	Beech	A mature, live tree with a 600mm DBH, approximately 18m tall. A large woodpecker hole, facing south. (Photos 7 & 8)	Moderate

Table 4 – Bat Roost Suitability of Trees (Ground Level Assessment)

Ref. No.	Species	Potential Roost Feature/ direction and height on tree	Bat Roost Suitability
T6	Sycamore	A mature, live tree with a (Photos 9 & 10)	Moderate

4.3.7.3 Foraging and Commuting Habitat

Scattered trees, woodland, hedgerow and scrub offer suitable commuting routes and foraging habitat for bats. The connectivity of the site with surrounding suitable habitats is good, with a significant amount of arable connected by hedgerows and areas of woodland.

4.3.8 Hedgehog

The site provides suitable foraging habitat for hedgehog in the grassland, and suitable nesting and hibernating habitat in the scrub and woodland.

Connectivity to surrounding habitats is sub optimal as the site is surrounded by roads.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4.3.10 Other Fauna

Anecdotal evidence was gathered of Fox (*Vulpes vulpes*), seen regularly onsite by the grounds staff. However, no physical evidence was observed by the surveyor.

5. EVALUATION, CONSTRAINTS AND RECOMMENDATIONS

5.1 Nature Conservation Sites

The desk study identified 6 nature conservation site with statutory designation, and 8 non- statutory designated nature conservation sites within 2km radius of the site. No internationally protected sites were noted within 10km.

The development site does not contain any habitats which could support the important species associated with either the statutory or non-statutory sites, and there is no potential habitat connectivity between the site and the statutory sites.

It is considered unlikely, given the distance from the survey area and localised nature of any proposed development works, that the Nature Conservation sites listed above will be directly affected by any construction activity on the surveyed area.

The development site falls within the ZOI of the designated site Chanctonbury Hill SSSI, 2km to the west. The Sussex North Water Supply Zone requires that all new development that requires a public water supply requires an HRA (Habitats Regulations Assessment) to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar (10km west).

5.2 Habitats

The proposed development should aim to deliver a biodiversity net gain, by including more habitat area, and better-quality habitat within the proposals, than are currently present onsite. This may require consideration of offsite compensation for loss of habitats. Metric calculations in accordance with the most recent methodology (Biodiversity Metric 3.1, refs. **R.13** and **R.14** at time of writing) will likely be a requirement of planning in order to show how that net gain can be achieved.

The ecological constraints regarding general habitats onsite are detailed within Table 5 below, along with associated recommendations for avoidance and/or mitigation to reduce likely impact:

Table 5 – Habitat Constraints and Recommended Actions			
Habitat	Value/Importance	Potential Impact/Effect	Recommended Actions (Avoidance Measures or Recommendations to Reduce Impact)
Mature Trees/woodland.	Mature trees and woodland have intrinsic ecological value, in particular as dispersal routes for wildlife as well as foraging and roosting potential for birds and bats.	Loss of foraging and resting habitat suitable for notable and protected species.	Mature trees and woodland should be retained where possible. Any trees or hedgerow that are removed during development should be replaced within the landscaping of the final development using similar species. Protection measures should be implemented according to BS 5837: 2012 'trees in relation to design, demolition and construction' (ref. R.15). Retain and/or enhance where possible. The loss of any sections of hedgerow should be compensated

Table 5 – Habitat Constraints and Recommended Actions

Habitat	Value/Importance	Potential Impact/Effect	Recommended Actions (Avoidance Measures or Recommendations to Reduce Impact)
			for by planting new hedgerows onsite to maintain habitat corridors across the site. Occasional removal of coniferous species of trees in the woodland to allow deciduous canopy cover to increase would lead to an overall enhancement of biodiversity of the woodland.
Hedgerows	Habitat of principal importance. Wildlife resource for foraging/commuting local wildlife.	Loss of foraging and nesting habitat suitable for notable and protected species. Loss of a habitat of principal importance.	Any hedgerows that are removed during development should be replaced within the landscaping of the final development using similar species. Protection measures should be implemented according to BS 5837: 2012 'trees in relation to design, demolition and construction' (ref. R.15). Retain and/or enhance where possible. The loss of any sections of hedgerow should be compensated for by planting new hedgerows onsite to maintain habitat corridors across the site. Species selected should be native and of local provenance.

5.3 Legally Protected and Notable Species

The ecological evaluation for protected species is detailed Table 6 overleaf:

Table 6 – Protected Species - Ecological Constraints and Recommended Actions

Ecological Constraint/ Receptor	Biological Records Within 2km	Value of Supporting Feature	Potential Impact/Effect	Recommended Actions (Avoidance/mitigation/compensation Measures and Recommendations for Further Works)	Timing Restrictions
Invertebrates	Yes	The mosaic of habitat is likely to support an assemblage of common invertebrates, and possibly some species of principal importance.	Loss of habitat for invertebrates Reduction of local population(s) of invertebrates	Inclusion of wildlife planting should ensure that common species of invertebrate still use the site post development.	N/A
Reptiles	Yes	Habitats onsite are considered suitable to support a good population of widespread species of reptiles. Grassland onsite is suitable for foraging reptiles, the log piles within the woodland are suitable for hibernating reptiles.	Reduction in breeding / foraging / hibernation habitat for reptiles Death or injury of reptiles	A strict Method Statement is recommended to be submitted to the LPA for approval prior to clearance of any semi-improved grassland, woodland and scrub within the red-line boundary. Due to the very limited extent of habitat to be removed, this approach is considered appropriate. In addition, existing amenity grassland should continue to be regularly maintained to a low sward height. The Method Statement should include timings and details of the clearance methods and post clearance maintenance methods (including a toolbox talk to all site staff involved) to minimise the risk of harm to reptiles, if present.	N/A
Breeding Birds	Yes	Habitats including scrub and trees offer value to breeding birds for common passerine birds.	Loss of habitat for breeding and foraging birds Destruction of active nest sites	To ensure that no offences occur under the WCA, it is recommended that any vegetation clearance work is undertaken outside of the bird nesting season. If it is not possible to undertake clearance works outside of the breeding bird season, a suitably qualified ecologist should be employed to determine if nesting birds are using the site prior to works commencing, to avoid negative impact on protected species. Any active nests that are found would need to be provided with a minimum of a 10m buffer which would have to be left until the young had fledged, (typically up to four weeks from eggs being laid for the garden and woodland species likely to be present). Clearance works within the area can recommence only once the nest is no longer in use. Avoidance measures such as habitat retention and protection should be designed into the scheme to avoid negative impact. This should include retention and protection of the mixed plantation woodland.	Clearance during September to February only unless supervised by an Ecologist.
Bats: Roosting habitat - Buildings B4, B5, B7 and B11 Trees T1 to T6	Yes	Buildings B4, B5 B7 and B11 are considered to have a Low suitability for potential roost features. Potential roost features on 6 trees.	Loss of roosting habitat Destruction of a resting place for bats Death or injury to bats	Avoidance measures should be designed into the scheme to avoid negative impact. This should include retention and protection of the buildings and trees with roost potential. An appropriate buffer to avoid impacts from vibration and noise during construction. A sensitive lighting scheme should be designed, if required, in coordination between a qualified lighting engineer and a suitably qualified Ecologist, according to current best practice guidelines (ref. R.16). This should ensure that potential roosting and connective commuting habitat (either retained or created within the development) remains as unlit as possible to allow continued and future use by bats.	Presence/absence surveys are restricted to May to August inclusive (low roost potential).
				If the buildings with bat roost suitability (B4, B5 B7 and B11) cannot be retained or will require refurbishment, bat emergence surveys should be undertaken to confirm roosting. Based on the initial assessment one survey visit to confirm presence or absence will be required for each building where further survey is required. A tree climbing survey under the supervision of a bat licenced ecologist is recommended to determine whether bats are roosting in the 6 trees identified should these trees be affected by the work. If any additional trees are identified during this survey to have moderate or higher bat roost potential, these should also be subject to further survey if they will be affected by the work.	N/A
Bats: Foraging and commuting habitat	Yes	Hedgerows and woodland around the margins of the site are suitable habitat for foraging and commuting bats. The foraging and commuting habitat onsite is considered to be of moderate value; a significant amount of this habitat will be retained. Boundary vegetation offers suitable commuting routes for bats, and as there is currently no bat data for the site it is unknown how any proposed lighting associated with the development would affect these routes.	Loss of foraging and commuting habitat Severance of commuting routes Abandonment of roost sites Reduction in foraging availability reducing breeding success	Avoidance measures should be designed into the scheme to avoid negative impact. This should include: - Retention and protection of all trees currently around the boundaries of the site - A sensitive lighting scheme should be designed in coordination between a qualified lighting engineer and a suitably qualified Ecologist, according to current best practice guidelines (ref. R.16). This should ensure that levels of artificial lighting for all existing foraging or commuting habitat for bats are not increased above the current baseline levels.	N/A
				Alternatively, should external lighting for the development be required, light spill onto boundary features is increased above current baseline levels, further survey is required to determine a baseline of data to determine the level of importance of the boundary features to foraging and/or commuting bats. Transect and remote monitoring surveys should be carried out to determine the use of the site and the site boundaries by bats (i.e., whether any rare species or a large number of bats forage onsite). This will enable an ecological risk assessment to determine the level of effect, if any, additional artificial lighting will have on foraging and commuting bats, and design mitigation and/or compensation measures that may be necessary to address the effect.	Activity surveys are restricted to May to September inclusive and will require one survey transect for each season Spring (April to May) Summer (June to August) and Autumn (September to October) supported by static monitoring.

Table 6 – Protected Species - Ecological Constraints and Recommended Actions					
Ecological Constraint/ Receptor	Biological Records Within 2km	Value of Supporting Feature	Potential Impact/Effect	Recommended Actions (Avoidance/mitigation/compensation Measures and Recommendations for Further Works)	Timing Restrictions
Hedgehog – foraging and hibernation	Yes	Woodland and hedgerows onsite offer suitable hibernation and foraging habitat for Hedgehog	Loss of foraging and hibernation habitat.	Reduction of impact: if hibernation habitat (log piles, dense scrub) is cleared over winter (November to February) an Ecological clerk of works should be present to supervise works, to ensure Hedgehogs are not harmed during the works. Excavations during development or ground investigation works should be covered overnight to prevent entrapment of Hedgehogs. Mitigation: Hedgehog friendly fencing should be incorporated into the final design to allow Hedgehogs to continue to commute and forage in the local area. A 15cm diameter hole should be placed at the base of each fence, allowing all gardens and greenspace to be accessible to Hedgehog.	

6. OPPORTUNITIES FOR ECOLOGICAL ENHANCEMENT

The following general enhancements have been recommended to be included within the final development Scheme:

- Planting of native plant species beneficial to wildlife should be incorporated into the final design. This will provide additional habitat for invertebrates, which will in turn provide a food source for reptiles, birds, bats, and Hedgehog.
- The final development plan should incorporate bat and bird boxes into the scheme. This will provide additional roosting and nesting habitats for bats and birds post-development.
- Log piles should be placed in connectivity to the boundary vegetation onsite and in the woodland, enhancing the habitats onsite for both reptiles and invertebrates post-development.
- To help achieve biodiversity net gain on the site, areas of natural habitat would need to be included within the scheme. Metric calculations will likely be a requirement of planning, in order to show that net gain can be achieved.

