



St. George's Avenue

Ecological Appraisal



Barratt David Wilson

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Contents

Executive Summary.....	1
Glossary.....	2
1.0 Introduction	3
1.1 Background	3
1.2 Site Location.....	3
1.3 Development Proposals	3
1.4 Purpose of the Report	3
2.0 Methodology	4
2.1 Desk Study	4
2.2 Field Surveys	4
2.3 Limitations.....	7
3.0 Baseline Conditions	8
3.1 Designated Sites	8
3.2 Habitats	9
3.3 Protected & Notable Species	10
3.4 Importance of Ecological Features.....	14
4.0 Relevant Planning Policy & Legislation	15
4.1 Revised National Planning Policy Framework.....	15
4.2 Biodiversity 2020: A strategy for England's Wildlife & Ecosystem Services	17
4.3 Local Biodiversity Action Plan	17
4.4 Local Plan.....	18
4.5 Legislation	20
5.0 Discussion.....	21
5.1 Designated Sites	21
5.2 Habitats	22
5.3 Protected & Notable Species	22
6.0 Summary	24
6.1 Designated Sites	24
6.2 Habitats	24
6.3 Protected & Notable Species	24
7.0 References.....	26

FIGURES

Figure 1 – Site Location Plan

Figure 2 – Phase 1 Habitat Plan

Figure 3 – Waterbody Location Plan

Appendix A – Report Conditions

Appendix B – Key Legislation

Appendix C – Target Notes



Executive Summary

Contents	Summary
Site Location	The 'site' is located to the east of St George's Avenue, Havant and is centered on OS National Grid Reference SU 73244 06351. The site comprised a single arable field bordered by hedgerows and broadleaved semi-natural woodland. An area of bare ground was located within the southern extent of the site.
Proposals	The proposals will include the construction of residential properties with associated parking and landscaping.
Scope of this Survey(s)	The scope of the survey is to conduct an Ecological Appraisal including a desk-based study and an extended Phase 1 habitat survey of the site.
Results	Designated Sites Three Natura 2000 Sites, three SSSIs and 17 SINCs are located within a 2 km radius of the site. Habitats The habitats identified on site included dense scrub, neutral semi-improved grassland, tall ruderal vegetation, arable land and bare ground. The habitats are common and widespread within the wider landscape and are of low quality. Protected Species There is suitable habitat on site for GCN (non-breeding phase), reptiles, common and garden birds, wintering birds, badger and bats (commuting, foraging and roosting).
Recommendations	Designated Sites Effects on the designated sites within 2 km of the site are considered likely as a result of the proposed development. It is therefore recommended that an HRA Stage 1 Screening is undertaken. Habitats It is recommended that native planting is incorporated into the landscape design of the proposed development to enhance the biodiversity value of the site. Protected Species The following protected species surveys will be required: • GCN eDNA survey to determine presence / likely absence; • Reptile presence / likely absence surveys; • Wintering bird surveys; • Pre-commencement survey for badger; and • Monthly bat activity surveys of the Site to be conducted from April to October inclusive. The following mitigation is recommended: Removal of suitable habitat for breeding birds to be undertaken from November to February inclusive or after an inspection by an experienced ecologist more than 24 hours prior to commencement of works.



Glossary

BCT	Bat Conservation Trust
BNG	Biodiversity Net Gain
BoCC	Bird(s) of Conservation Concern
BSI	British Standard Institute
CEnv	Chartered Environmentalist
CIEEM	Chartered Institute of Ecology & Environmental Management
CRoW Act	Countryside and Rights of Way Act 2000
DEFRA	Department for the Environment, Food and Rural Affairs
EcIA	Ecological Impact Assessment
EPS	European Protected Species
EPSL	European Protected Species Licence
GCN	Great Crested Newt
GradCIEEM	Graduate Member of Chartered Institute of Ecology & Environmental Management
Habitats Regulations	Conservation of Habitats and Species Regulations 2017 (as amended)
HAP	Habitat Action Plan
HPI	Habitat(s) of Principal Importance
HRA	Habitats Regulations Assessment
HSI	Habitat Suitability Index
JNCC	Joint Nature Conservation Committee
LERC	Local Environmental Record Centre
LBAP	Local Biodiversity Action Plan
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MCIEEM	Member of Chartered Institute of Ecology & Environmental Management
Natura 2000 site	A European site designated for its nature conservation value
NE	Natural England
NERC Act	Natural Environment and Rural Communities Act 2006
NNR	National Nature Reserve
NPPF	National Planning Policy Framework
PEA	Preliminary Ecological Appraisal
SAC	Special Area of Conservation
SAP	Species Action Plan
SWBGS	Solent Waders and Brent Goose Strategy
SPA	Special Protection Area
SPI	Species of Principal Importance
SSSI	Site(s) of Special Scientific Interest
W&CA	Wildlife & Countryside Act 1981 (as amended)



1.0 Introduction

1.1 Background

WYG was commissioned by Barratt David Wilson on 28th April 2020 to undertake an Ecological Appraisal of the site known as St, George's Avenue.

This report has been prepared by Project Ecologist Ben Cooke GradCIEEM and the conditions pertinent to it are provided in Appendix A.

1.2 Site Location

The 'site' is located to the east of St George's Avenue, Havant and is centred at Ordnance Survey National Grid Reference SU 73244 06351 – see Figure 1. It comprises a single arable field bordered by two hedgerows and broadleaved semi-natural woodland. An area of bare ground is located within the southern extent of the field.

1.3 Development Proposals

The proposed development will include the construction of residential properties with associated parking and landscaping.

1.4 Purpose of the Report

The purpose of this report is to present the results from:

- A desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected / notable species within the site and its zone of influence;
- An extended Phase 1 habitat survey, involving a walkover of the site to record habitat types and dominant vegetation, including any invasive species, and a reconnaissance survey for evidence of protected fauna or habitats capable of supporting such species; and
- An assessment of the potential ecological receptors present on site, identify any constraints they pose to future development and (if possible) any recommendations for any further surveys, avoidance, mitigation or enhancement measures that are needed (as appropriate).

Note that scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

A summary of the key legislation is also provided in Appendix B.



2.0 Methodology

2.1 Desk Study

2.1.1 Local Ecological Records Centre

Information was requested from the Hampshire Biodiversity Information Centre (HBIC) for information on any nature conservation designations and protected or notable species records within 2 km of the site.

The data search covered:

- Statutory designated sites for nature conservation, namely Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites, Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs);
- Non-statutory designated sites for nature conservation, namely Local Wildlife Sites (LWS);
- Legally protected species, such as great crested newts *Triturus cristatus* (GCN), badger *Meles meles* and bats;
- Notable habitats and species, such as those listed as Habitats or Species of Principal Importance (HPIs or SPIs); and,
- Priority habitats or species within the Hampshire Biodiversity Action Plan (BAP) (Hampshire Biodiversity Partnership, 2000)

The data search did not cover:

- Tree Preservation Orders (TPOs); or
- Conservation Areas designated for their special architectural and historic interest.

2.1.2 Online Resources

A search for relevant information was also made using MAGIC. This is DEFRA's interactive, web-based database for statutory designations and information on any European Protected Species Licence (EPSL) applications that have been granted within 2 km of the boundary of the site.

2.2 Field Surveys

The following methodologies were used to identify the ecological receptors present on or near the site, which are relevant to the proposed development.

2.2.1 Habitats

An extended Phase 1 habitat survey was undertaken on the site on 12th May 2020 by WYG Project Ecologist Ben Cooke. The weather conditions were clear and sunny with a light breeze.

The vegetation and broad habitat types within the site were noted during the survey in accordance with the categories specified for a Phase 1 Vegetation and Habitat Survey (JNCC, 2010). Dominant plant species were recorded for each habitat present using nomenclature according to Stace (2019). The site was also appraised for its suitability to support notable flora, with regard to the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017).



2.2.2 Protected & Notable Species

The site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the Schedule 2 of the Habitat Regulations, Schedule 5 of the W&CA, the CROW Act, those given extra protection under the NERC Act, and species included in the Hampshire BAP.

Great Crested Newt

The site was appraised for its suitability to support great crested newts (GCN). The assessment was based on Guidance outlined in the *Herpetofauna Workers' Manual* (Gent & Gibson, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, Becket & Foster, 2001).

Accessible waterbodies identified on site and within a 0.5 km radius of the site were also assessed for their suitability to support GCN using the Habitat Suitability Index (HSI) (Oldham *et al.*, 2000). This provides an objective method for assessing the suitability of a pond as habitat for GCN. The system provides an index between 0 and 1, with 0 indicating unsuitable habitat and 1 optimal habitat. Ten suitability indices are used to calculate the index score, each representing a factor considered to affect GCN. These factors are listed and briefly explained below:

1. *Location* – i.e. where the pond is located in the British Isles. Lowlands are generally thought to be most suitable; suitability declines with increases in altitude.
2. *Pond area* – i.e., the water surface area of a pond. Suitability peaks at approximately 800m².
3. *Pond drying*: how often a particular pond dries out. Ponds which dry out more frequently are less suitable.
4. *Water quality* – an indication of water quality based on the invertebrate diversity present. High invertebrate diversity indicates high water quality and suitability.
5. *Shade* – an estimate of the total shaded perimeter of a pond. Shoreline shade below 60% is optimal.
6. *Fowl* – indication of impact by waterfowl. High waterfowl numbers are generally considered detrimental.
7. *Fish* – indication of fish abundance. High fish numbers are generally considered detrimental;
8. *Pond count* – based on the density of ponds occurring within 1km of a particular pond. Suitability is positively correlated with pond density.
9. *Terrestrial habitat* – based on the availability of suitable habitat in the pond vicinity, e.g. rough grassland, scrub and woodland. For this assessment, the categories provided by Gent and Gibson (2003) were used. This differs from the assessment criteria by Oldham *et al.* (2000).
10. *Macrophytes* – based on an estimate of the percentage cover by emergent and aquatic vegetation. Suitability peaks at between 70% and 80% cover.

The results are also compared against a categorical scale developed by Lee Brady (unpublished). Results from individual water bodies are categorised as follows:

- <0.5 = poor
- 0.5 – 0.59 = below average
- 0.6 – 0.69 = average
- 0.7 – 0.79 = good
- >0.8 = excellent

Bats

Roosting Bats – Buildings / Structures / Trees

Any suitable buildings, structures or trees on site were assessed from the ground for their suitability to support breeding, resting and hibernating bats using survey methods based on the BCT *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016) – hereafter referred to as the 'BCT Guidelines'. The categories used to classify the bat roost suitability of any features found, are explained in Table 1.

Table 1: Categories of Bat Roost Suitability (BCT Guidelines)

Suitability	Typical Roosting Features
Negligible	Negligible habitat feature on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis & potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Foraging / Commuting Bats

The BCT Guidelines use the criteria in Table 2 below to categorise the potential value of habitats and features for use by foraging and commuting bats and these have been used to characterise the value of this site.

Table 2: Categories of Habitat Suitability (BCT Guidelines)

Suitability	Typical Foraging & Commuting Features
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.

Suitability	Typical Foraging & Commuting Features
	Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Reptiles

The site was appraised for its suitability to support reptiles. The assessment was based on guidance outlined in the *Herpetofauna Workers' Manual* (Gent & Gibson, 2003).

Badgers

The site was surveyed for evidence of badger setts or other badger activity such as paths, latrines or signs of foraging. Methodologies used and any setts recorded were classified according to published criteria (Harris, Cresswell & Jefferies, 1989).

Hazel Dormice

The site was surveyed for its suitability to support hazel dormice. The assessment was based on guidance outlined in Bright, Morris and Mitchell-Jones (2006).

