

Norton Lane, Bethersden, Kent

Preliminary Ecological Appraisal

14th September 2022 / Ref No 2021/07/06

Client: Ms S Stacey



Prepared by Katia Bresso CEnv MCIEEM
Trading as 'KB Ecology Ltd' (Reg 7595382)
9 Barleyfields,
Weaving, Maidstone
ME145SW Kent
Tel: 07810 412 773
Email: katia.bresso@kbecology.co.uk

Copyright KB Ecology Ltd. All rights reserved.

No part of this report may be copied or reproduced by any means without prior written permission from KB Ecology Ltd. If you have received this report in error, please destroy all copies in your possession or control.

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by KB Ecology Ltd, no other party may use, make use of or rely on the contents of this report. No liability is accepted by KB Ecology Ltd for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of KB Ecology Ltd using due skill, care and diligence in the preparation of the same and no warranty is provided as to their accuracy. Surveys are undertaken on the understanding that nothing in the final report will be omitted, amended or misrepresented by the client or any other interested party. This report and its contents remain the property of KB Ecology Ltd until payment has been made in full.

It should be noted and it is expressly stated that no independent verification of any of the documents or information supplied to KB Ecology Ltd has been made.

Contents

- 1** Introduction2
- 1.1** Background to the Scheme 2
- 1.2** Survey Location/Area..... 2
- 1.3** Survey Objectives 2
- 1.4** Limitations 2
- 2** Methodology6
- 2.1** Desk Study 6
- 2.2** Scoping Survey..... 6
- 3** Baseline Ecological Conditions8
- 3.1** Designated Nature Conservation Sites 8
- 3.2** Habitats 8
- 3.3** Amphibians11
- 3.4** Reptiles.....12
- 3.5** Birds13
- 3.6** Hazel Dormouse13
- 3.7** Badger13
- 3.8** Bats14
- 3.9** Other Species14
- 4** Ecological constraints and opportunities, recommendations for mitigation,
compensation and further survey 15
- 4.1** Designated Nature Conservation Sites15
- 4.2** Habitats16
- 4.3** Amphibians16
- 4.4** Reptiles.....17
- 4.5** Birds17
- 4.6** Hazel Dormouse17
- 4.7** Badger18
- 4.8** Bats18
- 4.9** Other Species19
- 4.10** Additional Recommendations: Enhancements19
- 5** References and Bibliography22

1 Introduction

1.1 Background to the Scheme

KB Ecology Ltd was commissioned to undertake a baseline ecological survey and a preliminary ecological appraisal with regards to a proposed development at Norton Lane, Bethersden, TN26 3AL Kent, in support of a planning application for the erection of new houses.

1.2 Survey Location/Area

The site is located at approximately TQ 924403. The location of the site is shown on Figure 1 and Figure 2.

1.3 Survey Objectives

The purpose of this survey is to provide a scoping assessment and to assist in demonstrating compliance with wildlife legislation and planning policy objectives.

The key objectives are as follows:

- Identify all relevant statutory and non-statutory designated sites and features of ecological significance within the site and its surroundings.
- Assess the potential for the presence of protected species and species of principal conservation importance, important habitats or other biodiversity features within the site and its surroundings.
- Provide recommendations for further surveys where assessed as necessary and suggest potential enhancements.
- Present the likely significance of ecological impacts on the proposed development.
- Provide an early indication of potential ecological mitigation and compensation requirements necessary as part of any development proposals.