Examples of potential enhancement features are included as Appendix 7.

7. CONCLUSIONS

The proposed development will not adversely affect or statutory non- statutory designated nature conservation sites.

None of the habitats that occur within the survey area were considered to have high ecological importance on an international, national, regional or county scale. The habitats onsite are of site significance only.

The findings of the habitat survey and protected species scoping survey confirm that the habitats onsite have the potential to support reptiles, foraging and roosting bats, breeding birds and Hedgehog. The recommendations within Section 6 of this report should be implemented to reduce the potential impact on protected species.

If avoidance measures are not possible, additional surveys for bats, will be required to confirm baseline use of the site by protected species. If present, a detailed mitigation strategy will be required to be provided to the Local Planning Authority prior to the determination of a planning application. Recommendations for mitigation should be in-line with CIEEM guidance (ref. **R.12**) for ecological impact assessment.

To help achieve biodiversity net gain on the site, areas of natural habitat would need to be included within the scheme. Metric calculations will likely be a requirement of planning, in order to show that net gain can be achieved.

Opportunities exist for the provision of ecological enhancements in the form of integrated bat/bird/invertebrate boxes and the incorporation of locally sourced native plant species, or those of known wildlife benefit, into the landscape strategy.

Provided the recommendations within this report are followed and the mitigation hierarchy of avoidance, mitigation, compensation and enhancement is implemented throughout the detailed design process, potential negative effects from development on important ecological features will be negligible.

APPENDICES

Appendix 1 – Report Limitations and Conditions

General Limitations and Exceptions

This report was prepared solely for our Client for the stated purposes only and is not intended to be relied on by any other party or for any other use. No extended duty of care to any third party is implied or offered.

Geosphere Environmental Ltd does not purport to provide specialist legal advice.

The Executive Summary, Conclusions and Recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon until considered in the context of the whole report.

Interpretations and recommendations contained within the report represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based upon current legislation in force at that time.

Ecology Limitations and Exceptions

Any limitations associated with the report will be stated. The consequences of any limitations, findings and/or recommendations in the report are made clear in line with CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition, Chartered Institute of Ecology and Environmental Management, Winchester and BSI (2013) BS 42020:2013 Biodiversity – 'Code of practice for planning and development'.

This report is prepared and written in the context of the proposals stated in the introduction to this report and should not be used in a differing context.

The wildlife and habitats present on any site are subject to change over time. Surveys of this kind can have limited validity, with the possibility of behaviour patterns and territory boundaries varying over time, due to the dynamics of adjacent populations.

New information, improved practices and legislation may necessitate an alteration to the report in whole or in part after its submission. Therefore, with any change in circumstances or after the expiry of one year from the date of the report, the report should be referred to us for re-assessment and, if necessary, re-appraisal.

It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the natural environment.

The scoping survey does not assess the presence or absence of a species but is used to assess the potential for habitat to support them. Additional surveys may be recommended if, on the basis of the preliminary assessment or during subsequent surveys, it is considered reasonably likely that protected species may be present.

If bats or any other European protected species are found to be present onsite, and the proposed activities will cause disturbance or destruction of a roost site then this report will only summarise the potential requirements. For works to continue a detailed mitigation plan with appropriate compensation measures would be required and a development licence would need to be sought from Natural England.

This survey does not constitute an invasive species survey and should not be treated as such.

Owing to seasonal variances and prevailing weather, conditions may sometimes be sub-optimal for surveying, and this may delay or disrupt planned survey programmes. If applicable, full details are given in the report.

Geosphere Environmental Ltd may not be aware of information that could be held by other organisations or individuals, and it is always possible for features of nature conservation interest to be unrecorded during surveys.

Scientific survey data will be shared with local biological records centre in accordance with the CIEEM professional code of conduct.

Appendix 2 – References

- R.1.** Ministry of Housing, Communities and Local Government (MHCLG) (2021) National Planning Policy Framework (NPPF).
- R.2.** ODPM (2005) Government Circular: Biodiversity and Geological Conservation – statutory obligations and their impact within the planning system.
- R.3.** CIEEM, (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- R.4.** BSI (2013) BS 42020:2013 Biodiversity – Code of practice for planning and development. BSI Standards Limited 2013.
- R.5.** Stace, C. A. (2010). New Flora of the British Isles (third edition), Cambridge University Press.
- R.6.** Magic 19/12/2022 Site Check Report. www.magic.gov.uk.
- R.7.** Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1. <http://www.ukhab.org/>
- R.8.** Goldsmith, B. (1991). Monitoring for Conservation and Ecology, Chapman & Hall.
- R.9.** BRIG (ed. Ant Maddock). UK Biodiversity Action Plan; Priority Habitat Descriptions. <https://jncc.gov.uk/our-work/uk-bap-priority-habitats/>
- R.10.** Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143-155.
- R.11.** BCT (2016). 'Bat Surveys – Good Practice Guidelines' Bat Conservation Trust, London, 3rd Edition.
- R.12.** CIEEM (December 2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.
- R.13.** Panks, Stephen et. al. (April 2022). Natural England Joint Publication JP039 Biodiversity Metric 3.1, Auditing and Accounting for Biodiversity: Technical Supplement. <http://publications.naturalengland.org.uk/file/6089603756064768>
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- R.14.** Panks, Stephen et. al. (April 2022). Natural England Joint Publication JP039 Biodiversity Metric 3.1, Auditing and Accounting for Biodiversity: Technical Supplement.
<http://publications.naturalengland.org.uk/file/6593707725029376>
- R.15.** BS 5837: (2012), 'Trees in Relation to Design, Demolition and Construction'.
- R.16.** Institution of Lighting Professionals (2018) Bats and artificial lighting in the UK, Bats and the Built Environment series – Guidance Note 08/18

Appendix 3 – Species Specific Legislation

Introduction

This is a summary only. The reader is referred to the original legislation for definitive interpretation.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Bats

All bat species are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. It is illegal to kill or injure bats, cause disturbance at their resting places or to block access to, damage or destroy their roost sites.

Great Crested Newts

Great Crested Newts are protected under the Wildlife and Countryside Act 1981 (as amended) Section 5 and the Conservation of Habitats and Species Regulations 2017. It is illegal to intentionally or deliberately kill, injure or capture Great Crested Newts or intentionally, deliberately or recklessly damage or destroy their breeding and resting places or obstruct access to their place of shelter or protection.

Hazel Dormouse

Hazel Dormice are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5 and the Conservation of Habitats and Species Regulations 2017. It is illegal to intentionally or deliberately kill, injure or capture a Dormouse or intentionally, deliberately or recklessly disturb a Dormouse, or damage its breeding or resting place or obstruct its place of shelter or protection.

Otters and Water Voles

Otters are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5 and the Conservation of Habitats and Species Regulations 2017. It is illegal to take, injure, kill or sell an otter, it is also an offence to damage, destroy or obstruct access to a resting place or disturb or harm an Otter at any time.

Water Voles are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5. It is illegal to deliberately kill, injure, capture or disturb them or to destroy, damage or obstruct access to any places used for shelter or protection.

White-clawed Crayfish

White-clawed Crayfish (*Austropotamobius pallipes*) are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5, Sections 9(1) & 9 (5). It is an offence to intentionally take White-clawed Crayfish from the wild or to sell them. It is also a qualifying Annex II species for some Special Areas of Conservation under the Habitats Directive.

Birds

Wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). It is illegal to take or harm them, their nests (whilst in use or being built) or their eggs.

Additionally, for some species listed under Schedule 1 of the Act, it is an offence to intentionally or recklessly disturb the adults while they are in and around their nest or intentionally or recklessly disturb their dependent young.

Reptiles

Common reptiles include Slow-worm, Adder, Grass Snake and Common Lizard. These are protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5, Sections 9 (1) & 9 (5) only. It is illegal to kill or injure them.

It is not illegal to capture, disturb or to damage their habitats. However, the reptiles themselves are protected so any works to damage their habitat could risk causing harm to reptiles and hence could be illegal.

Rare reptiles which include Sand Lizard and Smooth Snake are restricted to a few locations in Britain and are fully protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9 and the Conservation of Habitats and Species Regulations 2017. It is illegal to kill, injure or intentionally disturb them whilst occupying a 'place used for shelter or protection' and destruction of these places.

Appendix 4 – Desk Study Data

Site Check Report Report generated on Tue Jan 10 2023
You selected the location: Centroid Grid Ref: TQ17421201
The following features have been found in your search area:

Great Crested Newt Class Survey Licence Returns (England)

GCN Present	Y
Survey Date	21/02/2017
OS Grid Ref	TQ183110

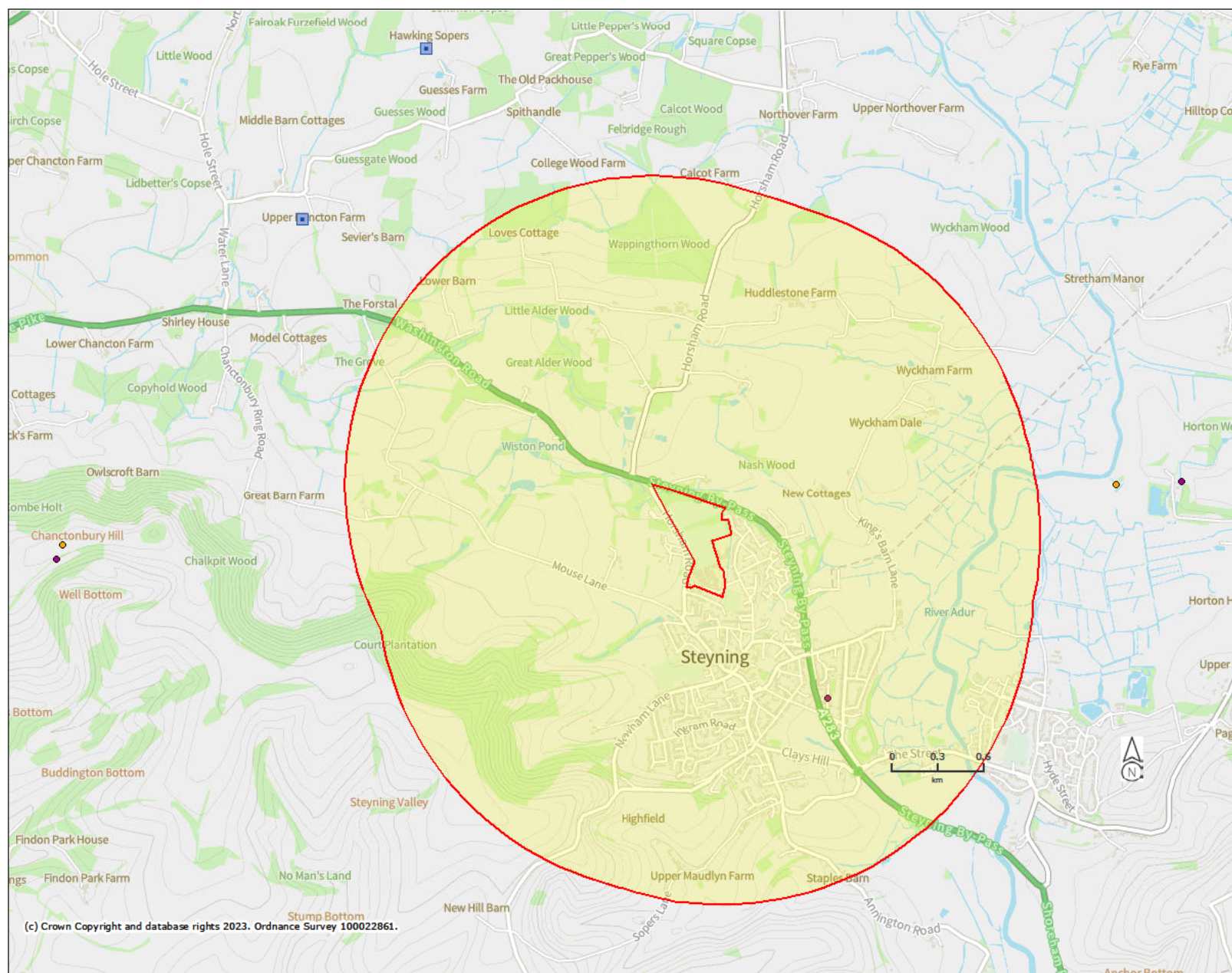
Granted European Protected Species Applications (England)