Other Species

The site was also appraised for its suitability to support other protected or notable fauna including mammals (incl. otter and water vole), amphibians, birds and invertebrates with regard to the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017) and *BS42020:2013 Biodiversity – Code of Practice for Planning and Development* (BSI, 2013). Evidence of any current or historical presence of such species was recorded.

2.2.3 Invasive Species

The site was searched for evidence of invasive plant species, such as Japanese knotweed *Reynoutria japonica* (formerly *Fallopia japonica*), Indian (Himalayan) balsam *Impatiens glandulifera*, giant hogweed *Heracleum mantegazzianum*, wall cotoneaster *Cotoneaster horizontalis* and rhododendron *Rhododendron ponticum* × *Rhododendron maximum*. A full list of all invasive plant species is provided in Appendix B.

2.3 Limitations

To determine presence or likely absence of protected species usually requires multiple visits at suitable times of the year. As a result, this survey focuses on assessing the potential of the site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to those given protection under UK or European wildlife legislation. This report cannot therefore be considered a comprehensive assessment of the ecological interest of the

site. However, it does provide an assessment of the ecological interest present on the day the site was visited and highlights areas where further survey work may be recommended.

The details of this report will remain valid for a period of **two years** from the date of the survey, after which the validity of this assessment should be reviewed to determine whether further updates are necessary. Note that the recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on.

3.0 Baseline Conditions

3.1 Designated Sites

The following designated sites of ecological importance were identified within 2 km of the site.

Table 3: Designated Sites Within 2 km

Site Name	Distance & Direction	Summary of features
Solent Maritime SAC	1 km, S	Supports the following designated features: Sandbanks which are slightly covered by sea water all the time; estuaries; mudflats and sandflats not covered by seawater at low tide; coastal lagoons; annual vegetation of drift lines; perennial vegetation of stony banks; <i>salicornia</i> and other annuals colonising mud and sand; <i>Spartina</i> swards; Atlantic salt meadows; shifting dunes along the shoreline with <i>Ammophila arenaria</i> And the following designated species: Desmoulin's whorl snail.
Chichester and Langstone Harbours SPA	1 km, S	This site supports populations of European importance little tern <i>Sterna albifrons</i> and sandwich tern <i>Sterna sandvicensis</i> during the breeding season; on passage little egret <i>Egretta garzetta</i> and over winter bar-tailed godwit <i>Limosa lapponica</i> , little egret. This site also supports populations of European importance of ringed plover <i>Charadrius hiaticula</i> on passage; black tailed godwit <i>Limosa limosa islandica</i> , dark-bellied brent goose <i>Branta bernicla bernicla</i> , dunlin <i>Calidris alpina alpina</i> , grey plover <i>Pluvialis squatarola</i> , redshank <i>Tringa tetanus</i> and ringed plover over winter. In addition, the SPA is a wetland of international importance by regularly supporting at least 20,000 waterfowl. Over winter, the area regularly supports 93,142 individual waterfowl including: wigeon <i>Anas penelope</i> , bar-tailed godwit, dark-bellied brent goose, ringed plover, grey plover <i>Pluvialis squatarola</i> , dunlin, black-tailed godwit, redshank, little grebe <i>Tachybaptus ruficollis</i> , little egret, shelduck <i>Tadorna tadorna</i> , curlew <i>Numenius arquata</i> , teal <i>Anas crecca</i> , pintail <i>Anas acuta</i> , shoveler <i>Anas clypeata</i> , red-breasted merganser <i>Mergus serrater</i> , oystercatcher <i>Haematopus ostralegus</i> , lapwing <i>Vanellus vanellus</i> , knot <i>Calidris canutus</i> , sanderling <i>Calidris alba</i> , cormorant <i>Phalacrocorax carbo</i> and whimbrel <i>Numenius phaeopus</i> .

Site Name	Distance & Direction	Summary of features
Chichester and Langstone Harbours Ramsar	1 km, S	Chichester and Langstone Harbours are located on the south coast of England in Hampshire and West Sussex. They are large, sheltered estuarine basins comprising extensive sand- and mud-flats exposed at low tide. The two harbours are joined by a stretch of water that separates Hayling Island from the mainland. Tidal channels drain the basin and penetrate far inland. The mud-flats are rich in invertebrates and also support extensive beds of algae, especially <i>Enteromorpha</i> species, and eelgrasses <i>Zostera</i> spp. The basin contains a wide range of coastal habitats supporting important plant and animal communities. The site is of particular significance for waterbirds, especially in migration periods and in winter. It also supports important colonies of breeding terns.
Warblington Meadow SSSI	0.7 km, S	An unimproved grazing marsh adjoining Chichester Harbour. The site is particularly noted for its gradation from freshwater, base-rich marsh to old reclaimed saltmarsh with a rich associated flora (158 species recorded).
Chichester Harbour SSSI	1.1 km, SSE	A large estuarine basin in which low water extensive mud and sandflats are exposed. The site is particularly significant for wintering wildfowl and waders and also breeding birds both within the harbour and the surrounding permanent pasture fields and woodlands.
Langstone Harbour SSSI	2 km, SSW	A tidal basin which at high water almost resembles a land locked lake. At low water extensive mud flats are exposed. The harbour includes one of the largest areas of mixed saltmarsh on the south coast and supports high densities of intertidal invertebrates and large populations of migrant and overwintering waders and wildfowl.

There are 17 SINC sites within a 2 km radius of the site. The closet SINC is Brook Farm A, located approximately 0.5 km, SE of the site. The site is designated for the presence of two plant species weasel's-snout *Misopates orontium* and corn spurry *Spergula arvensis*.

3.2 Habitats

The following habitats have been identified through our assessment, with detailed Target Notes included in Appendix C, as appropriate:

3.2.1 Dense scrub

Two rows of dense scrub formed the northern and western boundaries of the site (TN6 and TN7). The scrub comprised of hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa* and bramble *Rubus fruticosus*.



3.2.2 Broad-leaved Scattered Trees

Two semi-mature oaks *Quercus robur* were situated within the northern boundary. In addition several mature hawthorn trees were present along the western boundary.

3.2.3 Neutral Semi-Improved Grassland

Several sections of neutral semi-improved grassland were recorded within the site, confined to the margins of the field compartment (TN3). The habitat was dominated by false oat-grass *Arrhenatherum elatius* and barren brome *Anisantha sterilis*. The grassland within the site was not considered to qualify as a Habitat Action Plan (HAP) habitat under the Hampshire BAP. This is due to the grassland lacking any of the species listed within the Neutral Grassland classification of the Hampshire BAP (Hampshire Biodiversity Partnership, 2000).

3.2.4 Tall Ruderal

Tall ruderal vegetation was recorded around the perimeter of the field compartment (TN2). Several denser areas of tall ruderal habitat were recorded along the eastern and southern boundaries of the site. The species recorded included low growing colonising species e.g. stinging nettle *Urtica dioica*, broad-leaved dock *Rumex obtusifolius* and creeping thistle *Cirsium arvense*.

3.2.5 Arable

A field of wheat *Triticum aestivum* comprised the majority of the site (TN1).

3.2.6 Bare Ground

An area of bare ground was situated within the southern extent of the site (TN4). The area appeared to have been created via agricultural machinery entering and exiting the site through the adjacent gateway.

3.3 Protected & Notable Species

3.3.1 Great Crested Newts

The desk study found no records of GCN within 2 km of the site and a search of data on MAGIC identified no granted EPSL for the species within a 2 km radius of the site.

There were five waterbodies within a 500 m radius of the site. The closet waterbody was a pond located 50 m to the west of the site (WB1). The remaining waterbodies comprised of agricultural field drains separated from the site by the A27 dual carriageway and the trainline which are considered to be major barriers to dispersal of any GCN present. Therefore these ponds were not considered further for the purposes of this report. The location of the waterbodies within 500 m of the site are shown within Figure 3.

HSI Assessment

An HSI assessment of WB1 is summarised in Table 4.

Table 4: HSI Assessment scores

Pond Reference	W1
SI1 Field location	1.00

SI2 Pond area	0.34
SI3 Pond drying	0.50
SI4 Water quality	0.67
SI5 Shade	1.00
SI6 Fowl	0.67
SI7 Fish	1.00
SI8 Ponds	0.84
SI9 Terrestrial habitat	0.67
SI10 Macrophytes	0.31
HSI SCORE	0.65
Pond Suitability	Average

Previous Surveys

An eDNA sampling survey was undertaken on waterbody WB1 by ECOSA in 2017 for a planning application on land adjacent to the site (APP/18/01033) (ECOSA, 2019). The survey returned a negative result for the presence of GCN.

3.3.2 Reptiles

HBIC returned 23 records of slow worm *Anguis fragilis* within 2 km of the site boundary. Tall ruderal vegetation, dense scrub, neutral semi-improved grassland and hedgerows present on site, provide suitable habitat for commuting, foraging and hibernating reptiles. It should be noted that the adjacent field compartments to the west of the site were enclosed by wildlife fencing. A partially destroyed hay bale (TN5) located within the south western corner of the site offers potential as a hibernaculum. As such it is considered that the site has potential for reptiles.

3.3.3 Bats

HBIC returned records of up to 15 bat species within 2 km of the Site boundary, these are summarised in Table 5.

Table 5: Bat records within 2km of the site

Common Name	No. of Records
Alcathoe Bat <i>Myotis alcathoe</i>	2
Barbastelle <i>Barbastella barbastellus</i>	16
Bechstein's Bat <i>Myotis bechsteinii</i>	5
Brandt's Bat <i>Myotis brandti</i>	2
Brown Long-eared Bat <i>Plecotus auritus</i>	27
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	860
Daubenton's Bat <i>Myotis daubentonii</i>	34



Leisler's Bat <i>Nyctalus leisleri</i>	19
Nathusius' Pipistrelle <i>Pipistrellus nathusii</i>	54
Natterer's Bat <i>Myotis nattereri</i>	9
Noctule Bat <i>Nyctalus noctula</i>	147
Serotine <i>Eptesicus serotinus</i>	829
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	717
Unidentified Bat Species <i>Chiroptera</i> Sp.	14
Whiskered Bat <i>Myotis mystacinus</i>	8

A search of data on MAGIC identified no European Protected Species Licences (EPSL) within a 2 km radius of the Site.

The site also falls within the 'Bechstein's bat area' included within the Havant Draft Local Plan 2036 (Havant Borough Council, 2019).

Roosting Bats – Trees

No roosting features were identified within the individual trees located within the boundary hedgerows. Therefore, the trees within the site are considered to be of negligible suitability for roosting bats.

Roosting Bats – Buildings

No buildings were identified on site.

Commuting and Foraging Bats

The scrub and woodland edges provide suitable connected habitats for bats to forage and commute through the site and within the wider landscape. Overall, habitats within the site are considered to provide 'moderate' suitability for foraging and commuting bats.

3.3.4 Badger

The desk study conducted by HBIC returned no records of badger within 2 km of the site. No evidence of badger was found during the site visit. Scrub around the periphery of the site and adjacent woodland does however contain habitat suitable for sett building. Neutral semi-improved grassland and tall ruderal vegetation also offers suitable foraging habitat. It is considered therefore that the site has potential for badgers.

3.3.5 Hazel Dormice

The HBIC data search returned no records of hazel dormice within 2 km of the site. A search of data on MAGIC identified no EPSL for hazel dormice within a 2 km radius of the site.

The dense scrub present has previously been considered to provide some suitability for dormice, however it comprises a small proportion of the site. The A27 dual carriageway to the south and the railway line to the north present barriers to dispersal for the species within the surrounding area. The site has been assessed as having a negligible likelihood of the species being present.