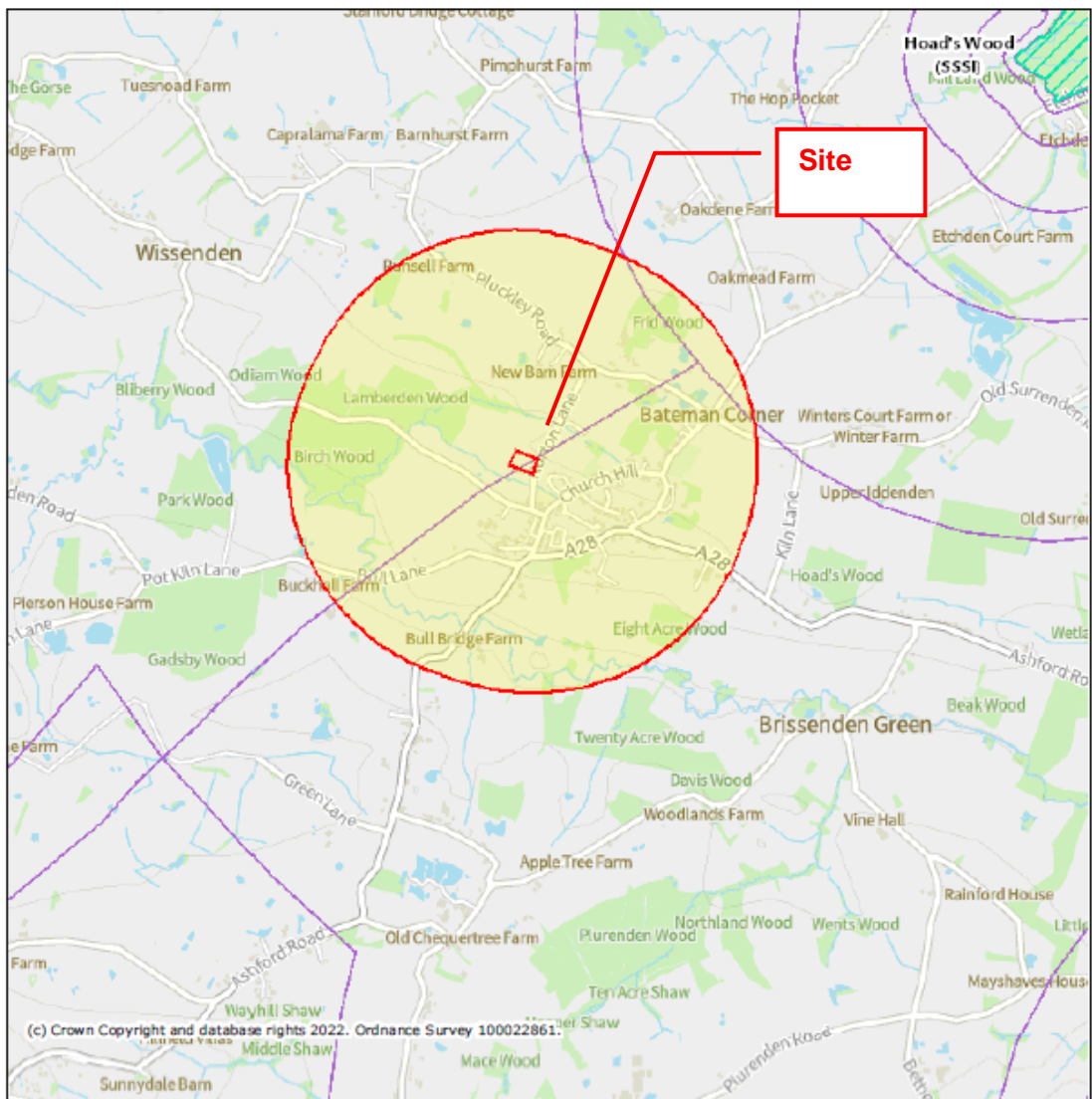
A summary of wildlife legislation and policy has been included in Appendix A.

1.4 Limitations

This report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct and the opinions expressed are true and professional bona fide opinions. It records the potential for flora and fauna evident on the days of the site visits. It does not record any flora or fauna that may appear at other times of the year and, as such, were not evident at the time of visit.

The findings of this report represent the professional opinion of a qualified ecologist and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document.

Figure 1



Legend

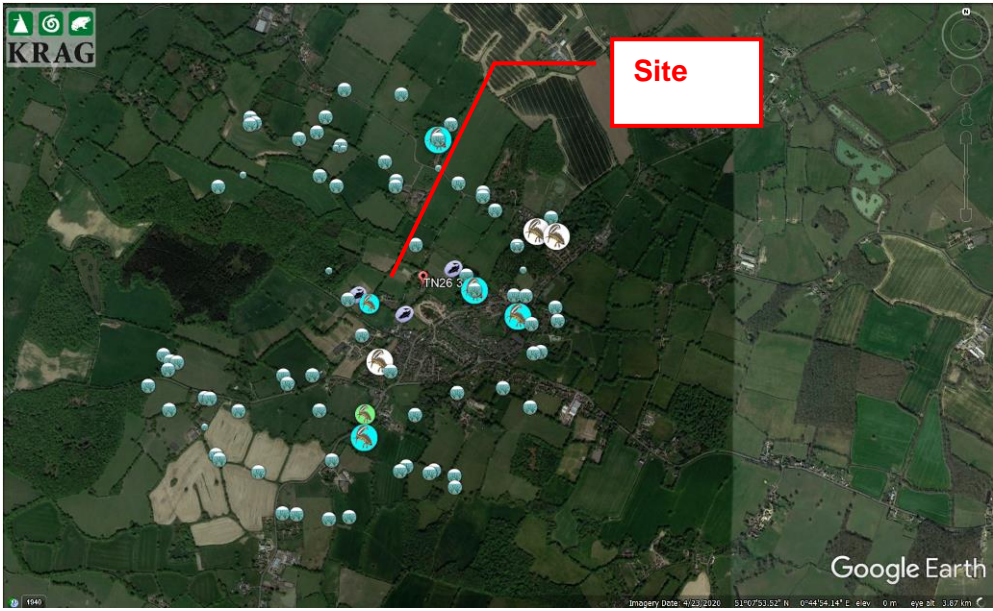
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