No Features found

Great Crested Newt Pond Surveys 2017 - 2019

No Features found

European Protected Species 2km



Legend

Granted European Protected Species Applications (England)

- Amphibian
- Bat
- Cetacean
- Invertebrate
- Other Mammal
- Plant
- Reptile
- Great Crested Newt Class Survey
- Licence Returns (England)

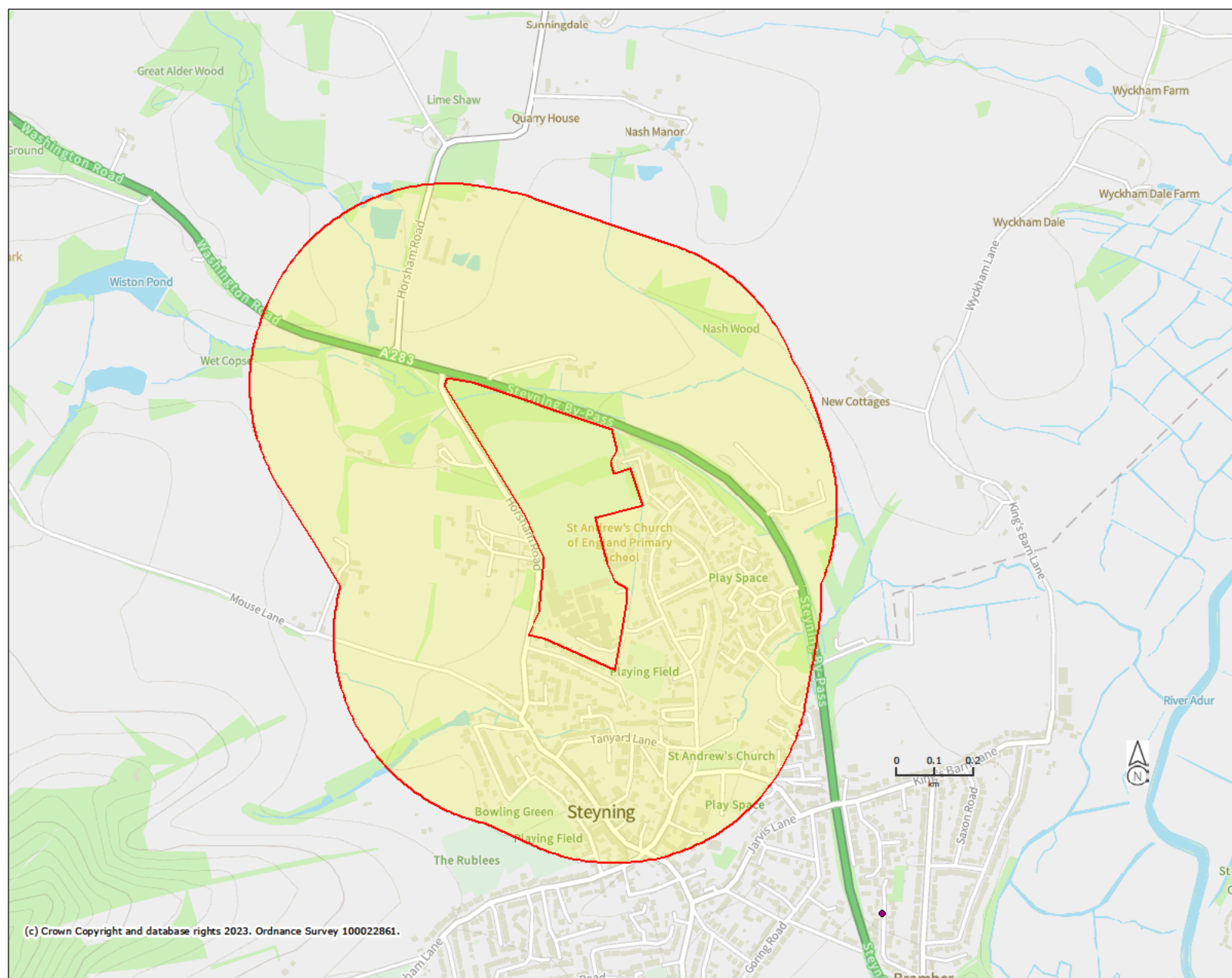
Great Crested Newt Pond Surveys 2017 - 2019

- 10 FIG present
- 10 FIG absent
- 10 FIG inconclusive
- 8 FIG present
- 6 FIG present
- 4 FIG present
- 4 FIG absent
- 4 FIG inconclusive

Projection = OSGB36
 xmin = 510600
 ymin = 109200
 xmax = 523300
 ymax = 115500

Map produced by MAGiC on 10 January, 2023.
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European Protected Species 500m



Legend

- Great Crested Newt Class Survey
- Licence Returns (England)

Great Crested Newt Pond Surveys 2017 - 2019

- 10 FIG present
- 10 FIG absent
- 10 FIG inconclusive
- 8 FIG present
- 6 FIG present
- 4 FIG present
- 4 FIG absent
- 4 FIG inconclusive

Projection = OSGB36
 xmin = 515100
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Map produced by MAGiC on 10 January, 2023.
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Site Check Report Report generated on Mon Dec 19 2022
You selected the location: Centroid Grid Ref: TQ17431201
The following features have been found in your search area:

Local Nature Reserves (England)

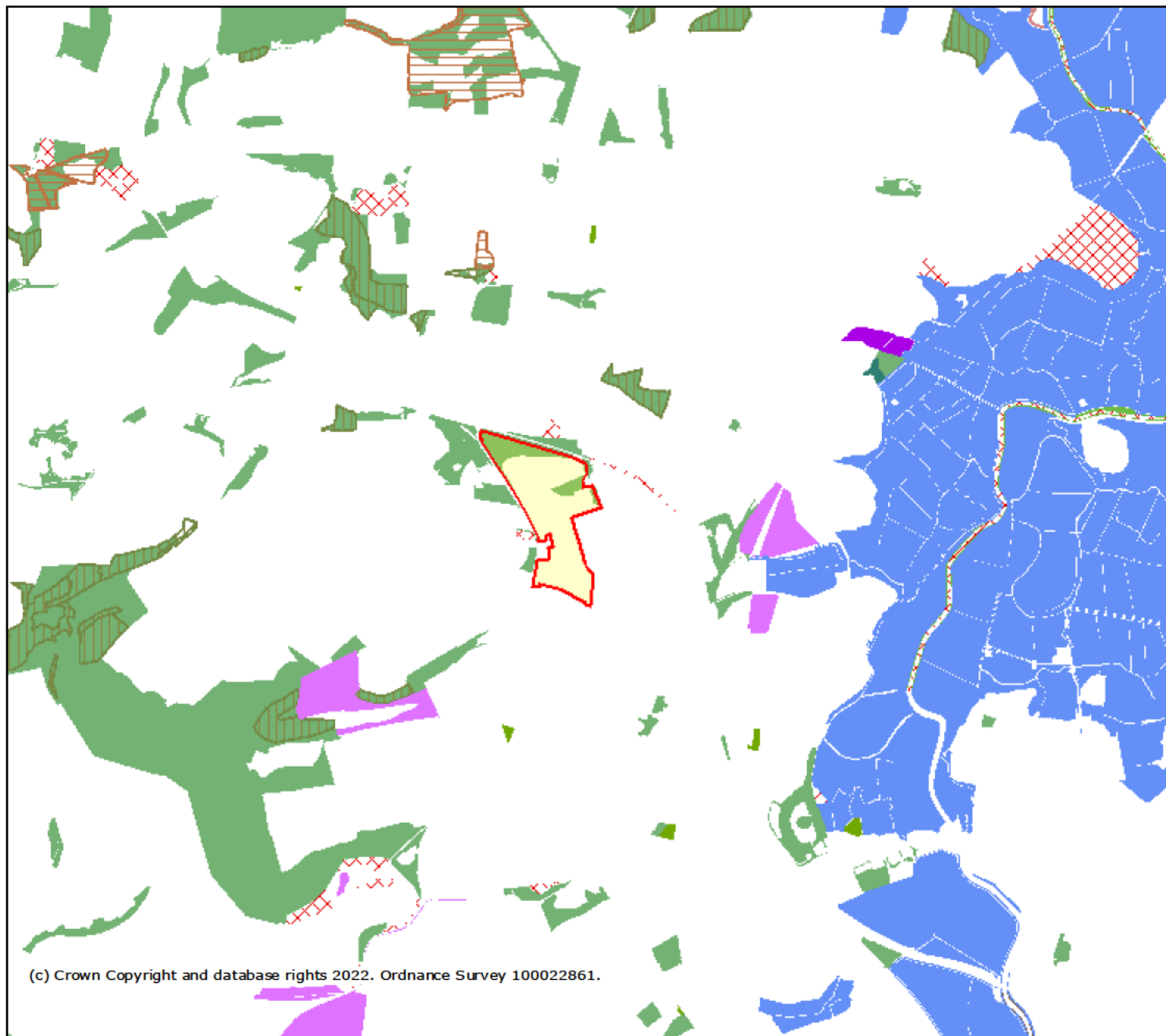
Reference	1008773
Name	BENFIELD HILL
Hectares	11.83
Hyperlink	https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1008773
Reference	1008987
Name	LANCING RING
Hectares	29.41
Hyperlink	https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1008987
Reference	1009811
Name	WIDEWATER LAGOON
Hectares	8.75
Hyperlink	https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1009811
Reference	1009207
Name	TOTTINGTON WOOD
Hectares	5.07
Hyperlink	https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1009207
Reference	1123104
Name	SHOREHAM BEACH
Hectares	26.17
Hyperlink	https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1123104
Reference	1009032
Name	MILL HILL
Hectares	13.49
Hyperlink	https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1009032

Sites of Special Scientific Interest (England)

Name	Beeding Hill to Newtimber Hill SSSI
Reference	1000231
Natural England Contact	NIGEL HISCOKE
Natural England Phone Number	0845 600 3078
Hectares	320.96
Citation	1000374
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1000374
Name	Cissbury Ring SSSI
Reference	1000224
Natural England Contact	NIGEL HISCOKE
Natural England Phone Number	0845 600 3078
Hectares	84.19
Citation	1004162
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1004162
Name	Chanctonbury Hill SSSI
Reference	1000223
Natural England Contact	Susan Simpson
Natural England Phone Number	0845 600 3078
Hectares	82.69
Citation	1004144
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1004144
Name	Chantry Mill SSSI
Reference	1000355
Natural England Contact	Conservation Delivery Team
Natural England Phone Number	0845 600 3078
Hectares	8.7
Citation	1003394
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1003394
Name	Horton Clay Pit SSSI
Reference	1000358
Natural England Contact	Conservation Delivery Team
Natural England Phone Number	0845 600 3078
Hectares	0.35