3.3.6 Otter & Water Vole

The HBIC data search returned no records of otter *Lutra lutra* within 2 km of the site. A single record of water vole *Arvicola amphibius* was returned. There are no direct hydrological links on or adjacent to the site and no suitable habitat for these species was present on site. It is considered that the site has negligible potential for these species.

3.3.7 Birds

HBIC returned records for 101 bird species within 2 km of the site. Of these, 39 legally protected bird species are listed under Schedule 1 of the WCA (as amended). The data search also returned 38 records of bird species of high importance (Birds of Conservation Concern (BoCC) Red List) within 2 km radius.

The scattered trees and scrub on site could potentially support a range of breeding birds typical of these habitats such as wood pigeon *Columba palumbus* and house sparrow *Passer domesticus*, records of which are included within the data search.

The site is also located within a Solent Waders and Brent Goose Strategy (SWBGS) area; H19. The area is classified as being of low use (SWBGS, 2019).

The habitats mentioned in conjunction with remaining areas on site (arable crop) offer suitable habitat for the majority of the bird species including the wintering aquatic and wading birds which comprised the majority of the BoCC red list species within the returned data search results.

3.3.8 Invertebrates

HBIC returned eight records of invertebrate species within 2 km of the Site. Of these, five were listed as SPI under the NERC act.

The habitats on site are floristically non-diverse and made up predominantly by common species in areas that were not dominated by arable crop including the area of dense scrub and tall ruderal. The woodland to the south of the site has potential to provide suitable habitat for a range of invertebrates including some notable species. This area is not expected to be adversely impacted upon by the proposed development. Very few flowering species were present on site that could attract notable Lepidoptera (butterfly and moth) species. Overall, the site is not considered to have potential for notable invertebrates.

3.3.9 Invasive Species

HBIC identified seven species of invasive plants within 2 km of the Site boundary. Of the records returned none were recorded on site or within adjacent habitat. There were no invasive species recorded on site during the assessment.

3.3.10 Other Species

West European Hedgehog

Thirty-one records of west European hedgehog *Erinaceus europaeus* were returned, within 2 km of the site. The presence of dense scrub offers suitable habitat for hedgehog within the site. The species is also listed as a SPI under the NERC act.

3.4 Importance of Ecological Features

In line with the CIEEM Preliminary Ecological Appraisal (PEA) Guidelines, and based on the above baseline information, the importance of each ecological feature recorded within the study area is given in Table 4 below. The categories used are those which are defined in Section 4 of the CIEEM Ecological Impact Assessment (EcIA) Guidelines (2018 v1.1):

Table 4 Importance of Ecological Features

Feature	Importance	Rationale
Solent Maritime SAC	International	Internationally designated site.
Chichester and Langstone Harbours SPA	International	Internationally designated site.
Chichester and Langstone Harbours Ramsar	International	Internationally designated site.
Warblington Meadow SSSI	National	Nationally designated site.
Chichester Harbour SSSI	National	Nationally designated site.
Langstone Harbour SSSI	National	Nationally designated site.
Dense scrub	Negligible	Common and widespread habitat.
Broad-leaved scattered trees	Negligible	Common and widespread habitat.
Neutral semi-improved grassland	Negligible	Common and widespread habitat.
Tall ruderal	Negligible	Common and widespread habitat.
Arable	Negligible	Low value habitat.
Bare ground	Negligible	Low value habitat.
Bats (roosting)	Negligible	Trees within the site do not have any roosting features. Roosting bats are considered likely to be absent.
Birds	Negligible	The site provides suitable habitat for common breeding birds but is not considered likely to support important assemblages of common nesting birds.
Badgers	Negligible	Suitable habitat is located within the site and is connected to suitable habitat off-site, however no evidence of badger was found.
Dormouse	Negligible	Species considered likely to be absent
Otter and water vole	Negligible	Species considered likely to be absent
Invasive species	Negligible	No invasive species were noted on site or within adjacent habitat.
West European hedgehog	Negligible	Suitable habitat is presence within the site for foraging, commuting and shelter, however no evidence of the species was found.

Feature	Importance	Rationale
GCN	Unknown	There are ponds within 500 m of the site that could support GCN and have not been surveyed to determine presence or likely absence.
Reptiles	Unknown	Further surveys required.
Bats (foraging and commuting)	Unknown	The habitats within and adjacent to the site including scrub and broad-leaved woodland have the potential for support commuting and foraging bats. The level of activity however cannot be determined without further surveys.
Wintering birds	Unknown	Further surveys required.
Invertebrates	Unknown	Notable invertebrates considered likely to be absent from site due to the habitats present.
Either: International (incl. European) / National / Regional / County / Local / Negligible Or: Unknown (i.e. further surveys/information needed)		

The potential for the proposals to have adverse or beneficial impacts on these features, along with the need for any mitigation or enhancement measures are discussed in detail below.

4.0 Relevant Planning Policy & Legislation

4.1 Revised National Planning Policy Framework

A revised National Planning Policy Framework (NPPF) was issued on 19th February 2019 (Ministry of Housing Communities and Local Government, 2019) and currently supplements government Circular 06/2005, *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System* (Office of the Deputy Prime Minister, 2005).

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 170 of the NPPF also states that:

"Planning policies and decisions should contribute to and enhance the natural environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)*
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland*
- maintaining the character of the undeveloped coast, while improving public access to it where appropriate*
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local*



- environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."*

The conservation and enhancement of wildlife is also specifically reference re: development within the National Parks or the Broads.

Paragraph 174 then goes on to confirmed that:

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

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity."*

Regarding EcIA's and Habitats Regulations Assessment (HRA's) – any sites identified, or required, as compensatory measures for adverse effects on any Natura 2000 / habitats site should also be given the same level as protection as the pSPA's and cSAC's themselves. In addition, when an application is being determined, Paragraph 177 clarifies that:

"The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."

Paragraph 180 is also relevant as;

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:...

- c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."*

4.2 Biodiversity 2020: A strategy for England's Wildlife & Ecosystem Services

Biodiversity 2020 (DEFRA, 2011) replaces the previous UK Biodiversity Action Plan and sets national targets to be achieved. The intent of Biodiversity 2020, however, is much broader than the protection and enhancement of less common species, and is meant to embrace the wider countryside as a whole.

The priority species and habitats considered under Biodiversity 2020 are the SPI & HPI detailed under NERC Act (see Appendix B for further details).

4.3 Local Biodiversity Action Plan

Local Biodiversity Action Plans (LBAPs) identify habitat and species conservation priorities at a local level (typically County by County) and are usually drawn up by a consortium of local Government organisations and conservation charities. Although they are no-longer managed at a national level many are still reviewed and updated at a local level.

The Hampshire BAP is the relevant document for this site and it contains the HAPS and SAPS in Table 5 and Table 6 (Hampshire Biodiversity Partnership, 2000).

Table 5: Hampshire BAP SAPs

Species Action Plans	
Rare flora*	Southern damselfly <i>Coenagrion mercuriale</i>
Hericium tooth fungi*	Butterflies and moths*
Stiptate hynoid tooth fungi*	Bumblebees*
Woodland lichen*	Hornet robberfly <i>Asilus crabroniformis</i>
European otter <i>Lutra lutra</i>	Noble chafer beetle <i>Gnorimus nobilis</i>
Water vole <i>Arvicola amphibius</i>	Stag beetle <i>Lucanus cervus</i>
Barbastelle bat <i>Barbastella barbastellus</i>	Gilkicker weevil <i>Pachytychius haematocephalus</i>
Serotine bat	Medicinal leech <i>Hirudo medicinalis</i>
Bechstein's bat <i>Myotis bechsteinii</i>	Natterjack toad <i>Epidalea calamita</i>
Pipistrelle bat*	GCN
Greater horseshoe bat <i>Rhinolophus ferrumequinum</i>	Smooth snake <i>Coronella austriaca</i>
Seed-eating farmland birds*	Sand lizard <i>Lacerta agilis</i>
Birds of wet grassland*	White-clawed crayfish <i>Austropotamobius pallipes</i>
Shorebirds*	Large-mouthed valve snail <i>Valvata macrostoma</i>

Table 6: Hampshire BAP HAPs

Habitats Action Plans	
Ancient semi-natural woodland	Heathland, acid grassland, bog
Wood pasture and parkland	Standing open water
Hedgerows	Chalk streams
Arable land	Rivers and streams
Neutral grassland	Canals
Lowland calcareous grassland	Coast
Lowland wetland grassland	Wetland

It should be noted that the existence of a Species Action Plan (SAP) or HAP does not always infer an elevated level importance for those features. These plans may be designed to encourage an increase in these habitats/species, rather than to protect a county-scarce feature (for example).

4.4 Local Plan

The site falls within the area governed by Havant Borough Council and the Havant Brough Local Plan 2011 applies to development within the area. The local plan includes Policy CS11 – (Protecting and Enhancing the Special Environment and Heritage of Havant Borough) relating to biodiversity.

Planning permission will be granted for development that:

"1. Ensures the key landscape and built form principles set out in the Havant Borough Townscape, Landscape and Seascape Character Assessment are protected and where possible enhanced by partnership working with developers, groups and the wider community.

2. Protects and where possible enhances the borough's statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures including wardening, education and information and the creation of new habitats, water bodies/courses planting of new trees and woodland.

3. Has particular regard to the following hierarchy of nature conservation designations within the borough (as identified on the Proposals Map): (i) Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar [International]. (ii) Sites of Special Scientific Interest (SSSI) and National Nature Reserves [National]. (iii) Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), other Ancient Woodland not identified in (ii) above [Local].

4. Protects and where appropriate enhances the borough's statutory and nonstatutory heritage designations by appropriately managing development in or adjacent to conservation areas, listed buildings, scheduled ancient monuments, historic parks and gardens, archaeological sites, buildings of local historic or architectural interest.



5. Supports an ongoing programme of survey of habitats and species and designation of Sites of Importance for Nature Conservation.

6. Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.

7. Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and their soil structure, particularly the ancient woodland remnants of the Forest of Bere and coastal salt marsh.

8. Protects wildlife habitats and wildlife corridors to prevent the fragmentation of existing habitats and to allow species, for example Brent Geese, to respond to the impacts of climate change by making provision for habitat adaptation e.g. coastal managed realignment and species migration.

9. Maintains undeveloped gaps between the settlements of Emsworth/Havant; Havant/Waterlooville; Havant/Portsmouth; Emsworth/Westbourne and Leigh Park/Rowlands Castle as shown on the Proposals Map.

10. Protects the best and most versatile agricultural land that has the greatest potential for local food security.

11. Responds to the emerging evidence from the Solent Disturbance and Mitigation Project, the published recommendations, and future related research."

4.4.1 DM8 Conservation, Protection and Enhancement of Existing Natural Features

Development will only be permitted where it protects and enhances local habitats and landscape distinctiveness and which addresses all of the relevant criteria as set out below:

"1. Protects natural features of nature conservation and/or amenity importance on the site, for example trees, woodlands, hedgerows, soils, streams, stream corridors, springs, ditches or ponds from damage, destruction and a deterioration in quality.

2. Sympathetically incorporates existing features into the overall design of the scheme including measures taken to ensure their continued survival.

3. Provides new landscape works that integrate successfully with the local environment and existing natural features, using local materials and plant species and making provision for future maintenance of new landscape works associated with new developments.

4. Ensures sequences of greenspaces are maintained and protects the attractiveness and visual amenity of all green open spaces that contribute to the identity of the borough."

4.4.2 Pre-submission Havant Borough local Plan 2036, policy E15 (Protected Species)

The Pre-submission Havant Borough local Plan 2036 includes policy E15 (Protected Species) relating to Bechstein's bat.