0 0.75 1.5
km

Projection = OSGB36
 xmin = 586200
 ymin = 136800
 xmax = 598900
 ymax = 143000

Map produced by MAGiC on 14 September, 2022.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission.
 Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Figure 3: indicates location of ponds and great crested newt records from Krag data search



2 Methodology

2.1 Desk Study

Internet-based resources were consulted to identify designated nature conservation sites within 1km of the site and habitats of potentially high ecological importance and sensitivity within 500m of the site (e.g. ancient woodlands, ponds).

A data search was carried out with the Kent Reptile and Amphibian Group KRAG^{1,2}.

2.2 Scoping Survey

The site and its immediate surroundings were considered in terms of habitats, protected species and species of principal conservation importance during a walkover survey undertaken on 3rd May 2022 by Katia Bresso CEnv MCIEEM, a qualified professional consultant ecologist with over 20 years of experience³, licensed bat surveyor (Class Licence CL19, Level 3, Registration Number: 2016-27133-CLS-CLS) and Registered Consultant of the Bat Mitigation Class Licence (BMCL) WML-CL21 with Natural England (Registered Consultant Reference Number RC056, since May 2015), licensed dormouse surveyor (Class Survey Licences Registration Number 2016-22060-CLS-CLS) and licensed great crested newt surveyor (Class Licence registration number 2020-50030-CLS-CLS). Evidence of the use of the site by species was recorded (i.e. field signs).

The habitat survey was undertaken in general accordance with Phase 1 Habitat Survey (JNCC 2010), i.e. within the survey area every parcel of land is classified, recorded and mapped in accordance with a list of ninety specified habitat types using standard colour codes to allow rapid visual assessment of the extent and distribution of different habitat types.

The survey and report aim at following the guidance and recommendations in the 'British Standard Biodiversity Code of Practice for Planning and Development (BS 42020: 2013)'.

All trees were also checked for suitability for roosting bats (from the ground only, using binoculars and an endoscope⁴)⁵.

Bat roosting potential of all structures, buildings and trees was classified according to the following criteria set out in the Table below, taken from the Bat Conservation Trust Good Practice Guidelines (2016).

¹ Please note that absence of records should not be taken as confirmation that a species is absent from the search area.

² Due to the scale of the project, it was judged disproportionate to undertake a costly data search with the local Biological Record Centre as the data would be unlikely to be relevant to this site.

³ Katia Bresso is a Suitably Qualified Ecologist with regards to Code for Sustainable Homes assessment and BREEAM

⁴ RIDGID CA-350x Inspection Camera System 63888

⁵ Please note that it is possible some bat roosting features may have been missed as the survey was undertaken whilst the trees were in full leaves

Suitability	Criteria
Negligible	Negligible habitat features 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 a larger number of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs 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 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 and potentially for longer periods of time due to their size, shelter, protections, conditions and surrounding habitats.

3 Baseline Ecological Conditions

3.1 Designated Nature Conservation Sites

The site is not part of, nor directly adjacent to, any statutory designated sites and none are located within 1km of the site.

One local wildlife site⁶, 'Woods west of Bethersden', is present 130m to the west of the site.

3.2 Habitats

The site is surrounded by sheep pasture, horse paddocks and woods, with Bethersden Treatment Works being directly adjacent to the south.

The Integrated Habitat System (IHS) classification of the Kent Habitat Survey 2012 describes the site as '*Improved grassland*'.