Citation	1000590
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1000590
Name	Sullington Warren SSSI
Reference	1000249
Natural England Contact	NIGEL HISCOKE
Natural England Phone Number	0845 600 3078
Hectares	24.71
Citation	1001370
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1001370
Name	Amberley Mount to Sullington Hill SSSI
Reference	1000213
Natural England Contact	NIGEL HISCOKE
Natural England Phone Number	0845 600 3078
Hectares	177.16
Citation	1003969
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1003969
Name	Adur Estuary SSSI
Reference	1000353
Natural England Contact	Conservation Delivery Team
Natural England Phone Number	0845 600 3078
Hectares	60.26
Citation	1003359
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1003359
Biosphere Reserves (England)	
Name	Brighton and Lewes Downs
Status	Declared
Hectares	38920.79641

Priority Habitats map



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Legend

- | | |
|--|---|
| Priority Habitat Inventory - Coastal Saltmarsh (England) | Priority Habitat Inventory - Upland Hay Meadows (England) |
| Priority Habitat Inventory - Coastal Sand Dunes (England) | Priority Habitat Inventory - Lowland Heathland (England) |
| Priority Habitat Inventory - Coastal Vegetated Shingle (England) | Priority Habitat Inventory - Mountain Heaths and Willow Scrub (England) |
| Priority Habitat Inventory - Maritime Cliffs and Slopes (England) | Priority Habitat Inventory - Upland Heathland (England) |
| Priority Habitat Inventory - Mudflats (England) | Priority Habitat Inventory - Limestone Pavements (England) |
| Priority Habitat Inventory - Saline Lagoons (England) | Priority Habitat Inventory - Blanket Bog (England) |
| Priority Habitat Inventory - Calaminarian Grassland (England) | Priority Habitat Inventory - Lowland Fens (England) |
| Priority Habitat Inventory - Coastal and Floodplain Grazing Marsh (England) | Priority Habitat Inventory - Lowland Raised Bog (England) |
| Priority Habitat Inventory - Good quality semi-improved grassland (Non Priority) (England) | Priority Habitat Inventory - Reedbeds (England) |
| Priority Habitat Inventory - Lowland Dry Acid Grassland (England) | Priority Habitat Inventory - Upland Flushes, Fens and Swamps (England) |
| Priority Habitat Inventory - Lowland Meadows (England) | |
| Priority Habitat Inventory - Purple Moor Grass and Rush Pasture (England) | |
| Priority Habitat Inventory - Upland Calcareous Grassland (England) | |
-
- ### Priority Habitat Lakes
- | |
|--------------------|
| Dystrophic |
| Eutrophic |
| Mesotrophic (Marl) |
| Mesotrophic |
| Oligotrophic |

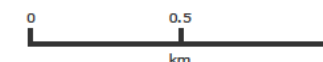
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ymin = 108900

xmax = 524000

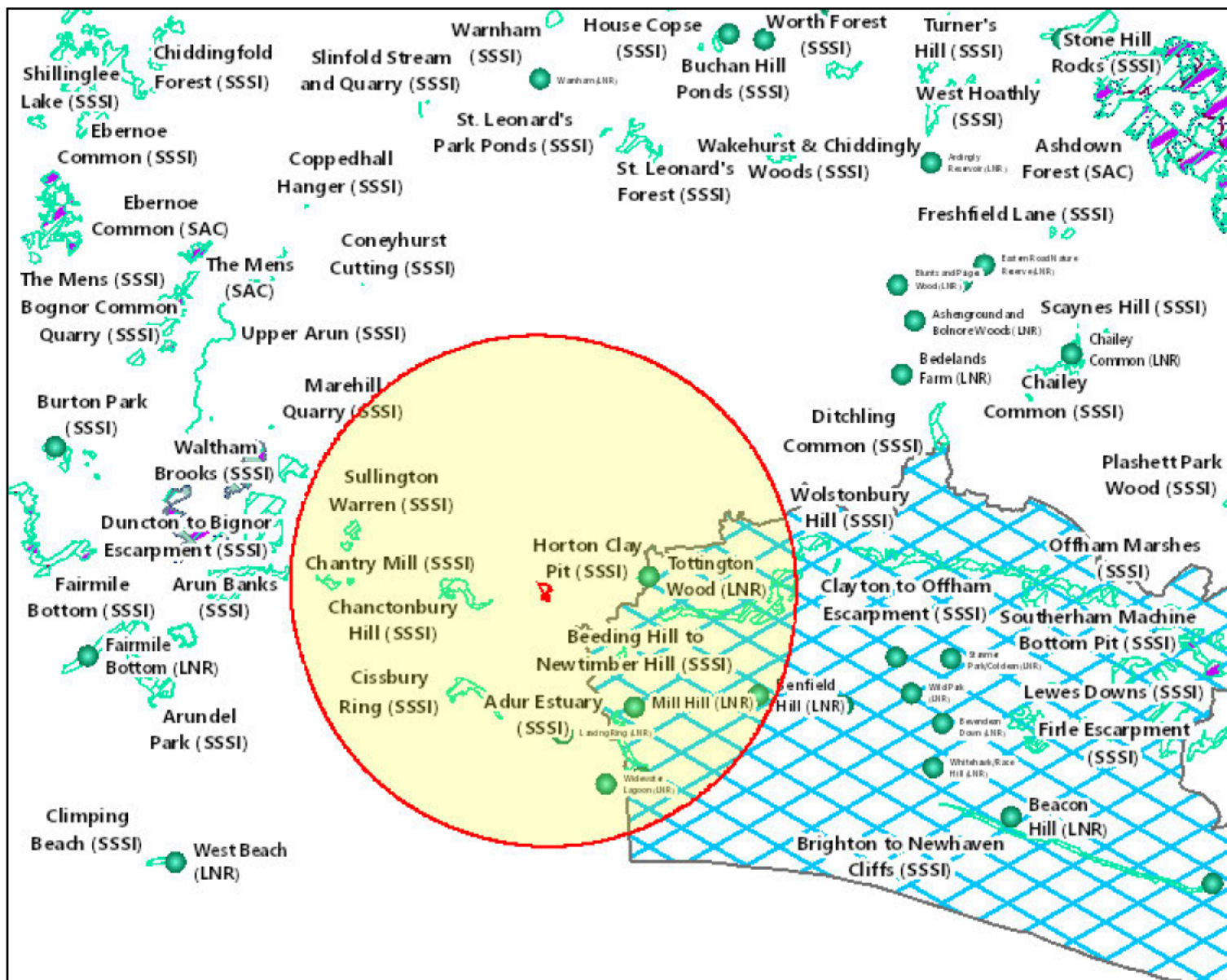
ymax = 115100



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Statutory Sites Within 10km



Legend

- Local Nature Reserves (England) - points
- Ramsar Sites (England)
- Proposed Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Possible Special Areas of Conservation (England)
- Special Protection Areas (England)
- Potential Special Protection Areas (England)
- Biosphere Reserves (England)

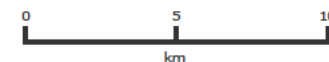
Projection = OSGB36

xmin = 457600

ymin = 82750

xmax = 583500

ymax = 144700



Map produced by MAGIC on 19 December, 2022.
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Site Check Report Report generated on Mon Jan 23 2023
You selected the location: Centroid Grid Ref: TQ17421202
The following features have been found in your search area:

Sites of Special Scientific Interest (England)

Name	Chanctonbury Hill SSSI
Reference	1000223
Natural England Contact	Susan Simpson
Natural England Phone Number	0845 600 3078
Hectares	82.69
Citation	1004144
Hyperlink	http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1004144

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW? 2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
ALL PLANNING APPLICATIONS - EXCEPT HOUSEHOLDER APPLICATIONS.

- All Planning Applications
- Infrastructure
- Wind & Solar Energy
- Minerals, Oil & Gas
- Rural Non Residential
- Residential
- Rural Residential
- Air Pollution
- Combustion
- Waste
- Composting
- Discharges
- Water Supply
- Notes 1

SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.

Notes 2
GUIDANCE - How to use the Impact Risk Zones

[/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf](#)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW? 2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
ALL PLANNING APPLICATIONS.

- All Planning Applications
- Infrastructure
- Wind & Solar Energy
- Minerals, Oil & Gas
- Rural Non Residential
- Residential
- Rural Residential
- Air Pollution
- Combustion
- Waste
- Composting
- Discharges
- Water Supply
- Notes 1
- Notes 2

Notes 2
GUIDANCE - How to use the Impact Risk Zones

[/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf](#)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW? 2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

- All Planning Applications
- Infrastructure
- Wind & Solar Energy
- Minerals, Oil & Gas
- Rural Non Residential
- Residential
- Rural Residential
- Air Pollution
- Combustion
- Waste
- Composting

Airports, helipads and other aviation proposals.

Oil & gas exploration/extraction.

Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.

Discharges	Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.
Water Supply	
Notes 1	SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.
Notes 2	
GUIDANCE - How to use the Impact Risk Zones	/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf
1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?	2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications	
Infrastructure	Airports, helipads and other aviation proposals.
Wind & Solar Energy	
Minerals, Oil & Gas	Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
Rural Non Residential	
Residential	
Rural Residential	
Air Pollution	Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.
Combustion	
Waste	
Composting	
Discharges	Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.
Water Supply	
Notes 1	SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.
Notes 2	
GUIDANCE - How to use the Impact Risk Zones	/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf
1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?	2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications	
Infrastructure	Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
Wind & Solar Energy	Wind turbines.
Minerals, Oil & Gas	Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
Rural Non Residential	
Residential	Residential development of 100 units or more.
Rural Residential	Any residential development of 50 or more houses outside existing settlements/urban areas.
Air Pollution	Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).
Combustion	General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste	Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
Composting	Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
Discharges	Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.
Water Supply	Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .
Notes 1	SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.
Notes 2	
GUIDANCE - How to use the Impact Risk Zones	/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf
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All Planning Applications	
Infrastructure	Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
Wind & Solar Energy	
Minerals, Oil & Gas	Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
Rural Non Residential	
Residential	
Rural Residential	

Air Pollution	Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).
Combustion	General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste	Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
Composting	Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
Discharges	
Water Supply	Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.
Notes 1	SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.
Notes 2	
GUIDANCE - How to use the Impact Risk Zones	/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?	2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications	
Infrastructure	Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
Wind & Solar Energy	Wind turbines.
Minerals, Oil & Gas	Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
Rural Non Residential	Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.
Residential	Residential development of 50 units or more.
Rural Residential	Any residential development of 10 or more houses outside existing settlements/urban areas.
Air Pollution	Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).
Combustion	General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste	Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
Composting	Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
Discharges	Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.
Water Supply	Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.
Notes 1	SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.
Notes 2	
GUIDANCE - How to use the Impact Risk Zones	/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?	2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications	
Infrastructure	Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
Wind & Solar Energy	Wind turbines.
Minerals, Oil & Gas	Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
Rural Non Residential	
Residential	Residential development of 100 units or more.
Rural Residential	Any residential development of 50 or more houses outside existing settlements/urban areas.
Air Pollution	Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).
Combustion	General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste	Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
Composting	Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
Discharges	
Water Supply	Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .
Notes 1	SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.
Notes 2	

GUIDANCE - How to use the Impact Risk Zones/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf**1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?****All Planning Applications
Infrastructure****Wind & Solar Energy
Minerals, Oil & Gas****Rural Non Residential
Residential
Rural Residential
Air Pollution****Combustion****Waste
Composting****Discharges****Water Supply****Notes 1****Notes 2****GUIDANCE - How to use the Impact Risk Zones****2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:**

Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.

Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.

Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).

General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.

SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.

/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf**1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?****All Planning Applications****Infrastructure****Wind & Solar Energy
Minerals, Oil & Gas****Rural Non Residential****Residential
Rural Residential
Air Pollution****Combustion****Waste
Composting****Discharges****Water Supply****Notes 1****Notes 2****GUIDANCE - How to use the Impact Risk Zones****2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:**

All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.

Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.

Solar schemes with footprint > 0.5ha, all wind turbines.

Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.

Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.

Residential development of 10 units or more.

Any residential development of 10 or more houses outside existing settlements/urban areas.

Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).

General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.

SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.

/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf**1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?****All Planning Applications****Infrastructure****Wind & Solar Energy
Minerals, Oil & Gas****2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:**

All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.

Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.

Solar schemes with footprint > 0.5ha, all wind turbines.

Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.

Rural Non Residential

Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.

Residential

Residential development of 10 units or more.

Rural Residential

Any residential development of 10 or more houses outside existing settlements/urban areas.

Air Pollution

Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.

Combustion**Waste**

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Composting**Discharges**

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.

Water Supply**Notes 1**

SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.

Notes 2**GUIDANCE - How to use the Impact Risk Zones**

[/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf](#)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?

2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications**Infrastructure**

Pylons and overhead cables. Airports, helipads and other aviation proposals.

Wind & Solar Energy

Wind turbines.

Minerals, Oil & Gas

Oil & gas exploration/extraction.

Rural Non Residential

Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.

Residential

Residential development of 50 units or more.

Rural Residential

Any residential development of 10 or more houses outside existing settlements/urban areas.

Air Pollution

Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.

Combustion**Waste**

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Composting**Discharges**

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.

Water Supply**Notes 1**

SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.

Notes 2**GUIDANCE - How to use the Impact Risk Zones**

[/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf](#)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?

2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications**Infrastructure**

Pylons and overhead cables. Airports, helipads and other aviation proposals.

Wind & Solar Energy

Wind turbines.

Minerals, Oil & Gas

Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.

Rural Non Residential

Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.

Residential

Residential development of 50 units or more.

Rural Residential

Any residential development of 10 or more houses outside existing settlements/urban areas.

Air Pollution

Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.

Combustion**Waste**

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Composting**Discharges**

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.

Water Supply**Notes 1**

SUSSEX NORTH WATER SUPPLY ZONE. All new development that requires a public water supply requires an HRA to assess the impacts of groundwater abstraction on Arun Valley SPA/SAC/Ramsar. LPAs to refer to Natural England's Statement and Advice Note.

Notes 2**GUIDANCE - How to use the Impact Risk Zones**

[/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf](#)

Ramsar Sites (England)

No Features found

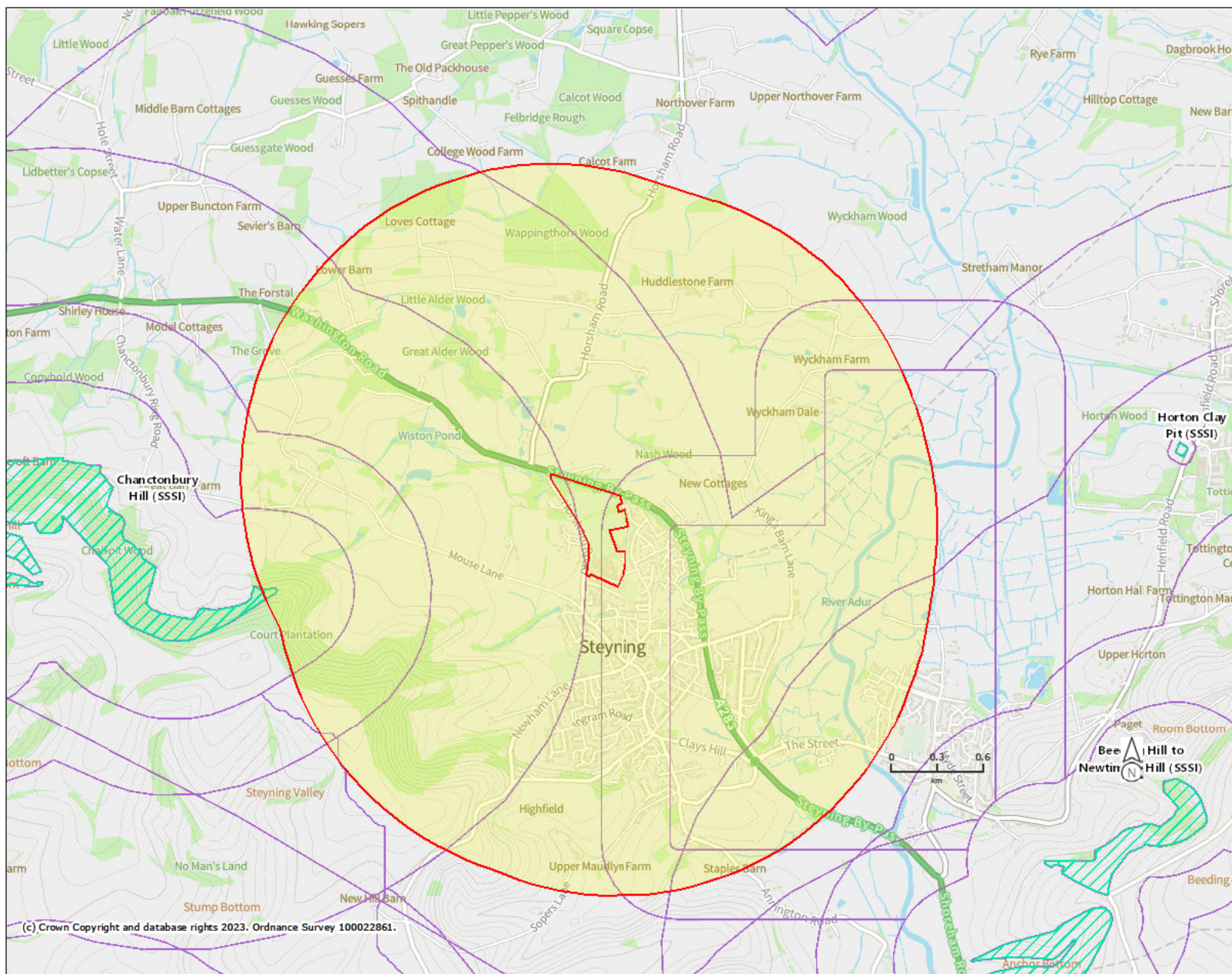
Special Areas of Conservation (England)

No Features found

Special Protection Areas (England)

No Features found

ZOI 2km buffer map



Legend

- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

Projection = OSGB36
 xmin = 511300
 ymin = 109100
 xmax = 524000
 ymax = 115400

Map produced by MAGIC on 23 January, 2023.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Appendix 5 – Target Notes

Target Note 1



Target Note 2



NOTE

Target Note 1

Northern boundary of grassland and woodland with low bund of dumped organic matter.

Target Note 2

Close up of dumped waste.

Target Note 3

Water dammed by dumped waste bund.

Target Note 3



Target Note 4



Target Note 4

Waterlogged area typical of grassland at time of survey.

PROJECT

SRP1121 Steyning Grammar School, Shooting Field, Steyning, West Sussex, BN44 3RX

PROJECT NUMBER

7128,EC

TITLE

Ecological Target Notes Relating to Extended Habitat Survey

DATE

24/01/2023

PAGE NO.

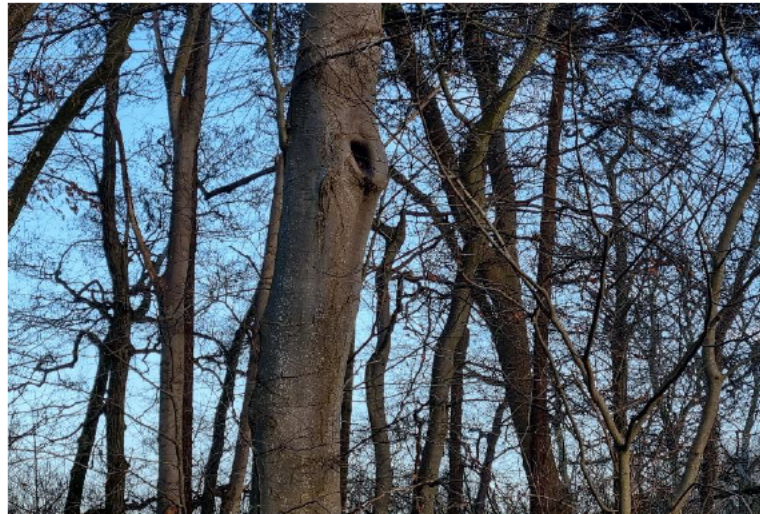
1 of 1

Appendix 6 – Selected Photographs of External Bat Scoping

Photograph 1



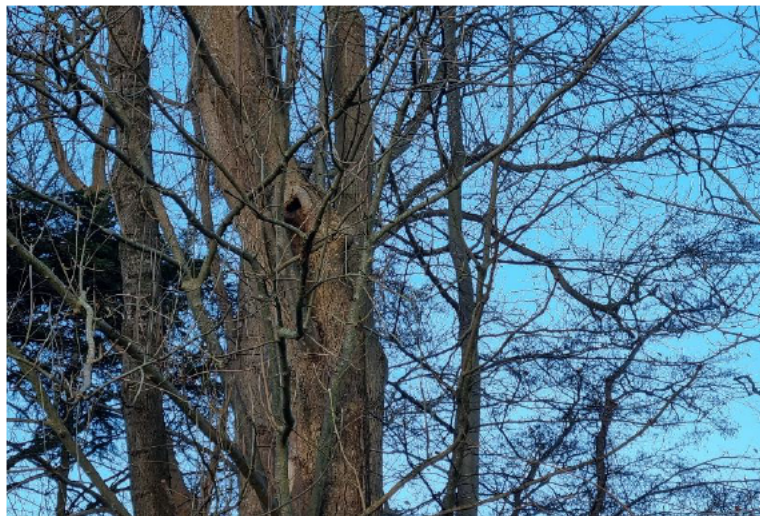
Photograph 2



Photograph 3



Photograph 4



DESCRIPTION

Photograph 1

Tree T1 in woodland at north of site.

Photograph 2

Closer view of potential roost feature (PRF) in T1.

Photograph 3

Trees T2 and T3 in woodland at north of site.

Photograph 4

Closer view of PRF in tree T2.