Development proposals which are likely to affect protected species, and/or their supporting habitats, must undertake appropriate surveys to establish their presence/likely absence. In using the findings of such surveys, proposals should, in the first instance, avoid an impact on a protected species. If this is not possible, planning permission will only be granted where:

a. A Mitigation Plan, or if this is not possible a Compensation Plan, is provided to the satisfaction of the Council; and

b. A Monitoring and Review Plan is put in place.

Bechstein's Bat

In instances where Bechstein's bat is likely to be found on site and/or nearby, survey methods appropriate to Bechstein's bat must be used and undertaken by a suitably qualified ecologist. If the presence of Bechstein's bat is established on site and/or nearby, planning permission will only be granted where:

c. Impacts on Bechstein's bat breeding habitat (i.e. net loss of/excessive disturbance to woodland or trees containing roosts) are avoided;

d. Proposals include appropriate buffers to woodlands, trees, hedgerows and other flight corridors, considering the location of roosts and foraging/commuting habitats; and

e. Review and monitoring plans are put in place.

Where the above measures cannot be met planning permission will be refused, unless the applicant can show, subject to meeting the tests of the Habitats Regulations, that there would not be an adverse effect on the population of the relevant protected species.

4.5 Legislation

Full details of the UK legislation and offences which are relevant to the ecological receptors identified are included in Appendix B. However, based on the findings of our assessment, it is considered that the proposals will need to consider the following legal provisions:

- Habitats Regulations – affecting the integrity of a Natura 2000 Site;
- W&CA – damaging an SSSI;
- Habitat Regulations – relating to the potential for effects on European Protected Species (EPS) e.g. bats;
- W&CA – relating to the potential for effects on reptiles, nesting birds and Schedule 1 birds; and
- Badger Act - relating to the potential for effects on badgers



5.0 Discussion

5.1 Designated Sites

5.1.1 Natura 2000 Sites

There are three Natura 2000 sites within a 2 km radius of the site; Solent Maritime SAC, Chichester and Langstone Harbours SPA and the Chichester and Langstone Harbours Ramsar. Given the distance of the site and the lack of direct habitat or hydrological connections to these Natura 2000 sites direct effects are considered unlikely. Indirect effects are considered likely as there is potential for an increase in residential dwellings to create increased disturbance to overwintering birds within the SPA and Ramsar. In order to mitigate this effect, including in-combination effects, all planning applications for new homes within 5.6 km of the Solent SPAs are required to make a financial contribution in line with the charging schedule as detailed in the Solent Mitigation Strategy (Bird Aware Solent, 2017). This is applicable to this development.

Given the above pathways specified, a Report to Inform Stage 1: Screening and Stage 2: Appropriate Assessment of an HRA would therefore be required to establish whether the project has the potential to result in Likely Significant Effects (LSE) on the SAC, SPA and Ramsar.

Sites of Special Scientific Interest

There are three SSSI within a 2 km radius of the site (Warblington Meadow, Chichester Harbour and Langstone Harbour). Given the distance of the site and the lack of direct habitat or hydrological connections to these SSSI direct effects are considered unlikely.

The potential of the proposed development to result in LSE through indirect effects (resulting from recreational pressure) on the SSSI is considered to be covered by the implementation of an HRA Stage 1 Screening as described in Section 5.1.1 (financial contribution as detailed in the Solent Mitigation Strategy).

5.1.2 Local Wildlife Sites

There are 17 SINC's within a 2 km radius of the Site, none of which fall within the boundaries of the proposed development. The closest SINC (Brook Farm A), is situated 0.5 km, S of the site.

There are no direct effects considered likely to affect the SINC's. Of the SINC's situated within 2 km of the Site, eight are accessible to the public (Southmoor Reserve, Battins Copse, Stream West of Emsworth Recreation Ground, Barton's Copse, Southleigh Forest (South), St. Faith's Churchyard, Conigar Point Meadows and Southleigh Forest). All these contain infrastructure to accommodate the public (e.g. public footpaths, seating and car parking). In combination with financial contributions as detailed in the Solent Mitigation Strategy, it is considered that the proposed development will not affect these LWS.

The remaining SINC's have no access to the public therefore there is also no predicted pathway to an LSE as a result of development within the site.



5.2 Habitats

Most of the habitats within the site are common within the wider landscape and are of low value for biodiversity. The removal of these habitats to facilitate development is not considered significant.

It is recommended that a Biodiversity Net Gain (BNG) assessment is completed to assess the impact of the proposed development on the biodiversity of the site. The completion of BNG is not currently mandatory within the Havant local authority however requirement for net gain has been recommended for inclusion within the Havant Borough Local Plan 2036.

The Havant Borough Biodiversity Strategy (Havant Borough Council, 2019) states:

In taking forward this strategy, policies in the Havant Borough Local Plan 2036 should...Require every development to secure net gains for biodiversity, especially to incorporate and enhance biodiversity in and around the scheme (on and within buildings as well as between gardens and through open spaces).

In addition, it is recommended that to enhance the site native planting could be incorporated in communal areas and the boundary features within the proposed development site. Bat and bird boxes could be attached to suitable retained trees and / or incorporated within new buildings within the site.

5.3 Protected & Notable Species

5.3.1 Great Crested Newts

Although the data search returned no records of GCN within 2 km of the Site, and the habitat recorded on site consisting of neutral semi-improved grassland, dense scrub and tall ruderal have the potential to support GCN in their terrestrial phase. Therefore, an eDNA survey of the pond (WB1) located 0.05 km to the west is recommended to establish presence / absence.

This can be completed from mid-March to the end of June. Should the survey return a positive result for GCN presence, then further GCN population surveys (six surveys) will be required between mid-March and mid-June with three of the surveys undertaken between mid-April and mid-May.

Information obtained from the surveys will inform a mitigation strategy that will be required to maintain habitat for GCN (either through retention and protection or compensation) suitable for the size of population identified.

5.3.2 Reptiles

Habitats present on site including; neutral semi-improved grassland, tall ruderal and scrub habitat has been assessed as having moderate suitability for reptiles. It is therefore recommended that surveys are completed in suitable conditions between March and October. This should consist of seven visits to check artificial refuges placed in suitable habitat on site.

If present a mitigation strategy will be required to maintain habitat for reptiles (either through retention and protection or compensation) suitable for the size of population identified.



5.3.3 Bats

Foraging and commuting bats

The site was assessed as having moderate potential suitability for foraging and commuting bats, in accordance with best practice guidelines (Collins, 2016) and further survey are recommended.

The scope of the survey would comprise monthly activity surveys are between April- October consisting of walked transects (one comprising of a dusk and dawn), supplemented by the use of automated detectors should be placed on site in two locations during each transect.

These surveys will inform a mitigation strategy which will include the protection of key foraging and commuting areas and the provision of dark corridors. Although the location of the most important features is to be established it is unlikely that foraging and commuting bats will present a significant constraint to development.

5.3.4 Badgers

No evidence of badgers was found on site. However, badgers are highly mobile and can quickly occupy new setts. It is therefore recommended that a pre-works check for badgers is completed. If a sett is present, further mitigation and a badger licence from Natural England may be required.

5.3.5 Nesting Birds

Removal of any trees / scrub / tall ruderal vegetation and buildings are recommended to be undertaken outside of the breeding season (March-September inclusive – although to be guided by other protected species surveys) or after an inspection by an experienced ecologist no earlier than 24 hours before commencement of works. If nesting birds are located, the ecologist will suggest suitable buffers are put in place to prevent disturbance.

5.3.6 Wintering Birds

As the site is encompassed by a SWBGS area in addition to the close proximity of the site to Chichester and Langstone Harbour Ramsar, SPA and SSSI (designated for supporting wintering bird), surveys are recommended. These surveys involve two visits per month between October and March inclusive following the methodology described in the SWBGS; one survey each month taking place at high tide and one at low tide.

5.3.7 Invertebrates

The habitats on site are widespread and common in the local area so it is not considered likely that any notable species are likely to be affected. The use of a range of native species within the landscaping proposal is likely to enhance the sites potential to provide foraging resources for a range of invertebrate species.

5.3.8 Other Species

The retention, creation and enhancement of habitat within the site (including scrub and grassland) is considered to mitigate for any potential impacts to West European hedgehog as a result of the proposed development. In addition the inclusion of entrances between the fences of residential gardens could be included to maintain connectivity for the species throughout the site.



6.0 Summary

6.1 Designated Sites

Direct effects on all the designated sites within a 2 km radius of the Site are considered unlikely as a result of the development.

Indirect effects are considered likely however resulting from increased disturbance by new residents to overwintering birds within SPA and Ramsar. In order to mitigate this effect a financial contribution in line with the charging schedule as detailed in the Solent Mitigation Strategy (Bird Aware Solent, 2017) will be required.

A Report to Inform Stage 1: Screening and Stage 2: Appropriate Assessment is therefore be required to enable the LPA as the competent authority to establish whether the project has the potential to result in Likely Significant Effects (LSE) on the SAC, SAP and Ramsar.

The indirect effects resulting from increased recreational pressure from the proposed development on the SSSI and SINC overlap with those of the Natura 2000 sites. The potential of the proposed development to result in LSE on the SSSI and SINC is therefore also considered to be covered by the implementation of an HRA Stage 1 Screening. There are no direct effects considered to result from the proposed development on any of the SINC located within 2 km of the site.

6.2 Habitats

Most of the habitats on site are common within the wider landscape and are of low value for biodiversity. Their removal to facilitate development is not considered significant.

There is significant potential for enhancement within the site. Whilst enhancement is not a legal requirement, it is encouraged on site as it helps to meet the government objectives for planning to protect and enhance biodiversity, minimise impacts and provide net gains for biodiversity in accordance with the NPPF (see Section 4.1).

Enhancement could include the following:

- A diverse collection of native planting could be incorporated into the landscaping design within the proposed development site.
- The provision of a mix of bat and bird boxes attached to suitable retained trees and incorporated within new buildings on site.

6.3 Protected & Notable Species

Further surveys have been recommended for the following species:

- Great crested newts;
- Reptiles;
- Wintering birds;
- Bats; and
- Badgers;



Avoidance Measures

Removal of any trees, vegetation or buildings are recommended to be undertaken outside of the breeding bird season (March-September inclusive) or after an inspection by an experienced ecologist more than 24 hours prior to commencement of works. If active bird nests are located, the ecologist will suggest suitable buffers are put in place to prevent disturbance until chicks have fledged.

Mitigation

Mitigation to protect against breaches in the legislation protecting badgers and nesting birds will also be required. In addition, it is recommended that mitigation such as the retention of suitable habitats and maintaining corridors throughout the site via residential gardens is applied to reduce the impact of the development proposals on hedgehogs.



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Please note that the legislation which is relevant to this report is not included in the list above, but details are included in Appendix B below.