Indeed the site consists of a grassy field (previously managed with sheep grazing, but currently by cutting and horse grazing, since 2019) bounded by a hedge (with hawthorn *Crataegus monogyna*, field maple *Acer campestre*, holly *Ilex aquifolium*, hornbeam *Carpinus betulus*) with mature oak trees *Quercus robur* along the road to the east. To the north, the fence is lined with a newly planted native-species hedge (on the other side of the fence, planted 2019). The west boundary is lined by mature trees including oak, hornbeam and hawthorn; with areas of bare ground and nettles *Urtica dioica* (due to sheep seeking shade). A blackthorn *Prunus spinosa* and hawthorn hedge line the south boundary, along the Water Treatment Works, with an access gate onto the site from the Water Treatment Works.

At the time of site visit, part of the site was used as a site compound for works at the adjacent Water Treatment Works, with stock-piles, site cabins and car parking.

The ground flora included broad-leaved dock *Rumex obtusifolius*, cocks foot *Dactylis glomerata*, common bird's-foot trefoil *Lotus corniculatus*, common vetch *Vicia sativa*, creeping bent *Agrostis stolonifera*, creeping buttercup *Ranunculus repens*, cuckooflower *Cardamine pratensis*, meadow buttercup *Ranunculus acris*, meadow vetchling *Lathyrus pratensis*, perennial ryegrass *Lolium perenne*, spear thistle *Cirsium vulgare*, timothy grass *Phleum pratense*, white clover *Trifolium repens*.

Thus the character of the grassland is thought to be 'semi-improved neutral grassland' under Phase 1 Habitat Survey or 'Other Neutral grassland: g3c5' under the UK Habitat Classification System^{7, 8}.

⁶ In Kent, there are over 460 Local Wildlife Sites, covering a total area of over 27,500 hectares, (roughly 7% of the county). They range from a 0.13 hectares churchyard important for its orchids, to grazing marsh sites of over 1,000 hectares.

⁷ <https://ukhab.org/>

⁸ The site visit was undertaken at a time of year when most groundflora is not visible and thus a full assessment of the botanical quality of the site was not possible.

Plates are present in Appendix B. Figure 4 below shows the location of the habitats.

Legend of Phase 1 habitat survey map hereafter:


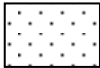


-  Site boundary
-  Water works site compound
-  Semi-Improved neutral grassland
-  Individual tree (number and location approximate)

Figure 4

September 14, 2022





3.3 Amphibians

The data search carried out with Krag (Enquiry No: CES/21/1806) revealed that the closest recorded Great Crested Newt *Triturus cristatus* site is located at Bethersden Treatment Works, which is directly adjacent to the south of the site (record id: 20813).

Great crested newts favour areas of high pond density and occupancy levels can exceed 40% of ponds when conditions are favourable. Krag's database risk assessment indicates that the likelihood of presence of great crested newts *in the overall area* is 'High'⁹, with 82 ponds present within 1km.

Like nearly all amphibians, the great crested newt is dependent on water-bodies for breeding but usually spends most of its life on land.

The 'Great Crested Newt Mitigation Guidelines' (English Nature 2001) state the following: *'Great crested newts have been found to move over considerable distances (up to 1.3km from breeding sites). However, the vast majority of newts will inhabit an area much closer to the pond, and the exact distribution and migration patterns of newts on land depends on a variety of factors. The quality of terrestrial habitat near to breeding ponds is important, as are the lack of barriers to dispersal (such as fast-flowing rivers, or very busy roads). The distribution of ponds and hibernation opportunities may also influence movements. [...] Several studies have been conducted which reveal a great deal of variation, but great crested newts commonly move between ponds that are within around 250m of each other.'*

In *Advice for land managers*, Natural England (2007) states:

⁹ Likelihood of Presence Scores are described using the following categories: Unlikely<Possible<Likely<High

'Great crested newt may disperse several hundred metres, sometimes over 1km, from the breeding pond, though at most sites the majority of the population is normally found within around 100m of it.'

There are three ponds present within 100m of the site and a further seven ponds within 250m.

The Great Crested Newt Conservation Handbook, 2001 states that 'very short pasture is easily traversed by newts, and provides night time foraging, but little in the way of shelter' (Great Crested Newt Conservation Handbook, 2001). More optimal habitats include woodland, scrub, ditches, hedgerows, taller/rougher grassland.