PROJECT

SRP1121 Steyning Grammar School,
Shooting Field, Steyning, West Sussex,
BN44 3RX

PROJECT NUMBER

7128,EC

TITLE

**Selected Photographs Relating To
Protected Species Survey**

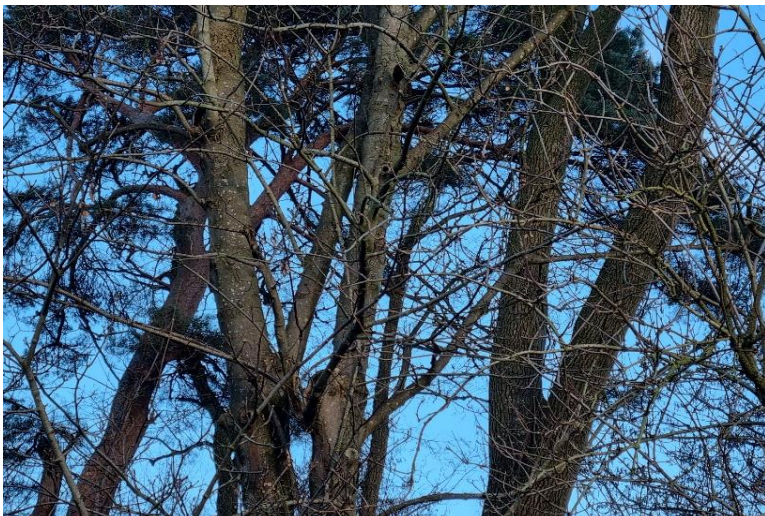
DATE

16/01/2023

PAGE NO.

1 of 5

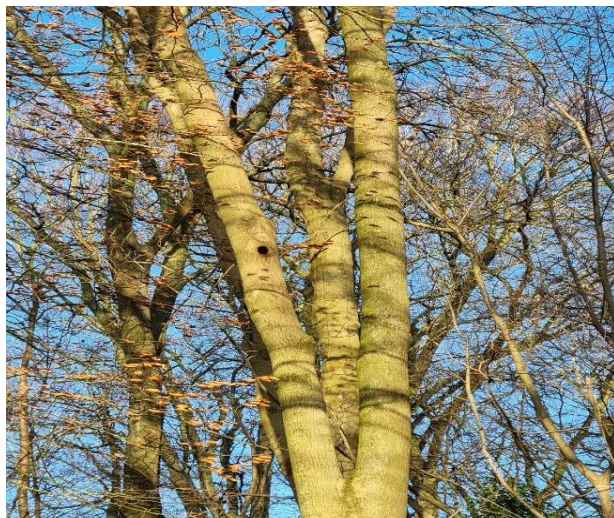
Photograph 5



Photograph 6



Photograph 7



Photograph 8



DESCRIPTION

Photograph 5

PRFs in tree T3 in woodland north of site.

Photograph 6

Closer view of PRFs in tree T4 (woodpecker holes).

Photograph 7

Tree T5 in central area of woodland.

Photograph 8

Closer view of PRF in tree T5.

PROJECT

SRP1121 Steyning Grammar School, Shooting Field, Steyning, West Sussex, BN44 3RX

PROJECT NUMBER

7128,EC

TITLE

Selected Photographs Relating To Protected Species Survey

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Photograph 9



Photograph 10



DESCRIPTION

Photograph 9

Tree T6 in woodland east of site.

Photograph 10

Closer view of PRF in tree T6.

Photograph 11

Missing wall tiles on the northern elevation of building B4.

Photograph 11



Photograph 12



Photograph 12

Missing wall tiles on the southern elevation of building B4.

PROJECT

SRP1121 Steyning Grammar School,
Shooting Field, Steyning, West Sussex,
BN44 3RX

PROJECT NUMBER

7128,EC

TITLE

**Selected Photographs Relating To
Protected Species Survey**

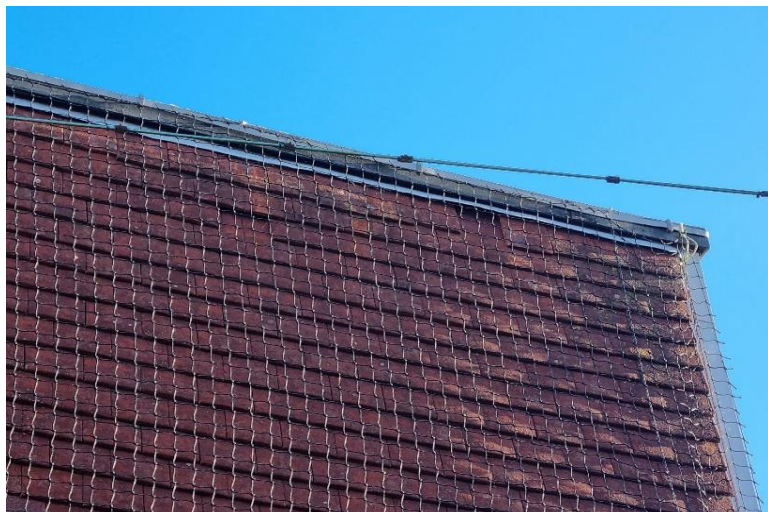
DATE

16/01/2023

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Photograph 13



Photograph 14



DESCRIPTION

Photograph 13

Missing wall tiles and gaps under roof edge on the western elevation of building B4.

Photograph 14

Broken wooden soffit on the western elevation of building B11.

Photograph 15

Lifted roof flashing on the southern elevation of building B5.

Photograph 15



Photograph 16



Photograph 16

Gaps between brickwork and roof on eastern elevation of building B7.

PROJECT

SRP1121 Steyning Grammar School, Shooting Field, Steyning, West Sussex, BN44 3RX

PROJECT NUMBER

7128,EC

TITLE

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DATE

16/01/2023

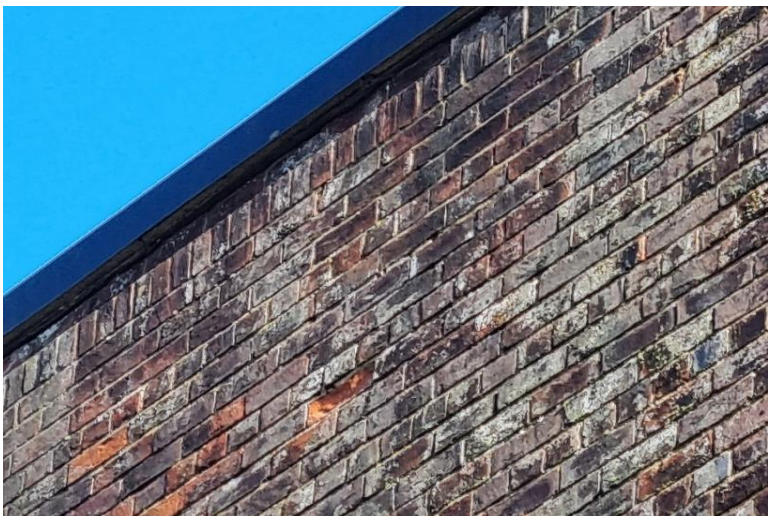
PAGE NO.

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Photograph 17



Photograph 18



DESCRIPTION

Photograph 17

Boiler room tower on northern end of building B7.

Photograph 18

Gaps between brickwork and roof on boiler room tower, building B7.

Photograph 19

[Type description here]

Photograph 19



Photograph 20



Photograph 20

[Type description here]

PROJECT

SRP1121 Steyning Grammar School, Shooting Field, Steyning, West Sussex, BN44 3RX

PROJECT NUMBER

7128,EC

TITLE

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Appendix 7 – Example Enhancement Features

EXAMPLE BAT BRICKS AND BOXES

Integrated Bat Box: Ibstock Enclosed Bat Box 'B'



The Ibstock Enclosed Bat Box 'B' is designed for integration into the wall of new buildings or conservation projects and is intended to provide summer roosting space for pipistrelles specifically. It provides a discrete home for bats, with several roosting chambers to provide zones of differing temperatures within the box. The bats are contained within the box itself and the entrance at the bottom allows droppings to fall out, meaning that the box is maintenance free.

Integrated Bat Box: Standard bat Box



Bat boxes can be supplied in brick fronted, half bond and quarter bond brickwork or alternatively with a stainless-steel mesh fitted to the front. The mesh is designed for optimum adhesion in render and stonework applications. A basic version can be fitted directly behind weatherboarding or into studwork.

These bat boxes are best positioned in sunlit clusters, at a height of 3-6 metres and ideally facing a variety of aspects as bats will move around a building as the seasons change.

This product makes an ideal bat house for most of the UK's bat species, including Pipistrelles, who will use it for roosting, hibernating and (in maternity roosts) bringing up their young. The entrance hole and internal design can be tailored to suit different species of bat e.g. Bechstein's and Serotine.

The box is self-cleaning. The bat boxes are supplied with a non-removable front as standard.

SOURCE

<https://www.nhbs.com/ibstock-enclosed-bat-box-b>

SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/bat-box/>

TITLE

Example Bat Bricks and Boxes

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External Bat Box: Schwegler 1FQ bat box



The structure of the 1FQ has been designed with bat behaviour in mind. For example, the outside of the front panel has been roughened to enable the animals to land and hang onto it securely. Access is via a step-like recess which enables even young and inexperienced bats, to safely access the box. The inside of the box has rough pieces of wood incorporated which provide good insulation and are also used by the bats as perches. The internal layout provides three different areas from which bats can hang and which offer different levels of light and temperature. There are also non-slip areas, gaps ranging from 1.5 to 3.5cm in width and various places for individuals to hide.

Installation of the 1FQ is achieved using the four screws and plugs provided. The back panel is initially screwed onto the wall (using four screws) and then the front panel is attached to this. It can easily be attached to most types of external brick, timber or concrete and can also be placed inside a roof space. (If fixing to timber then the gaps between the wall and the box should be sealed with silicone to prevent moisture being trapped here). The box should be positioned a minimum of three metres above the ground and where there is a clear flight path for bats entering and leaving. If desired, the front panel can be painted to match your building using an air-permeable paint.

SOURCE

<http://www.nhbs.com/title/160551>

External Bat Box: 1FF Schwegler Bat Box with Built-in Wooden Rear Panel



The Schwegler 1FF bat box is spacious enough for bats to use as a summer roost or nursery site and is open at the bottom, allowing droppings to fall out so it does not need cleaning. The 1FF is, therefore, especially suitable for hanging in inaccessible places such as high in trees, or on steep slopes and house walls.

The 1FF is manufactured from long-lasting Woodcrete, which is a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years, making it suitable for long-term mitigation projects.

The inner dimensions of the 1FF have a reducing width making it ideal for bat species which inhabit crevices such as pipistrelle and noctule bats. For conservation projects and studies, the entire front of the box can be easily swung open for inspection purposes.

The 1FF bat box can be sited in trees or on buildings and is best positioned at a height of between 4 to 6 metres.

SOURCE

<https://www.nhbs.com/1ff-schwegler-bat-box-with-built-in-wooden-rear-panel>

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Example Bat Bricks & Boxes

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External Bat Box: 2F Schwegler Bat Box with Double Front Panel



This box has a front panel and a second inner wooden panel fitted to it to create a cavity wall. This provides ideal quarters for bats that inhabit crevices, such as Nathusius' Pipistrelle (*Pipistrellus nathusii*), Daubenton's Bat (*Myotis daubentonii*) and the Common Pipistrelle (*Pipistrellus pipistrellus*).