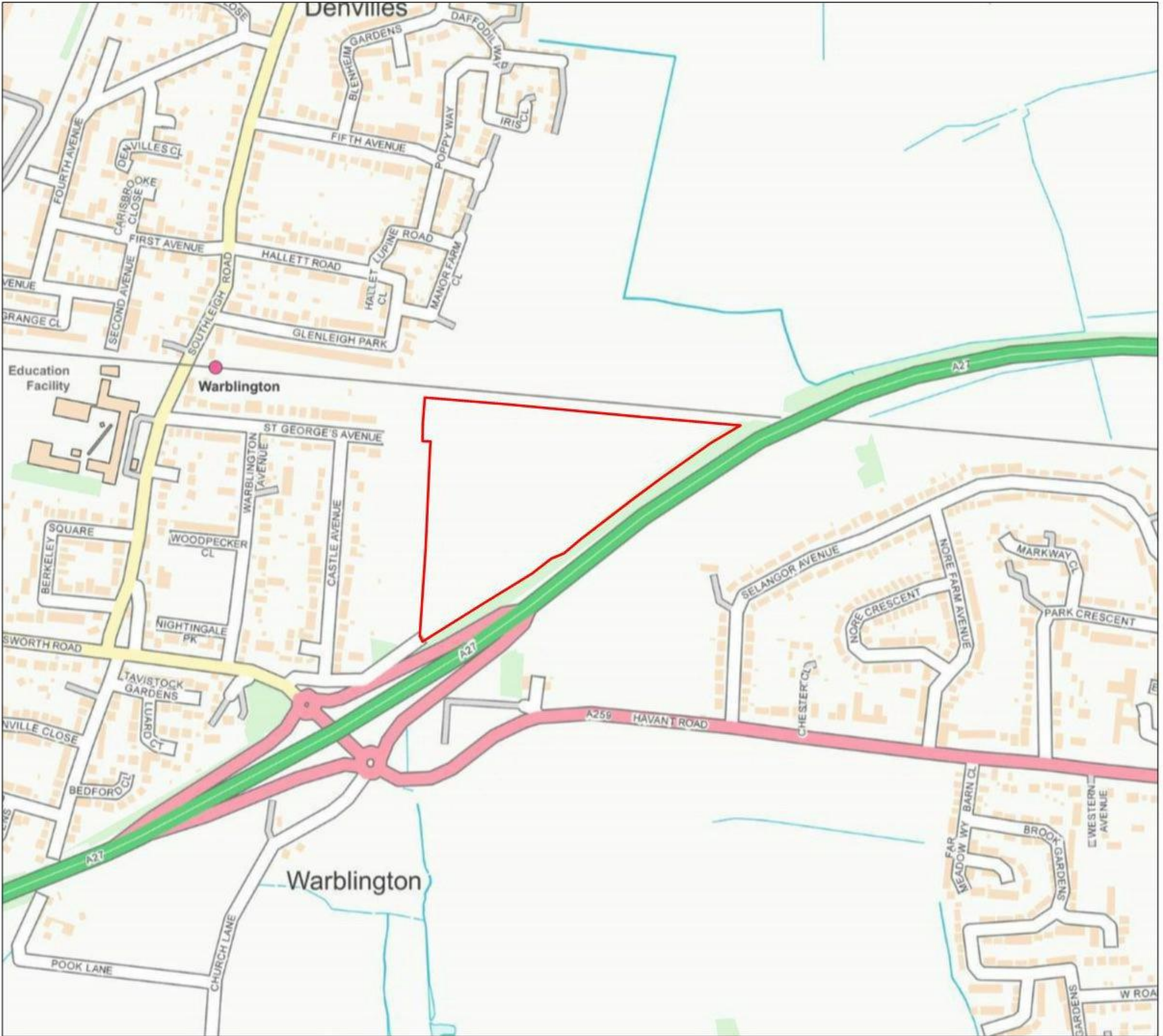


FIGURES

Figure 1 – Site Location Plan

Figure 2 – Phase 1 Habitat Plan

Figure 3 – Waterbody Location Plan



Rev	Date	Notes
A	29/04/20	Initial map production

Legend

Site boundary

0 50 100 200 Metres



Site Location Plan

St. George's Avenue
Barratt David Wilson

Scale at A3: 1:5,000	Project No: A117429	Drawing No: Figure 1	Revision: A
Drawn by: Maddie Errington	Drawn date: 29/04/2020	Approved by: Ben Cooke	

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Rev	Date	Notes
A	18/05/20	Initial map production

Legend

- Site boundary
- Scrub - dense/continuous
- SI Neutral grassland - semi-improved
- Tall ruderal
- A Arable
- Bare ground
- Scattered tree - negligible bat roost potential
- Target note

0 20 40 80 Metres

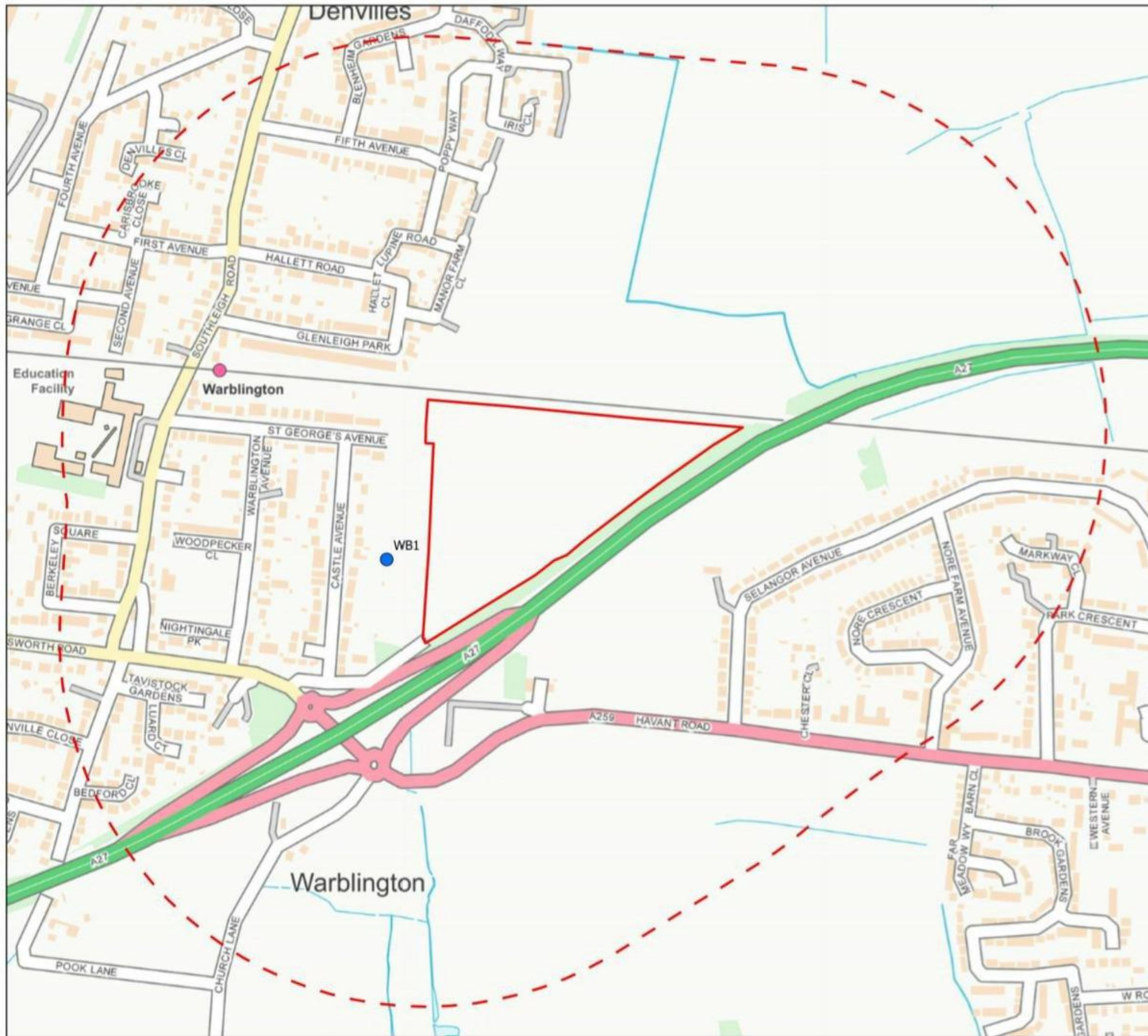


Phase 1 Habitat Plan

**St. George's Avenue
Barratt David Wilson**

Scale at A3: 1:2,000	Project No: A117429	Drawing No: Figure 2	Revision: A
Drawn by: Maddie Errington	Drawn date: 18/05/2020	Approved by: Ben Cooke	

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Rev	Date	Notes
A	19/06/20	Initial map production

Legend

- Site boundary
- Site boundary 500m buffer
- Waterbody

0 50 100 200 Metres



Waterbody Location Plan

St. George's Avenue Barratt David Wilson

Scale at A3: 1:5,000	Project No: A117429	Drawing No: Figure 3	Revision: A
Drawn by: Maddie Errington	Drawn date: 19/06/2020	Approved by: Ben Cooke	

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Appendix A – Report Conditions

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including; its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.



Appendix B – Key Legislation

Bern Convention

The *Convention on the Conservation of European Wildlife and Natural Habitats* (the *Bern Convention*) was adopted in Bern, Switzerland in 1979, and was ratified in 1982. Its aims are to protect wild plants and animals and their habitats listed in Appendices 1 and 2 of the Convention, and regulate the exploitation of species listed in Appendix 3. The regulation imposes legal obligations on participating countries to protect over 500 plant species and more than 1000 animals.

To meet its obligations imposed by the Convention, the European Community adopted the *EC Birds Directive* (1979) and the *EC Habitats Directive* (1992 – see below). Since the Lisbon Treaty, in force since 1st December 2009, European legislation has been adopted by the European Union.

Bonn Convention

The Convention on the Conservation of Migratory Species of Wild Animals or 'Bonn Convention' was adopted in Bonn, Germany in 1979 and came into force in 1985. Participating states agree to work together to preserve migratory species and their habitats by providing strict protection to species listed in Appendix I of the Convention. It also establishes agreements for the conservation and management of migratory species listed in Appendix II.

In the UK, the requirements of the convention are implemented via the Wildlife & Countryside Act 1981 (as amended), Wildlife (Northern Ireland) Order 1985 (as amended), Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 and the Countryside and Rights of Way Act 2000 (CRoW).

Habitats Directive

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, or the 'Habitats Directive', is a European Union directive adopted in 1992 in response to the Bern Convention. Its aims are to protect approximately 220 habitats and 1,000 species listed in its several Annexes.

In the UK, the Habitats Directive is transposed into national law via the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales, and via the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland.

Birds Directive

The EC Directive on the Conservation of Wild Birds (79/409/EEC) or 'Birds Directive' was introduced to achieve favourable conservation status of all wild bird species across their distribution range. In this context, the most important provision is the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex 1 of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance.

Conservation of Habitats and Species Regulations 2017 (as amended)

Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species (listed in Annexes I or II of the Habitats Directive respectively) to the European Commission. These sites, if ratified by Ministers, are then designated as Special Protection Areas (SPAs) within six years. Public bodies must also help preserve, maintain and re-establish habitats for wild birds.

The 2018 amendments mainly related to the impact of the *People Over Wind* decision and some implications arising for neighbourhood plan development and a range of other planning tools including Local Development Orders and Permission in Principle – see here for full details:

<https://www.legislation.gov.uk/uksi/2018/1307/note/made>

The Regulations make it an offence to deliberately capture, kill, disturb or trade in the animals listed in Schedule 2, or pick, uproot, destroy, or trade in the plants listed in Schedule 5 - see below:

Schedule 2 – European Protected Species of Animals	Schedule 5 – European Protected Species of Plants
Horseshoe bats <i>Rhinolophidae</i> - all species	Shore dock <i>Rumex rupestris</i>
Common bats <i>Vespertilionidae</i> - all species	Killarney fern <i>Trichomanes speciosum</i>
Large Blue Butterfly <i>Maculinea arion</i>	Early gentian <i>Gentianella anglica</i>
Wild cat <i>Felis sylvestris</i>	Lady's-slipper <i>Cypripedium calceolus</i>
Dolphins, porpoises and whales <i>Cetacea</i> – all sp.	Creeping marsh-wort <i>Apium repens</i>
Dormouse <i>Muscardinus avellanarius</i>	Slender naiad <i>Najas flexilis</i>
Pool frog <i>Rana lessonae</i>	Fen orchid <i>Liparis loeselii</i>
Sand lizard <i>Lacerta agilis</i>	Floating-leaved water plantain <i>Luronium natans</i>
Fisher's estuarine moth <i>Gortyna borellii lunata</i>	Yellow marsh saxifrage <i>Saxifraga hirculus</i>
Great crested newt <i>Triturus cristatus</i>	
Otter <i>Lutra lutra</i>	
Lesser whorlpool ram's-horn snail <i>Anisus vorticulus</i>	
Smooth snake <i>Coronella austriaca</i>	
Sturgeon <i>Acipenser sturio</i>	
Natterjack toad <i>Epidalea calamita</i>	
Marine turtles <i>Caretta caretta</i> , <i>Chelonia mydas</i> , <i>Lepidochelys kempii</i> , <i>Eretmochelys imbricata</i> , <i>Dermochelys coriacea</i>	

Wildlife & Countryside Act 1981 (as amended)

This is the principal mechanism for the legislative protection of wildlife in the UK. This legislation is the chief means by which the 'Bern Convention' and the Birds Directive are implemented in the UK. Since it was first introduced, the Act has been amended several times.