Thus, should great crested newts breed within 100m, they are expected to be present on site: foraging at night throughout and taking refuge under tree roots and dense vegetation during the day.

Common amphibian species are afforded limited legal protection under the Wildlife & Countryside Act 1981 (as amended). The great crested newt is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 and are therefore a European Protected Species (EPS). Great crested newts and common toads are also listed as species of principal conservation importance (See Appendix A).

For more information, guidance from Natural England is available at <https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects>

3.4 Reptiles

The Krag datasearch revealed that the closest recorded reptile is Slow-worm, located 0.36 km to the SE (record id: 26890). The likelihood of reptiles to be present *in the overall area* is judged as per table below:

	Likelihood of Presence	
	Score	Dist (km)
Viviparous Lizard:	Possible	1.73
Slow-worm:	HIGH	0.36
Sand Lizard:	unlikely	47.99
Grass Snake:	Likely	1.71
Adder:	Possible	3.61
Smooth Snake:	n/a	n/a

Reptile survey effort in local area is considered to be below average. Results should be interpreted with caution.

The vast majority of the proposed development area consists of grassland, which is grazed and kept at a short sward, without a thatch layer. This habitat is considered unsuitable for reptile species, due to a lack of cover from predators and foraging opportunities.

However there is a grass pile along the south boundary which could be used as an egg laying habitat for grass snakes, which are likely present in the surrounding areas, due to the

presence of several ponds. Also, any reptiles present locally could hibernate under tree roots in the winter.

Common reptiles are afforded limited legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). They are also listed as species of principal conservation importance (See Appendix A). The adder is also a Priority Species under the Kent Biodiversity Strategy¹⁰.

For more information, guidance from Natural England is available at <https://www.gov.uk/reptiles-protection-surveys-and-licences>

3.5 Birds

It is considered that the site has high potential to support breeding birds within the trees and hedges.

All species of bird whilst actively nesting are afforded legal protection under the Wildlife & Countryside Act 1981 (as amended) and special penalties are available for offences related to birds listed on Schedule 1. Some species are also listed as species of principal conservation importance, including sky lark, common cuckoo, house sparrow, tree sparrow and song thrush (See Appendix A). The turtle dove, swift, nightingale and Sandwich tern are also Priority Species under the Kent Biodiversity Strategy¹¹.

For more information, guidance from Natural England is available at <https://www.gov.uk/wild-birds-protection-surveys-and-licences>

3.6 Hazel Dormouse

It is considered that the hedges have potential to support the hazel dormouse *Muscardinus avellanarius* due to connection to suitable woodlands (some being ancient woodlands¹²). However, due to the small size of the site, it would only be a small part of an individual dormouse's range (Natural England/DEFRA indicate that the range of one dormouse home is 1 to 1.5 hectares of woodland or 300 metres of hedge¹³).

The dormouse is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 and are therefore a "European Protected Species" (EPS). The dormouse is also listed as species of principal conservation importance (See Appendix A).

For more information, guidance from Natural England is available at <https://www.gov.uk/hazel-dormice-protection-surveys-and-licences>

3.7 Badger

No setts or signs of badgers *Meles meles* were identified during the survey.

¹⁰ <http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

¹¹ <http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

¹² Land that has had continuous woodland cover since at least 1600 AD

¹³ <https://www.gov.uk/guidance/hazel-or-common-dormice-surveys-and-mitigation-for-development-projects>

3.8 Bats

Three trees were assessed as providing moderate suitability for roosting bats due to presence of cavities:

- One dead tree stump along the west boundary;
- One hornbeam along the west boundary;
- One oak tree along the east boundary hedge.

The site is also likely to be used by foraging and commuting bats.

All species of bat are afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). They are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 and are therefore a “European Protected Species” (EPS). Some species of bats (noctule, soprano pipistrelle, brown long-eared bat, barbastelle) are also listed as species of principal conservation importance.

Bats rarely use the same roosting place all year round as they need different conditions for breeding and hibernating. But bats are creatures of habit and tend to return to the same sites at the same time year after year. For this reason, roosts are legally protected even if bats don't seem to be living there at certain times of year.

The legislation makes it a criminal offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat;
- Intentionally or recklessly obstruct access to a bat roost.