It has been designed as a summer roosting space for bats and has a simple entrance hole at the front. The Schwegler 2F double front panel is removable and can be converted in to a bird nest box using a replacement 1B front panel if there is no evidence of bat activity after a couple of years. The 2F Double Front Panel is manufactured from long-lasting Woodcrete, which is a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years, making it suitable for long-term mitigation projects. Woodcrete is breathable and maintains a stable temperature inside the box and the 2F is painted black to absorb warmth. It also provides a good rough surface for bats to cling on to and climb.

The 2F Double Front Panel bat box can be sited in trees or on buildings and is best positioned at a height of between 3 to 6 metres.

SOURCE

<https://www.nhbs.com/2f-schwegler-bat-box-with-double-front-panel>

External Bat Box: Vincent Pro Bat Box



This attractive bat box has been designed by leading bat researcher, Collin Morris, based on a tried and tested design from the Vincent Wildlife Trust.

The box features three vertical chambers of different sizes, providing ideal roosting space for a variety of species. Beneath the crevice entrances is a ladder which provides a rough surface for bats to land.

Proven with seven UK species: Barbastelle, Leisler's, common pipistrelle, soprano pipistrelle, brown long-eared, Natterer's and whiskered bat.

SOURCE

<https://www.nhbs.com/vincent-pro-bat-box>

TITLE

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Please note that once bats have inhabited a roost (integrated or external box) they may only be disturbed by licensed bat workers.

External Bat Box: Heritage Clay Bat Access Tiles



Common and soprano pipistrelles, along with brown long-eared bats are commonly found in the UK and are often associated with man-made buildings. Pipistrelles are crevice-roosters and use confined spaces such as those beneath roof tiles. Brown long-eared bats often roost in roof timbers and ridges inside lofts. Providing these species with a roost space beneath your roof tiles or access into the loft space is a great way to encourage them. It may also be required by law as part a mitigation package during a development project.

This set of three bat access tiles provides a bat-friendly access point within your roof. The top tile features a raised tunnel and the two lower tiles have cutaway sections; in combination, these provide a roost space for bats to crawl into. If the underfelt is opened then the tiles will also provide access to the loft space. The tunnel formed by the tiles measures approximately 165mm in length and is 18mm high.



SOURCE

<https://www.nhbs.com/2f-schwegler-bat-box-with-double-front-panel>

External Bat Box: Pole Mounted Large Colony Bat Box



A pole mounted box is ideal for siting in locations where there are no suitable trees and walls to attach a roost to. They also allow you to position your box or boxes where they can get the maximum amount of sunlight.

This large colony bat box has been specially designed to attract maternity colonies of crevice dwelling bats such as common and soprano pipistrelles. It provides a bigger roost space than the pole mounted maternity bat box. Treated externally with a black non-toxic preservative, the box will absorb and retain heat from the sun which is further retained by the three internal ceramic panels. These panels also divide the internal chamber into three crevices, which provide bats such as pipistrelles with the roosting environment that they prefer.

The pole mounted large colony box includes either one or two large colony bat boxes along with either a 4m, 5m or 6m pole. These large wooden boxes attach to the pole using fixing rails (fixings included). If using the two box option, the boxes are attached back to back which provides bats with a choice of environments and thermal conditions. The pole should be sunk around 1m into the ground for stability. However, as ground conditions vary, it is advised that a builder or structural engineer is consulted before installing this box. Apart from erecting the pole, the only tool needed is a spanner (or a screwdriver for the metal band version) to fix the boxes onto the pole.

SOURCE

<https://www.nhbs.com/vincent-pro-bat-box>

TITLE

Example Bat Bricks and Boxes

DATE

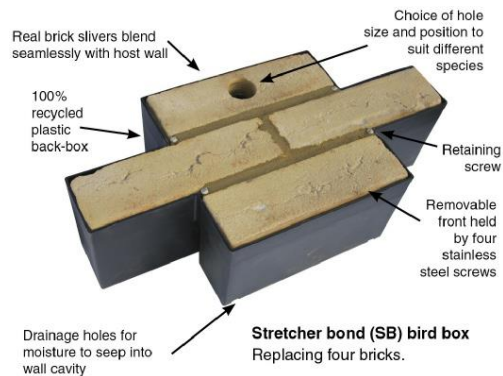
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EXAMPLE BIRD BRICKS & BOXES

Integrated Bird Brick House: The Standard Box



This standard nesting box is suitable for House Sparrows and members of the Tit family. The single entrance hole allows the entire internal area to be available for nesting and roosting. The aperture size will vary according to the target species. For example, a 48 mm entrance hole can be produced to accommodate Starlings. The ideal internal depth is 140 mm, however if cavity width is limited, boxes can be manufactured with a reduced depth (minimum 100 mm).

SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/>

Integrated Bird Brick House: Sparrow terrace box



This has the same external dimensions as the standard box but has two entrance holes and two separate compartments – ideal for the sociable nature of house sparrows. The terrace box is also suitable for Redstarts, Black Redstarts and Wagtails.

SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/>

Integrated Bird Brick House: Swift box



This box has a crescent shaped hole to one side of the box, allowing swifts access but restricting use by starlings. Inside, a rough floor makes it easier for the birds to move around. The centre of the floor has a raised nest cup to assist the birds' nest building. The ideal internal depth of a swift box is 140 mm, however if cavity width is limited, boxes can be manufactured with a reduced depth (minimum 100 mm).

SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/>

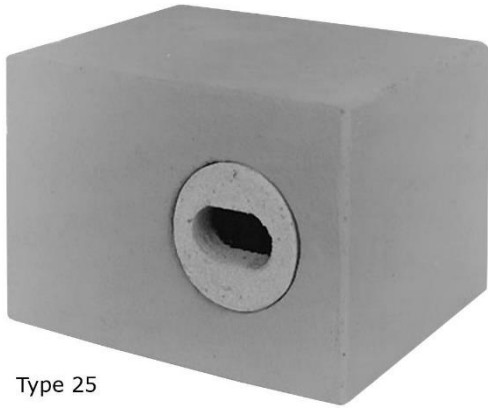
TITLE

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Integrated Bird Brick House: Schwegler Brick Nest Box



Type 25

The box dimensions correspond to those of standard, commercially available bricks used in modern European construction. These dimensions allow for a 1cm layer of mortar enabling the nesting blocks to be inserted in any wall without the need to cut adjoining bricks. The box can be installed flush with the outside wall and can be rendered or covered so that only the entrance hole is visible.

The interior of the box resembles a natural woodpecker hole, with the same shallow, oval depression in the floor. The box is manufactured from virtually the same material as Schwegler's tried and tested wood-concrete; an exceedingly durable, rot-proof and breathable natural material designed to mimic the properties of natural nest sites. Features a wide box with removeable entrance hole at the right-hand side. With an entrance hole of 55 x 33mm this is the ideal box for attracting swifts.



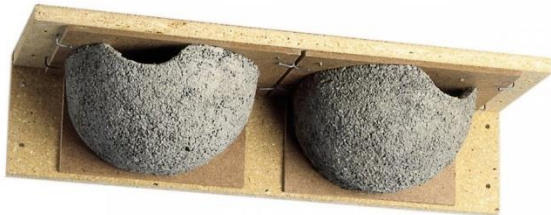
SOURCE

<https://www.nhbs.com/schwegler-brick-nest-boxes>

SOURCE

<https://www.nhbs.com/9a-schwegler-house-martin-nest>

External Bird House: 9A Schwegler House Martin Nest



These boxes should be installed under eaves on the external walls of buildings. Install on the sheltered side (north facing) of the building at a minimum height of 2m above the ground.

These nests can be used for years without cleaning. However, if possible it is recommended to inspect them frequently and to clean them when necessary. These Woodcrete nest boxes are famous for their durability - lasting for at least 20-25 years.

SOURCE

<https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box>

External Bird House: Vivara Pro WoodStone House Sparrow Nest Box



This House Sparrow Nest Box is manufactured from WoodStone - a mix of concrete and FSC wood fibres. This material is strong and highly insulating which helps to provide a thermally stable environment within the box. It also protects against damage from predators such as cats, woodpeckers and squirrels. It is available with one or two breeding chambers, which can be particularly suitable for house sparrows as they prefer to nest in colonies.

The House Sparrow Nest Box can be integrated into the masonry of a new house or fixed onto an external wall using strong screws and wall plugs (not included). If possible, it should be positioned near to vegetation and at a minimum of 2m above ground.

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External Bird House: WoodStone Swift Nest Box



The FSC certified WoodStone Swift Nest Box is constructed entirely out of WoodStone meaning it is long lasting and won't rot away like a traditional wooden nest box.

Swift numbers are declining, in part because of the loss of nesting sites. Installing a swift box is a great way to help these birds and to ensure their continued presence in our surroundings. There is an opening at the back of the box for easy cleaning with the nest entrance on the underside of the box.

This type of entrance is preferred by swifts but discourages house sparrows and starlings from occupying the box. This box should be installed at least five metres above the ground, ensuring that there is unobstructed access for birds entering and leaving. If possible, boxes should be sited under the shelter of eaves or overhanging roofs.



SOURCE

<https://www.nhbs.com/woodstone-swift-nest-box>

External Bird House: 1B Schwegler Bird Nest Box (General)



These Woodcrete nest boxes last for at least 20-25 years. Woodcrete is a breathable blend of wood, concrete and clay which will not rot, leak, crack or warp, whilst preventing condensation and maintaining more constant temperatures inside than wooden boxes.

Schwegler bird boxes are backed by conservation organisations, government agencies and forestry experts and experiments have shown that the highest density of bird populations (i.e. breeding pairs per hectare) is achieved with Schwegler nest boxes.

They are carefully designed to provide a stable environment and to mimic natural nest and roost sites with internal brood chamber dimensions that are similar to natural woodpecker cavities. Schwegler have a patented method of installation on trees that prevents the tree trunk from growing over the hanger from which the box is suspended.

SOURCE

<https://www.nhbs.com/1b-schwegler-nest-box>

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External Bird House: Vivara Pro Barcelona WoodStone Open Nest Box



These attractive nestboxes are manufactured from WoodStone which is a mix of concrete and FSC certified wood fibres. Unlike a traditional wooden nest box, these boxes will not rot away or deteriorate and are guaranteed for 10 years. This robust material safeguards against attacks from predators such as woodpeckers, cats and squirrels, whilst also providing a well insulated interior with a more consistent internal temperature than an ordinary wooden box. This is especially important during the breeding season and ensures that young birds have a greater chance of survival. Nesting sites have become rare for cavity nesting birds due to changes in woodland management practices, so you can provide much-needed space for rearing chicks and birds that are roosting overwinter with these durable, long-lasting nest boxes.

These open nest boxes are suitable for wrens, robins, spotted flycatchers, pied and grey wagtails, song thrushes and blackbirds, and they are available in brown, green or grey to complement both natural woodland and garden settings.

The best height for your nest box is between 1.5m and 3m high, and open nest boxes should be sited in undergrowth such as ivy to provide cover for the nest.

These nest boxes have a removable front panel for easy cleaning.