The Act makes it an offence to (with exception to species listed in Schedule 2) intentionally:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use; or
- take or destroy an egg of any wild bird.

Or to intentionally do the following to a wild bird listed in Schedule 1:

- disturbs any wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird.

In addition, the Act makes it an offence (subject to exceptions) to:

- intentionally or recklessly kill, injure or take any wild animal listed on Schedule 5;
- interfere with places used for shelter or protection, or intentionally disturbing animals occupying such places; and
- The Act also prohibits certain methods of killing, injuring, or taking wild animals.

Finally, the Act also makes it an offence (subject to exceptions) to:

- intentionally pick, uproot or destroy any wild plant listed in Schedule 8, or any seed or spore attached to any such wild plant;
- unless an authorised person, intentionally uproot any wild plant not included in Schedule 8; or
- sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Following all amendments to the Act, Schedule 5 'Animals which are Protected' contains a total of 154 species of animal, including several mammals, reptiles, amphibians, fish and invertebrates. Schedule 8 'Plants which are Protected' of the Act, contains 185 species, including higher plants, bryophytes and fungi and lichens. A comprehensive and up-to-date list of these species can be obtained from the JNCC website.

Part 14 of the Act makes unlawful to plant or otherwise cause to grow in the wild any plant which is listed in Part II of Schedule 9.

It is recommended that plant material of these species is disposed of as bio-hazardous waste, and these plants should not be used in planting schemes.

Schedule 1 - Birds which are protected by special penalties

Avocet	<i>Recurvirostra avosetta</i>	Osprey	<i>Pandion haliaetus</i>
Bee-eater	<i>Merops apiaster</i>	Owl, Barn	<i>Tyto alba</i>
Bittern	<i>Botaurus stellaris</i>	Owl, Snowy	<i>Nyctea scandiaca</i>
Bittern, Little	<i>Ixobrychus minutus</i>	Peregrine	<i>Falco peregrinus</i>
Bluethroat	<i>Luscinia svecica</i>	Petrel, Leach's	<i>Oceanodroma leucorhoa</i>
Brambling	<i>Fringilla montifringilla</i>	Phalarope, Red-necked	<i>Phalaropus lobatus</i>
Bunting, Cirl	<i>Emberiza cirlus</i>	Plover, Kentish	<i>Charadrius alexandrinus</i>
Bunting, Lapland	<i>Calcarius lapponicus</i>	Plover, Little Ringed	<i>Charadrius dubius</i>
Bunting, Snow	<i>Plectrophenax nivalis</i>	Quail, Common	<i>Coturnix coturnix</i>
Buzzard, Honey	<i>Pernis apivorus</i>	Redstart, Black	<i>Phoenicurus ochruros</i>
Capercaillie	<i>Tetrao urogallus</i>	Redwing	<i>Turdus iliacus</i>
Chough	<i>Pyrrhocorax pyrrhocorax</i>	Rosefinch, Scarlet	<i>Carpodacus erythrinus</i>
Corncrake	<i>Crex crex</i>	Ruff	<i>Philomachus pugnax</i>
Crake, Spotted	<i>Porzana porzana</i>	Sandpiper, Green	<i>Tringa ochropus</i>
Crossbills (all species)	<i>Loxia</i>	Sandpiper, Purple	<i>Calidris maritima</i>
Curlew, Stone	<i>Burhinus oedicnemus</i>	Sandpiper, Wood	<i>Tringa glareola</i>
Divers (all species)	<i>Gavia</i>	Scaup	<i>Aythya marila</i>
Dotterel	<i>Charadrius morinellus</i>	Scoter, Common	<i>Melanitta nigra</i>
Duck, Long-tailed	<i>Clangula hyemalis</i>	Scoter, Velvet	<i>Melanitta fusca</i>
Eagle, Golden	<i>Aquila chrysaetos</i>	Serin	<i>Serinus serinus</i>
Eagle, White-tailed	<i>Haliaetus albicilla</i>	Shorelark	<i>Eremophila alpestris</i>
Falcon, Gyr	<i>Falco rusticolus</i>	Shrike, Red-backed	<i>Lanius collurio</i>
Fieldfare	<i>Turdus pilaris</i>	Spoonbill	<i>Platalea leucorodia</i>
Firecrest	<i>Regulus ignicapillus</i>	Stilt, Black-winged	<i>Himantopus himantopus</i>
Garganey	<i>Anas querquedula</i>	Stint, Temminck's	<i>Calidris temminckii</i>

Godwit, Black-tailed	<i>Limosa limosa</i>	Swan, Bewick's	<i>Cygnus bewickii</i>
Goshawk	<i>Accipiter gentilis</i>	Swan, Whooper	<i>Cygnus cygnus</i>
Grebe, Black-necked	<i>Podiceps nigricollis</i>	Tern, Black	<i>Chlidonias niger</i>
Grebe, Slavonian	<i>Podiceps auritus</i>	Tern, Little	<i>Sterna albifrons</i>
Greenshank	<i>Tringa nebularia</i>	Tern, Roseate	<i>Sterna dougallii</i>
Gull, Little	<i>Larus minutus</i>	Tit, Bearded	<i>Panurus biarmicus</i>
Gull, Mediterranean	<i>Larus melanocephalus</i>	Tit, Crested	<i>Parus cristatus</i>
Harriers (all species)	<i>Circus</i>	Tree-creeper, Short-toed	<i>Certhia brachydactyla</i>
Heron, Purple	<i>Ardea purpurea</i>	Warbler, Cetti's	<i>Cettia cetti</i>
Hobby	<i>Falco subbuteo</i>	Warbler, Dartford	<i>Sylvia undata</i>
Hoopoe	<i>Upupa epops</i>	Warbler, Marsh	<i>Acrocephalus palustris</i>
Kingfisher	<i>Alcedo atthis</i>	Warbler, Savi's	<i>Locustella luscinioides</i>
Kite, Red	<i>Milvus milvus</i>	Whimbrel	<i>Numenius phaeopus</i>
Merlin	<i>Falco columbarius</i>	Woodlark	<i>Lullula arborea</i>
Oriole, Golden	<i>Oriolus oriolus</i>	Wryneck	<i>Jynx torquilla</i>
Animal (Vertebrate) Species Listed in Schedule 5 (full legal protection at all times)			
Horseshoe Bats (all species)	<i>Rhinolophidae</i>	Newt – Great Crested	<i>Triturus cristatus</i>
Typical Bats (all species)	<i>Vespertilionidae</i>	Snake – Smooth	<i>Coronella austriaca</i>
Dolphin – Bottle-nosed	<i>Tursiops truncatus (tursio)</i>	Toad, Natterjack	<i>Epidalea calamita</i>
Dolphin – Common	<i>Delphinus delphis</i>	Turtles – All Species	<i>Cheloniidae & Dermochelyidae</i>
Dormouse – Hazel	<i>Muscardinus avellanarius</i>	Basking Shark	<i>Cetorhinus maximus</i>
Pine Marten	<i>Martes martes</i>	Burbot	<i>Lota lota</i>
Porpoise – Harbour	<i>Phocaena phocaena</i>	Goby – Giant	<i>Gobius cobitis</i>
Otter – Eurasian	<i>Lutra lutra</i>	Goby – Couch's	<i>Gobius couchii</i>
Squirrel – Red	<i>Sciurus vulgaris</i>	Seahorse – Short-snouted ¹	<i>Hippocampus hippocampus</i>
Walrus	<i>Odobenus rosmarus</i>	Seahorse – Spiny	<i>Hippocampus guttulatus</i>
Water Vole	<i>Arvicola amphibius</i>	Sturgeon	<i>Acipenser sturio</i>
Whales – All Species	<i>Cetacea</i>	Vendace	<i>Coregonus albula</i>
Wildcat	<i>Felis sylvestris</i>	Whitefish	<i>Coregonus lavaretus</i>
Lizard – Sand	<i>Lacerta agilis</i>		
Animal (Vertebrate) Species Protected under Section 9 (1) part: Killing and Injuring & Section 9 (5) Sale			
Adder	<i>Vipera berus</i>	Slow-worm	<i>Anguis fragilis</i>
Lizard – Viviparous	<i>Zootoca vivipara</i>	Snake – Grass	<i>Natrix helvetica (natrix)</i>
Animals (Vertebrate) Species Protected under Section 9 (5) Sale only			
Frog – common	<i>Rana temporaria</i>	Newt – Smooth	<i>Lissotriton vulgaris</i>
Newt – Palmate	<i>Lissotriton helvetica</i>	Toad – Common	<i>Bufo bufo</i>
Animals (Vertebrate) Species Protected under Section 9 (1) (4)(a): Killing, Injuring & Taking and Damage / Destruction of place of shelter / protection only			
Allis Shad	<i>Alosa alosa</i>	Shark – Angel	<i>Squatina squatina</i>
Twaite Shad	<i>Alosa fallax</i>		
Butterflies & Moths – Full Protection under Schedule 5² at all times			
High brown fritillary	<i>Argynnis adippe</i>	Fisher's Estuarine Moth	<i>Gortyna borelii</i>
Large Blue	<i>Maculinea arion</i>	Barberry Carpet	<i>Pareulype berberata</i>

¹ Both sea horse species are protected in England only.

² Viper's Bugloss Moth *Hadena irregularis* was removed from Schedule 5 in 1996 as it is believed to be extinct.