For more information, guidance from Natural England is available at <https://www.gov.uk/bats-protection-surveys-and-licences>

3.9 Other Species

It is considered that the surroundings have potential to support hedgehogs (*Erinaceus europaeus*), which are a Species of Principal Importance under Section 41 of the NERC Act (2008 updated list) and an Indicator Species under the Kent Biodiversity Strategy¹⁴.

All mammals are afforded protection against unnecessary suffering by the Wild Mammals (Protection) Act 1996 (see Appendix A).

¹⁴ <http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

4 Ecological constraints and opportunities, recommendations for mitigation, compensation and further survey

The details of the proposed development were not known at the time of writing this report.

Should the scope of the proposed works be amended following the completion of this scoping survey, or be deferred for an extended period of time, there may be a requirement to update this scoping report and its recommendations.

4.1 Designated Nature Conservation Sites

A site check report was generated for the site using the Impact Risk Zones on the Magic website¹⁵:

Site Check Report Report generated on Wed Sep 14 2022
You selected the location: Centroid Grid Ref: TQ92484030
The following features have been found in your search area:

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

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?	2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications	
Infrastructure	Airports, helipads and other aviation proposals.
Wind & Solar Energy	
Minerals, Oil & Gas	
Rural Non Residential	
Residential	
Rural Residential	
Air Pollution	Livestock & poultry units with floorspace > 500m ² , slurry lagoons & digestate stores > 750m ² , manure stores > 3500t.
Combustion	General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste	
Composting	
Discharges	Any discharge of water or liquid waste of more than 20m ³ /day to ground (ie to seep away) or to surface water, such as a beck or stream.
Water Supply	
Notes 1	
Notes 2	
GUIDANCE - How to use the Impact Risk Zones	/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf

The type of development proposed is not listed as being a category for which the LPA should consult Natural England. The proposal is not judged detrimental to any protected sites.

¹⁵ The Impact Risk Zones (IRZs) dataset is a GIS tool which maps zones around each SSSI according to the particular sensitivities of the features for which it is notified and specifies the types of development that have the potential to have adverse impacts.

Natural England uses the IRZs to make an initial assessment of the likely risk of impacts on SSSIs and to quickly determine which consultations are unlikely to pose risks and which require more detailed consideration. Publishing the IRZs will allow LPAs, developers and other partners to make use of this key evidence tool.

<http://www.naturalengland.org.uk/ourwork/planningdevelopment/impactriskzonesgistoolfeature.aspx>

4.2 Habitats

Trees to be retained should be protected during any construction work and guidance is given in the 'BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations' document. This standard requires a tree protection plan to be developed which involves erecting physical barriers to prevent damage to existing trees, with an exclusion area around the trees. It also looks at defining a root protection area and requires consideration when compulsory work is carried out within the root protection area.

4.3 Amphibians

Pond loss is often seen as the most damaging impact on great crested newt populations, but the loss of terrestrial habitat can also have serious consequences. Great crested newts live on land for the majority of their lives, and so loss of terrestrial areas, particularly those close to the breeding pond, can be very damaging. The main effect of habitat loss is reduction in population size, reduced foraging opportunities, reduced refuge opportunities leading to exposure to predators or harsh conditions, and unsuccessful hibernation.

It is thus recommended to undertake surveys of the three ponds present within 100m to ascertain if an impact is likely.

Full great crested newt surveys involve undertaking four visits to establish presence / likely absence (six visit for population estimate, if they are indeed present) between mid-March and mid-June, with at least two of these visits between mid-April and mid-May. Depending on each individual pond, this may consist of refuge search (looking under log piles and other refuges), egg searching, bottle trapping over-night and torching at night, all activities to be undertaken during suitable weather conditions (i.e. little/no rain, ambient night time air temperatures >5°C).

Alternatively, great crested newt Environmental DNA (eDNA) sampling could be undertaken (but this test only provides a presence/absence result, and gives no information about population size, should the species be present). It involves a GCN licence ecologist with suitable experience and training to collect water samples between 15th April and 30th June.

Should great crested newts be found, it will be necessary to undertake further surveys to assess the population size class and put together a mitigation strategy to minimise disturbance to the species and a Habitats Regulations licence (or a Natural England EPSM licence) will be needed to undertake the work. The mitigation strategy would entail fencing and trapping (for a minimum of 30 sessions for a low population and 90 for a large population, between March-October) prior to ground work starting, to minimise risk to animals. Insertion of habitat piles and pond management may be necessary.