SOURCE

<https://www.nhbs.com/vivara-pro-barcelona-woodstone-open-nest-box?bkfno=234962>

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EXAMPLE ENHANCEMENTS FOR HEDGEHOG

1. Hedgehog habitat requirements (ref. 1)

- There are three main hedgehog habitat requirements to consider in a planning context: High quality feeding habitat - moist grassland, rotting wood and wildflowers to encourage invertebrates.
- A range of nesting opportunities – medium sized fallen leaves from deciduous trees such as oak and beech, as well as supporting structures for winter and breeding nesting eg. log piles or bramble patches. Tussocky grassland and shrubbery in gardens is required for day nesting during the active season.
- The importance of well-connected habitat - hedgehogs roam on average ~2km a night and an urban population is thought to need at least ~1km² of well-connected habitat to remain viable.

2. Providing Connectivity with The Wider Area (ref. 2)

Eco Hedgehog Hole Fence Plate:



Hedgehog numbers have dramatically declined in recent years. Research suggests that this is partly because it is becoming harder for hedgehogs to move freely due to an increase in the number of solid walls and fences being erected around gardens.

This reduces the available foraging area and so restricts the amount of food that they can eat as well as reducing the possibility of meeting a mate. Creating a hole in a garden wall or fence will allow your local hedgehogs to pass through from garden to garden safely.

A hole measuring 13cm by 13cm is the right size for a hedgehog to pass through but too small for most pets. Once you have made your hole in the fence or wall, you can fix the Eco Hedgehog Hole Plate to the fence, ensuring that the hole does not get blocked or stretched.

REFERENCE

1. <https://www.suffolkwildlifetrust.org/planninghedgehogs>
2. <https://www.nhbs.com/eco-hedgehog-hole-fence-plate>
3. <https://www.nhbs.com/hedgehog-house-2>
4. <https://www.nhbs.com/hh7-hogilo-hedgehog-mammal-house>
5. <https://www.nhbs.com/hedgehog-house>

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Example Enhancements for Hedgehog

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3. Artificial Hedgehog Homes (refs. **3**Error! Reference source not found., **4** and **5**)

Hedgehog Dome:



This sturdy WoodStone house features two entrances which act as predator defence tunnels leading into a central circular chamber, the lid of which can be removed for easy access. The house should be placed in a quiet location and covered with leaves for camouflage to encourage hedgehog use.

Protected under the VIVARA 10-year Guarantee



HH7 Hogilo Hedgehog / Mammal House:



Locate within cover, out of prevailing wind. Pile leaves and short grass around the House plus two handfuls of short dry grass and leaves inside the box to start nest.

These products are for wild creatures and as such, you should not expect immediate habitation. We suggest you carefully read the supplied instructions for siting and provide this product in a suitable habitat for the target species. The product can then be revisited 6-12 months later, or in the appropriate season, to see if it is being used. If after 24 months the product has not been used, it may be worth choosing an alternative location to site it and/or look to see what improvements you can make to provide a suitable environment for your target species (flowers, woodpiles, rough areas of garden etc).

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Example Enhancements for Hedgehog

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Hedgehog House:



Underneath the textured brushwood finish there is a sturdy steel frame covered with a waterproof felt lining. The wooden entrance door is manufactured from FSC wood and forms a short predator defence tunnel, small enough to deter access by dogs [REDACTED]. The edges of the house can be pegged down using tent pegs to provide extra security. To encourage hedgehogs to use the house site it in a quiet corner of the garden and cover with leaves for extra camouflage.

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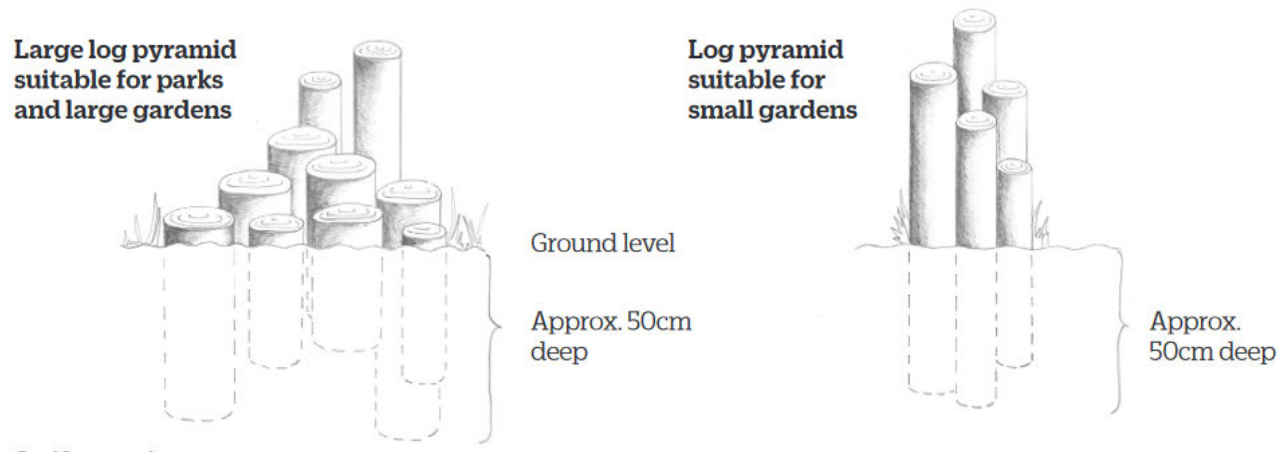
LOG PYRAMID AND LOG PILE GUIDANCE

1. LOG PYRAMID

Establishing the Log Pyramid

Where space is limited and log piles are deemed unsuitable, log pyramids can be created as shown below.

- Drill holes into some of the logs. Drill holes to various depths.
- Dig holes onto the ground ranging from 48cm deep to 60cm deep to give the pyramid shape. The final construction should be as shown below:



2. STUMPERY

Taken and adapted from Dengarden: [How to Make a DIY Stumpery in Your Garden - Dengarden - Home and Garden](https://www.dengarden.com/2016/05/10/how-to-make-a-diy-stumpery-in-your-garden/))



Stumpery creation involves replicating a forest floor using a mix of different sized wood stumps, logs and even driftwood. They are similar to a rockery, but made with parts of dead trees such as stumps and logs.

Dig a hole in the ground. 'Plant' your logs in it, orientated vertically, so that half the log is in the hole. Pack soil in the gaps of the hole to bury the bases of the logs. This will support species like Stag beetle that like damp submerged dead wood. Interplant with ferns and other shade loving plants and bulbs. Stumperies are strongly recommended if you live in Stag beetle hotspots such as the New Forest, Home Counties and East Suffolk

SOURCE

Log pyramid drawing copyright of <https://ptes.org/wp-content/uploads/2016/11/Build-a-log-pile-for-stag-beetles.pdf>

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3. LOG PILES

Resourcing Logs

Any logs created during tree works on the site should be collected and added to the piles, or used to create additional piles. If there are not enough logs created during vegetation clearance, additional logs will need to be imported to the site. Logs should be locally sourced, "green" logs (untreated or dried).

Which Wood to Use

Logs at least 100mm diameter, and 1m long, with the bark still attached provide the best wood. Hard wood trees such as ash, oak and beech are particularly good. Birch logs can look particularly attractive.

Be careful of freshly cut willow and poplar logs, as these can easily re-sprout if left lying on the ground.

Establishing the Log Pile

Leaving woody cuttings from trees, shrubs and herbaceous plants in piles within a shrub bed is an ideal way of attracting invertebrate to site. The damp conditions behind peeling bark are very inviting for woodlice, spiders and beetles, while butterflies and ladybirds take up residence in the drier parts over winter. Log piles should be created by piling large logs into approximately 2m x 1m x 1m piles. Logs should be placed in a shallow pit, approximately 150mm deep. The soil/turf removed to create the pit, should be placed on top of the logs to provide a light cover of soil/turf.



It is best to not cut the wood into small pieces. Leave it in direct contact with the ground, in compact piles to maintain humidity. Larger diameter pieces are of most value, but even small twigs and branches should not be discounted.

REFERENCE

Log pyramid drawing copyright of <https://ptes.org/wp-content/uploads/2016/11/Build-a-log-pile-for-stag-beetles.pdf>

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TREES AND SHRUBS BENEFICIAL TO WILDLIFE

The lists of plants below are taken from current Natural England guidance (ref. 1), a web-based data based managed on behalf of the RHS and the Wildlife Trusts (ref. 2) and professional judgement. When buying native plants, ensure they are from a reputable source, as many wildflowers are illegally taken from the wild.

Large Trees

Common Name	Latin Name	Common Name	Latin Name
Beech	<i>Fagus sylvatica</i>	Pedunculate Oak	<i>Quercus robur</i>
Common Ash	<i>Fraxinus excelsior</i>	White Willow	<i>Salix alba</i>
Wild Cherry	<i>Prunus avium</i>	Small-leaved Lime	<i>Tilia cordata</i>
Bird Cherry	<i>Prunus padus</i>	Elm	<i>Ulmus procera</i>
Sessile Oak	<i>Quercus petraea</i>		

Medium/Small Trees

Common Name	Latin Name	Common Name	Latin Name
Field Maple	<i>Acer campestre</i>	Apples	<i>Malus</i> spp.
Alder	<i>Alnus glutinosa</i>	Pears	<i>Pyrus</i> spp.
Silver Birch	<i>Betula pendula</i>	Rowan	<i>Sorbus aucuparia</i>
Holly	<i>Ilex aquifolium</i>	Yew	<i>Taxus baccata</i>

Shrubs Suitable for Hedges

Common Name	Latin Name	Common Name	Latin Name
Hazel	<i>Corylus avellana</i>	Blackthorn	<i>Prunus spinosa</i>
Hawthorn	<i>Crataegus monogyna</i>	Buckthorn	<i>Rhamnus cathartica</i>
Privets	<i>Ligustrum</i> spp.	Elder	<i>Sambucus nigra</i>
Wild Privet	<i>Ligustrum vulgare</i>	Gelder rose	<i>Viburnum opulus</i>
Cherry Plum	<i>Prunus cerasifera</i>		

Climbing Shrubs

Common Name	Latin Name	Common Name	Latin Name
Climbing Roses	<i>Rosa</i> spp.	Honeysuckles	<i>Lonicera</i> spp.
Dog Rose	<i>Rosa canina</i>	Native Honeysuckle	<i>Lonicera periclymenum</i>
Ivies	<i>Hedera</i> spp.	Field Rose	<i>Rosa arvensis</i>
Climbing Roses	<i>Rosa</i> spp.	Common Ivy	<i>Hedera helix</i>
Climbing Brambles	<i>Rubus</i> spp.	Wild Clematis	<i>Clematis vitalba</i>

Other Shrubs for Nectar, Pollen or Fruits

Common Name	Latin Name	Common Name	Latin Name
Serviceberry	<i>Amelanchier canadensis</i>	Mock Orange	<i>Philadelphus</i> spp.
Californian lilac	<i>Ceanothus</i> spp.	Firethorn	<i>Pyracantha</i> spp.
Japanese quince	<i>Chaenomeles japonica</i>	Lilac	<i>Syringa vulgaris</i>
Creeping Cotoneaster	<i>Cotoneaster frigidus</i>	Laurustinus	<i>Viburnum tinus</i>
Himalayan Honeysuckle	<i>Leycesteria formosa</i>	Bodant Viburnum	<i>Viburnum x bodnantense</i>
Mahonia	<i>Mahonia</i> spp.		

REFERENCE

1. Natural England (2007). NE29: Plants for Wildlife-friendly Gardens.
2. RHS and the Wildlife Trusts (2015). Gardening with Wildlife in Mind.
<http://www.joyofplants.com/wildlife/>

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