Heath Fritillary	<i>Mellicta athalea</i>	Black-veined Moth	<i>Siona lineata</i>
Marsh Fritillary	<i>Eurodryas aurinia</i>	Sussex Emerald	<i>Thalera fimbrialis</i>
Swallowtail	<i>Papilio machaon britannicus</i>	Essex Emerald	<i>Thetidia smaragdalis</i>
Large Copper	<i>Lycaena dispar</i>	Fiery Clearwing	<i>Bembecia chrysidiformis</i>
Reddish-buff Moth	<i>Acosmetia caliginosa</i>	New-Forest Burnet	<i>Zygaena viciae</i>
Butterflies – Protected under Section 9 (5) Sale Only			
Purple Emperor	<i>Apatura iris</i>	Adonis Blue	<i>Lysandra bellargus</i>
Northern Brown Argus	<i>Aricia artaxerxes</i>	Chalkhill Blue	<i>Lysandra cordon</i>
Pearl-bordered Fritillary	<i>Boloria euphrosyne</i>	Glanville Fritillary	<i>Melitaea cinxia</i>
Chequered Skipper	<i>Carterocephalus palaemon</i>	Large Tortoiseshell	<i>Nymphalis polychloros</i>
Large Heath	<i>Coenonympha tullia</i>	Silver-studded Blue	<i>Plebejus argus</i>
Small Blue	<i>Cupido minimus</i>	Black Hairstreak	<i>Strymonidia pruni</i>
Mountain Ringlet	<i>Erebia epiphron</i>	White-letter Hairstreak	<i>Strymonidia w-album</i>
Duke of Burgundy	<i>Hamearis lucina</i>	Brown Hairstreak	<i>Thecla betulae</i>
Silver-spotted Skipper	<i>Hesperia comma</i>	Lulworth Skipper	<i>Thymelicus acteon</i>
Wood White	<i>Leptidea sinapis</i>		
Other Invertebrates – Full Protection under Schedule 5 at all times			
Rainbow Leaf-beetle	<i>Chrysolina cerealis</i>	Tadpole Shrimp	<i>Triops cancriformis</i>
Spangled Diving-beetle	<i>Graphopterus zonatus</i>	Trembling Sea-mat	<i>Victorella pavidia</i>
Lesser Silver Water-beetle	<i>Hydrochara caraboides</i>	De Folin's Lagoon Snail	<i>Caecum armoricum</i>
Moccas Beetle	<i>Hypebaeus flavipes</i>	Sandbowl Snail	<i>Catinella arenaria</i>
Violet Click-beetle	<i>Limoniscus violaceus</i>	Freshwater Pearl Mussel	<i>Margaritifera margaritifera</i>
Bembridge Beetle	<i>Parcymus aeneus</i>	Glutinous Snail	<i>Myxas glutinosa</i>
New Forest Cicada	<i>Cicadetta montana</i>	Lagoon Snail	<i>Paludinella littorina</i>
Wart-Biter	<i>Decticus verrucivorus</i>	Lagoon Sea Slug	<i>Tenellia adspersa</i>
Mole-Cricket	<i>Gryllotalpa gryllotalpa</i>	Northern Hatchet-shell	<i>Thyasira gouldi</i>
Field-Cricket	<i>Gryllus campestris</i>	Tentacled Lagoon-worm	<i>Alkmaria romijni</i>
Norfolk Hawker Dragonfly	<i>Aeshna isosceles</i>	Lagoon Sand-worm	<i>Armandia cirrhosa</i>
Southern Damselfly	<i>Coenagrion mercuriale</i>	Medicinal Leech	<i>Hirudo medicinalis</i>
Fen Raft Spider	<i>Dolomedes fimbriatus</i>	Marine Hydroid	<i>Clavopsella navis</i>
Ladybird Spider	<i>Eresus niger (cinaberinus)</i>	Ivell's Sea Anemone	<i>Edwardsia ivelli</i>
Fairy Shrimp	<i>Chirocephalus diaphanus</i>	Starlet Sea Anemone	<i>Nematosella vectensis</i>
Lagoon Sand Shrimp	<i>Gammarus insensibilis</i>	Atlantic Stream (White-clawed) Crayfish	<i>Austropotamobius pallipes</i>
Other Invertebrates Protected under Section 9 (1) Possession & 9 (2) (5) Sale only			
Stag Beetle	<i>Lucanus cervus</i>	Roman Snail ³	<i>Helix pomatia</i>
Fan Mussel	<i>Atrina fragilis</i>	Pink Sea-fan	<i>Eunicella verrucosa</i>
Other Invertebrates Protected under Section 9 (4) (a) Damage / Destruction of Place of Shelter / Protection only			
Mire Pill Beetle	<i>Curimopsis nigrita</i>		
Vascular Plant Species - Full Protection under Schedule 8 at all times (previous Scientific name in brackets)			
Adder's-tongue Least	<i>Ophioglossum lusitanicum</i>	Lily – Snowdon	<i>Gagea serotina (Lloydia serotina)</i>
Alison- Small	<i>Alyssum alyssoides</i>	Marsh-mallow – Rough	<i>Malva setigera (Althaea hirsuta)</i>

³ England only

Broomrape – Bedstraw	<i>Orobanche caryophyllacea</i>	Milk-parsley – Cambridge	<i>Selinum carvifolia</i>
Broomrape – Oxtongue	<i>Orobanche picridis</i>	Mudwort – Welsh	<i>Limosella aquatica</i>
Broomrape – Thistle	<i>Orobanche reticulata</i> ⁴	Naiad – Holly-leaved	<i>Najas marina</i>
Cabbage – Lundy	<i>Coincya wrightii</i> (<i>Rhynchosinapis wrightii</i>)	Orache – Stalked	<i>Atriplex pedunculata</i> (<i>Halimione pedunculata</i>)
Calamint – Wood	<i>Clinopodium menthifolium</i> (<i>Calamintha sylvatica</i>)	Orchid – Early Spider	<i>Ophrys sphegodes</i>
Catchfly – Alpine	<i>Silene suecica</i> (<i>Lychnis alpina</i>)	Orchid – Ghost	<i>Epipogium aphyllum</i>
Centaury – Slender	<i>Centaurium tenuiflorum</i>	Orchid – Lapland Marsh	<i>Dactylorhiza lapponica</i>
Cinquefoil – Rock	<i>Potentilla rupestris</i>	Orchid – Late Spider	<i>Ophrys fuciflora</i>
Clary – Meadow	<i>Salvia pratensis</i>	Orchid – Lizard	<i>Himantoglossum hircinum</i>
Club-rush – Triangular	<i>Schoenoplectus triqueter</i> (<i>Scirpus triqueter</i>)	Orchid – Military	<i>Orchis militaris</i>
Colt's-foot – Purple	<i>Homogyne alpina</i>	Orchid – Monkey	<i>Orchis simia</i>
Cotoneaster – Wild	<i>Cotoneaster cambricus</i> (<i>C. integerrimus</i>)	Pear – Plymouth	<i>Pyrus cordata</i>
Cotton-grass – Slender	<i>Eriophorum gracile</i>	Pennycress – Perfoliate	<i>Microthlaspi perfoliatum</i> (<i>Thlaspi perfoliatum</i>)
Cow-wheat – Field	<i>Melampyrum arvense</i>	Pennyroyal	<i>Mentha pulegium</i>
Crocus – Sand	<i>Romulus columnae</i>	Pigmyweed	<i>Crassula aquatica</i>
Cudweed – Broad-leaved	<i>Filago pyramidata</i>	Pine - Ground	<i>Ajuga chamaepitys</i>
Cudweed – Jersey	<i>Gnaphalium luteoalbum</i>	Pink – Cheddar	<i>Dianthus gratianopolitanus</i>
Cudweed – Red-tipped	<i>Filago lutescens</i>	Pink – Childing	<i>Petrorhagia nanteuillii</i>
Cut-grass	<i>Leersia oryzoides</i>	Ragwort – Fen	<i>Jacobaea paludosa</i> (<i>Senecio paludosa</i>)
Deptford Pink	<i>Dianthus armeria</i>	Ramping-fumitory – Martin's	<i>Fumaria reuteri</i> (<i>F. martinii</i>)
Diapensia	<i>Diapensia lapponica</i>	Rampion – Spiked	<i>Phyteuma spicata</i>
Eryngo – Field	<i>Eryngium campestre</i>	Restharrow – Small	<i>Ononis reclinata</i>
Fern – Dickie's-bladder	<i>Cystopteris dickieana</i>	Rock-cress – Alpine	<i>Arabis alpina</i>
Fleabane – Alpine	<i>Erigeron borealis</i>	Rock-cress – Bristol	<i>Arabis scabra</i>
Fleabane – Small	<i>Pulicaria vulgaris</i>	Sandwort – Norwegian	<i>Arenaria norvegica</i> ⁵
Galingale – Brown	<i>Cyperus fuscus</i>	Sandwort – Teesdale	<i>Minuartia stricta</i>
Gentian – Alpine	<i>Gentiana nivalis</i>	Saxifrage – Drooping	<i>Saxifraga cernua</i>
Gentian - Dune	<i>Gentianella amarella</i> subsp. <i>occidentalis</i> (<i>Gentianella uliginosa</i>)	Saxifrage – Tufted	<i>Saxifraga cespitosa</i>
Gentian – Fringed	<i>Gentianopsis ciliata</i> (<i>Gentianella ciliata</i>)	Solomon's-seal – Whorled	<i>Polygonatum verticillatum</i>
Gentian - Spring	<i>Gentiana verna</i>	Sow-thistle – Alpine	<i>Cicerbita alpina</i>
Germander – Cut-leaved	<i>Teucrium botrys</i>	Spearwort – Adder's-tongue	<i>Ranunculus ophioglossifolius</i>
Germander – Water	<i>Teucrium scordium</i>	Speedwell – Fingered	<i>Veronica triphyllos</i>
Gladiolus – Wild	<i>Gladiolus illyricus</i>	Speedwell – Spiked	<i>Veronica spicata</i> ⁶
Goosefoot – Stinking	<i>Chenopodium vulvaria</i>	Spike-rush – Dwarf	<i>Eleocharis parvula</i>

⁴ The Weeds Act 1959 does not apply to thistles *Cirsium* & *Carduus* species supporting this broomrape.

⁵ All subspecies occurring in the UK

⁶ Both subspecies: *spicata* & *hybrida*

Grass-poly	<i>Lythrum hyssopifolia</i>	South-stack Fleawort	<i>Tephrosia integrifolia</i> <i>ssp. maritima</i>
Hare's-ear – Sick- leaved	<i>Bupleurum falcatum</i>	Star-of-Bethlehem – Early	<i>Gagea bohemica</i>
Hare's-ear – Small	<i>Bupleurum baldense</i>	Starfruit	<i>Damasonium alisma</i>
Hawk's-beard – Stinking	<i>Crepis foetida</i>	Strapwort	<i>Corrigiola littoralis</i>
Hawkweed – Northroe	<i>Hieracium northroense</i>	Violet – Fen	<i>Viola persicifolia</i>
Hawkweed – Shetland	<i>Hieracium zetlandicum</i>	Viper's-grass	<i>Scorzonera humilis</i>
Hawkweed – Weak- leaved	<i>Hieracium attenuatifolium</i>	Water-plantain – Ribbon- leaved	<i>Alisma gramineum</i>
Heath – Blue	<i>Phyllodoce caerulea</i>	Wood-sedge – Starved	<i>Carex depauperata</i>
Helleborine – Red	<i>Cephalanthera rubra</i>	Woodsia – Alpine	<i>Woodsia alpina</i>
Horsetail – Branched	<i>Equisetum ramosissimum</i>	Woodsia – Oblong	<i>Woodsia ilvensis</i>
Hound's-tongue – Green	<i>Cynoglossum germanicum</i>	Wormwood – Field	<i>Artemisia campestris</i>
Knawel – Perennial	<i>Scleranthus perennis</i> ⁷	Woundwort - Downy	<i>Stachys germanica</i>
Knot-grass – Sea	<i>Polygonum maritimum</i>	Woundwort – Limestone	<i>Stachys alpina</i>
Leek – Round-headed	<i>Allium sphaerocephalon</i>	Yellow-rattle – Greater	<i>Rhinanthus angustifolius</i>
Lettuce – Least	<i>Lactuca saligna</i>		
Vascular Plant Species – Partial Protection under Section 13 (2) Protection from commercial exploitation and sale			
Bluebell	<i>Hyacinthoides non-scripta</i>		
Bryophytes – Full Protection under Schedule 8 at all times			
Anamodon – Long- leaved	<i>Anomodon langifolius</i>	Flamingo Moss	<i>Desmatodon cernuus</i>
Blackwort	<i>Southbya nigrella</i>	Frostwort	<i>Gymnomitrium apiculatum</i>
Crystalwort – Lizard	<i>Riccia bifurca</i>	Glaucous Beard Moss	<i>Barbula glauca</i>
Earwort – Marsh	<i>Jamesoniella undulifolia</i>	Green Shield Moss	<i>Buxbaumia viridis</i>
Feathermoss – Polar	<i>Hygrohypnum polare</i>	Hair Silk Moss	<i>Plagiothecium piliferum</i>
Flapwort – Norfolk	<i>Leiocolea rutheana</i>	Knothole Moss	<i>Zygodon forsteri</i>
Grimmia – Blunt-leaved	<i>Grimmia unicolor</i>	Large Yellow Feather Moss	<i>Scorpidium turgescens</i>
Petalwort	<i>Petalophyllum ralfsii</i>	Millimetre Moss	<i>Micromitrium tenerum</i>
Lindenberg's Leafy- Liverwort	<i>Adelanthus lindenbergianus</i>	Multi-fruited River Moss	<i>Cryphaea lamyana</i>
Feather-moss Slender Green	<i>Drepanocladus vernicosus</i>	Nowell's Limestone Moss	<i>Zygodon gracilis</i>
Alpine Copper-Moss	<i>Mielichhoferia melicoferia</i>	Rigid Apple Moss	<i>Bartramia stricta</i>
Baltic Bog-Moss	<i>Sphagnum balticum</i>	Round-leaved feather Moss	<i>Rhynchostegium rotundifolium</i>
Blue Dew-Moss	<i>Saelania glaucescens</i>	Schleicher's Thread Moss	<i>Bryum schleicheri</i>
Blunt-leaved bristle- Moss	<i>Orthotrichum obtusifolium</i>	Triangular Pygmy Moss	<i>Acaulon triquetrum</i>
Bright-Green Cave- Moss	<i>Cyclodictyon laetevirens</i>	Turpswort	<i>Geocalyx graveolens</i>
Cordate Beard Moss	<i>Barbula cordata</i>	Vaucher's Feather Moss	<i>Hypnum vaucheri</i>
Cornish Path Moss	<i>Ditrichum cornubicum</i>	Western Rustwort	<i>Marsupella profunda</i>
Derbyshire Feather Moss	<i>Thamnobryum angustifolium</i>		