Alternatively, it may be that the site can join a district level licensing scheme (pond surveys are not a requirement). The scheme permits acts, subject to licence conditions, including killing, injury, disturbance, capture and transport of GCN, as well as damage and destruction of their breeding sites and resting places. Impacts of development progressing under the Licence are being fully compensated for by off-site habitat provision that is being paid for by the developer and for this reason the Licence does not specifically require any on-site avoidance or mitigation measures to be undertaken. However, where desirable, reasonable

measures can be undertaken to minimise suffering to any GCN which may be present within or immediately adjacent to the development footprint¹⁶.

The client will need to let the Local Planning Authority know whether they will pursue the traditional EPS Licencing (if so, great crested newt surveys are needed) or the District Level Licencing (if so, they will need to submit a copy of the Impact Assessment and Conservation Payment Certificate from NE confirming that they have been accepted on to the DLL scheme).

4.4 Reptiles

The following precautionary mitigation strategy is proposed to minimise any potential impacts: it is recommended to prepare the development site using habitat manipulation as below:

- Any ground works involving removal of tree/scrub should be done outside of the hibernation season (taken to be November to March included);
- The works area should be mowed using hand-held machinery only¹⁷ (to 15cm height minimum), during sunny conditions, during the reptile active season (April to October), in order to force the animals out of the area;
- A second cut should be given to ground level, 2 days following the first cut, during sunny conditions.
- The grass pile should be removed outside the grass snake egg-laying season (which extends June-August).

4.5 Birds

Although a breeding bird survey is not deemed to be necessary, on the basis that the site contains suitable habitat for breeding birds, consideration must be given to the timing of the clearance works, if any is to take place.

The effect on birds can be avoided by undertaking any vegetation clearance outside of the nesting season (which extends from March – August inclusive¹⁸) or only after a survey has confirmed the absence of nesting birds¹⁹. New hedgerow/trees/scrub planted and bird nesting boxes erected as part of the proposed development can replace the habitat lost.

4.6 Hazel Dormouse

Most trees and hedgerows are expected to be retained, with the exception of a small section of hedge potentially, which is likely to be lost for the creation of a new access from Norton Lane into the proposed development site.

¹⁶ see <https://www.gov.uk/government/publications/great-crested-newts-district-level-licensing-schemes>

¹⁷ strimmer, brush-cutter

¹⁸ It should be noted however that certain species are known to breed throughout the year (e.g. collard dove) and remain protected.

¹⁹ Inspection by a qualified ecologist must first be completed a maximum of 48hrs before clearance works commence. If during the inspection a nest considered to be in use is discovered, works must be delayed until the young have fledged.

This loss of a small section of hedge is not judged to impact the local dormouse population significantly. However, there is a need to implement reasonable avoidance measures, as such:

- When cutting back any of the onsite hedges (but not uproot), such activity should be done during hibernation (taken to be November to March included), when dormice are hibernating at ground level; should this timescale not be possible, the section of hedge should be checked for dormice nests by a qualified ecologist a maximum of 48h before cutting back;
- Prior to uprooting any small section of hedge, the vegetation will be checked for dormice nests by a qualified ecologist.

To mitigate for the loss of habitat, it is proposed to plant new hedges with hazel, oak, wayfaring tree, hornbeam, cherry, crab apple, holly, elder, dogwood, broom and honeysuckle (these species are chosen to provide food sources for dormice during all the active season as dormice are sequential feeders which feed on nectar, pollen, seeds, fruit, nuts, invertebrates).

4.7 Badger

No impact is expected onto badgers and thus no further work is recommended for this species.

4.8 Bats

Should bats be roosting on site, the proposed development would lead to a loss of habitat and animals could be killed or injured during the works.

The Bat Conservation Trust’s guidelines provide a table stating the ‘minimum number of presence/absence survey visits required to provide confidence in negative preliminary roost assessment from buildings, built structures and trees in summer.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

^a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of surveys between May and August ^b	May to September ^a with at least two of surveys between May and August ^b

Should any of the three trees with suitability for roosting bats be impacted by the proposal, it is recommended that two night-time surveys are undertaken between May and August.

Besides, as lighting can be detrimental to roosting, foraging and commuting bats²⁰, the recommendations from the Bat Conservation Trust and the Institution of Lighting Professionals, titled 'Guidance Note 8 Bats and Artificial Lighting'²¹, should be considered, when designing any lighting scheme for the proposed development.