⁷ Includes both subspecies: *perennis* & *prostratus*

Stoneworts – Full Protection under Schedule 8 at all times			
Bearded Stonewort	<i>Chara canescens</i>	Foxtail Stonewort	<i>Lamprothamnium papulosum</i>
Lichens – Full Protection under Schedule 8 at all times			
New Forest Beech Lichen	<i>Enterographa elaborata</i>	Forked Hair Lichen	<i>Bryoria furcellata</i>
Snow Caloplaca	<i>Caloplaca nivalis</i>	Golden Hair Lichen	<i>Teloschistes flavicans</i>
Tree Catapyrenium	<i>Catapyrenium psoromoides</i>	Orange-fruited Elm Lichen	<i>Caloplaca luteoalba</i>
Laurer's Catillaria	<i>Catillaria laurei</i>	River Jelly Lichen	<i>Collema dichotomum</i>
Convolut Cladonia	<i>Cladonia convoluta</i>	Starry Breck Lichen	<i>Buellia asterella</i>
Upright Mountain Cladonia	<i>Cladonia stricta</i>	Caledonia Pannaria	<i>Pannaria ignobilis</i>
Goblin Lights	<i>Catolechia wahlenbergii</i>	New Forest Parmelia	<i>Parmelia minarum</i>
Elm Gyalecta	<i>Gyalecta ulmi</i>	Oil Stain Parmentaria	<i>Parmentaria chilensis</i>
Tarn Lecanora	<i>Lecanora archariana</i>	Southern Grey Physcia	<i>Physcia tribacioides</i>
Copper Lecidea	<i>Lecidea inops</i>	Ragged Pseudo-cyphellaria	<i>Pseudocyphellaria lacerata</i>
Arctic Kidney Lichen	<i>Nephroma arcticum</i>	Rusty Alpine Psora	<i>Psora rubiformis</i>
Ciliate Strap Lichen	<i>Heterodermia leucomelos</i>	Rock Nail	<i>Calicium corynellum</i>
Coralloid Rosette Lichen	<i>Heterodermia propagulifera</i>	Serpentine Selanopsora	<i>Selanopsora liparina</i>
Ear-lobed Dog Lichen	<i>Peltigera lepidophora</i>	Sulphur Tresses	<i>Alectoria ochroleuca</i>
Lichens – Partial Protection under Section 13 (2) Commercial Exploitation and Sale Only			
Tree Lungwort	<i>Lobaria pulmonaria</i>		
Fungi – Full Protection under Schedule 8 at all times			
Royal Bolete	<i>Boletus regius</i>	Oak Polypore	<i>Buglossosporus pulvinus</i>
Hedgehog Fungus	<i>Hericius erinaceum</i>	Sandy Stilt Ball	<i>Battaria phalloides</i>
Invasive plant species listed in Schedule 9			
Australian swamp stonecrop or New Zealand pygmyweed	<i>Crassula helmsii</i>	Japanese rose	<i>Rosa rugosa</i>
Californian red seaweed	<i>Pilea californica</i>	Japanese seaweed	<i>Sargassum muticum</i>
Curly waterweed	<i>Lagarosiphon major</i>	Laver seaweeds (except native species)	<i>Porphyra</i> spp
Duck potato	<i>Sagittaria latifolia</i>	Parrot's-feather	<i>Myriophyllum aquaticum</i>
Entire-leaved cotoneaster	<i>Cotoneaster integrifolius</i>	Perfoliate alexanders	<i>Smyrniun perfoliatum</i>
False Virginia creeper	<i>Parthenocissus inserta</i>	Pontic rhododendron	<i>Rhododendron ponticum</i>
Fanwort or Carolina water-shield	<i>Cabomba caroliniana</i>	Purple dewplant	<i>Disphyma crassifolium</i>
Few-flowered garlic	<i>Allium paradoxum</i>	Red algae	<i>Grateloupia luxurians</i>
Floating pennywort	<i>Hydrocotyle ranunculoides</i>	Rhododendron	<i>Rhododendron ponticum</i> × <i>Rhododendron maximum</i>
Floating water primrose	<i>Ludwigia peploides</i>	Small-leaved cotoneaster	<i>Cotoneaster microphyllus</i>
Giant hogweed	<i>Heracleum mantegazzianum</i>	Three-cornered garlic	<i>Allium triquetrum</i>
Giant kelp	<i>Macrocystis</i> spp.	Variegated yellow archangel	<i>Lamiastrum galeobdolon</i> subsp. <i>argentatum</i>
Giant knotweed	<i>Fallopia sachalinensis</i>	Virginia creeper	<i>Parthenocissus quinquefolia</i>
Giant rhubarb	<i>Gunnera tinctoria</i>	Wakame	<i>Undaria pinnatifida</i>
Giant salvinia	<i>Salvinia molesta</i>	Wall cotoneaster	<i>Cotoneaster horizontalis</i>
Green seafingers	<i>Codium fragile</i>	Water fern	<i>Azolla filiculoides</i>

Himalayan cotoneaster	<i>Cotoneaster simonsii</i>	Water hyacinth	<i>Eichhornia crassipes</i>
Hollyberry cotoneaster	<i>Cotoneaster bullatus</i>	Water lettuce	<i>Pistia stratiotes</i>
Hooked asparagus seaweed	<i>Asparagopsis armata</i>	Water primrose	<i>Ludwigia grandiflora</i>
Hottentot fig	<i>Carpobrotus edulis</i>	Water primrose	<i>Ludwigia uruguayensis</i>
Hybrid knotweed	<i>Fallopia japonica</i> × <i>Fallopia sachalinensis</i>	Waterweeds	<i>Elodea</i> spp.
Indian (Himalayan) balsam	<i>Impatiens glandulifera</i>	Yellow azalea	<i>Rhododendron luteum</i>
Japanese knotweed	<i>Reynoutria japonica</i>		

Protection of Badgers Act 1992

The main legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992 (the 1992 Act). Under the 1992 Act it is an offence to: wilfully kill, injure, take or attempt to kill, injure or take a badger; dig for a badger; interfere with a badger sett by, damaging a sett or any part thereof, destroying a sett, obstructing access to a sett, causing a dog to enter a sett or disturbing a badger while occupying a sett.

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

Natural Environment and Rural Communities Act 2006

Section 41 (S41) of this Act requires the Secretary of State to publish a list (in consultation with Natural England) of Habitats and Species which are of Principal Importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal (e.g. planning) functions. The S41 list includes 65 Habitats of Principal Importance and 1,150 Species of Principal Importance.

Hedgerow Regulations 1997

The Hedgerow Regulations were made under Section 97 of the Environment Act 1995 and came into force in 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.



Birds of Conservation Concern

This is a review of the status of all birds occurring regularly in the United Kingdom. It is regularly updated and is prepared by leading bird conservation organisations, including the British Trust for Ornithology (BTO), Joint Nature Conservation Committee (JNCC) and The Royal Society for the Protection of Birds (RSPB).

The latest report was produced in 2015 (Eaton *et al*, 2015) and identified 67 red list species, 96 amber species, and 81 green species. The criteria are complex, but generally:

- **Red list** species are those that have shown a decline of the breeding population, non-breeding population or breeding range of more than 50% in the last 25 years.
- **Amber list** species are those that have shown a decline of the breeding population, non-breeding population or breeding range of between 25% and 50% in the last 25 years. Species that have a UK breeding population of less than 300 or a non-breeding population of less than 900 individuals are also included, together with those whose 50% of the population is localised in 10 sites or fewer and those whose 20% of the European population is found in the UK.
- **Green list** species are all regularly occurring species that do not qualify under any of the red or amber criteria are green listed

Global IUCN Red List

The International Union for Conservation of Nature (IUCN) Threatened Species was devised to provide a list of those species that are most at risk of becoming extinct globally. It provides taxonomic, conservation status and distribution information about threatened taxa around the globe.

The system catalogues threatened species into groups of varying levels of threat, which are: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), Not Evaluated (NE). Criteria for designation into each of the categories is complex, and consider several principles.

Local Biodiversity Action Plan (LBAP)

Local Biodiversity Action Plans (LBAP) identify habitat and species conservation priorities at a local level (typically at the County level), and are usually drawn up by a consortium of local Government organisations and conservation charities.

Some LBAP's may also include Habitat Action Plans (HAP) and/or Species Action Plans (SAP), which are used to guide and inform the local decision making process.

Wild Mammals (Protection) Act 1996

This Act offers protects a form of protection to all wild species of mammals, irrespective of other legislation, and focussed on animal welfare, rather than conservation.

Unless covered by one of the exceptions, a person is guilty of an offence if he mutilates, kicks, beats, nails or otherwise impales, stabs, burns, stones, crushes, drowns, drags or asphyxiates any wild mammal with intent to inflict unnecessary suffering.

It's application is typically restricted to preventing deliberate harm to wildlife (in general) during construction works etc.

Appendix C – Target Notes

Target Note	Description	Photograph
1	Arable – A field of immature wheat.	
2	Tall ruderal vegetation – located in small concentrated areas around the margins of the site particularly the western and southern boundaries. Dominant – Stinging nettle Abundant – Creeping thistle, spear thistle <i>Cirsium vulgare</i> Occasional – Broad-leaved dock	
3	Neutral semi-improved grassland – located in small areas along the western and southern margins of the field compartment. Dominant – Barren brome Abundant – False oat-grass	

Target Note	Description	Photograph
4	Bare ground – A area of ground adjacent to the field entrance which has been churned up by vehicle traffic.	
5	Potential Hibernaculum – A partially destroyed bale of hay. The feature has potential to serve as a refuge for reptiles, amphibians, invertebrates and small mammals.	
6	Dense scrub – A strip of scrub which forms the northern site boundary. The scrub has extended into the site over the fence which separates the site from the adjacent railway line. Dominant – bramble Occasional – hawthorn, blackthorn	

Target Note	Description	Photograph
7	Dense scrub – A strip of scrub which forms the western site boundary. Dominant – bramble Occasional – hawthorn	



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