4.9 Other Species

There is some potential for hedgehogs to be present on site. Therefore any areas where mammals could be sheltering should be hand searched prior to disturbance. Excavations should be backfilled, covered overnight, or ramps placed in to allow any animals to escape.

4.10 Additional Recommendations: Enhancements

Ecological enhancements should where possible be incorporated into the proposed development to contribute towards the objectives of planning legislation.

The Government announced it would mandate net gains for biodiversity in the Environment Bill in the 2019 Spring Statement. The Environment Bill received Royal Assent on 9 November 2021, meaning it is now an Act of Parliament. Mandatory biodiversity net gain as set out in the Environment Act applies in England only by amending the Town & Country Planning Act (TCPA) and is likely to become law in 2023. Biodiversity net gain requires developers to ensure habitats for wildlife are enhanced and left in a measurably better state than they were pre-development. They must assess the type of habitat and its condition before submitting plans, and then demonstrate how they are improving biodiversity – such as through the creation of green corridors, planting more trees, or forming local nature spaces. Green improvements on site would be encouraged, but in the rare circumstances where they are not possible, developers will need to pay a levy for habitat creation or improvement elsewhere²².

Under section 40 of the NERC Act (2006), paragraph 174 of the NPPF (2021) and the Environment Act (2021), biodiversity must be maintained and enhanced through the planning system. Additionally, in alignment with paragraph 180 of the NPPF 2021, the implementation of enhancements for biodiversity should be encouraged.

The design and implementation of habitat enhancements could also be used to contribute towards the 'Home Quality Mark' or similar accreditation, should this be a consideration for this site.

Suggested biodiversity enhancements are listed below, as a palette for the developer to choose from:

- Provision of hedgehog nesting boxes²³.
- If any close board fencing is to be installed around the new development, we recommend that at least 13 x 13 cm holes should be cut into the base of the fences

²⁰ <https://www.bats.org.uk/about-bats/threats-to-bats/lighting>

²¹ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

²² <https://deframedia.blog.gov.uk/2019/03/13/government-to-mandate-biodiversity-net-gain/>

²³ <http://www.hedgehogstreet.org/pages/hedgehog-homes.html>

(one per garden) to allow greater permeability across the site to benefit ground-based terrestrial animals (such as hedgehog)²⁴.

- Provision of ready-made bird boxes²⁵ on retained trees;
- Provision of integrated 'swift bricks' in new buildings (as these are often occupied by other small cavity-nesting birds^{26, 27})²⁸. A ratio of at least two per residential dwelling, or one per 50sqm of commercial floor space is generally accepted now as good practice (see BS 42021:2022). It is suggested better to install them in small groups of 2/6 approx. one metre+ apart in suitable locations at a minimum height of 4 metres (5 metres is better).²⁹
- Provision of integrated bat boxes on new buildings³⁰ or bat boxes on retained mature trees³¹.
- Provision of barn owl boxes³² as the surrounding landscape is judged suitable³³
- Provision of owl boxes in trees³⁴
- Planting of hedges with dormouse friendly species (using native species)³⁵.
- Establish climbing plants on walls and other vertical structures³⁶.
- Establish wildflower plug/bulb planting in amenity grassland and private gardens³⁷.
- Enhanced hedgerow management to benefit wildlife³⁸.

²⁴ <https://www.hedgehogstreet.org/wp-content/uploads/2019/03/Hedgehogs-and-developers-ZR.pdf>

²⁵ Integrated nest boxes in new buildings are preferred as they provide longer term nesting opportunities.

²⁶ <https://drive.google.com/file/d/1ljcJ7rkNMrr4lxd41XcBU3YC6IFKM6z/view>

²⁷ <https://actionforswifts.blogspot.com/p/swift-bricks.html>

²⁸ Boxes integrated into buildings offer much greater longevity but need to be considered in the design process. One study found that incorporating bird/bat boxes into walls could cause cold spots on the interior, leading to condensation and possibly mould. They recommend additional insulation to prevent this; advice from an architect is advisable.

²⁹ Please note that there may be a need to provide insulation around the integrated box (thickness of 5 cm of insulation) in order to increase the thermal resistance of this wall and thus avoid the risk of condensation. The project architect should be consulted about such matters.

³⁰ Please note that there may be a need to provide insulation around the integrated box (thickness of 5 cm of insulation) in order to increase the thermal resistance of this wall and thus avoid the risk of condensation. The project architect should be consulted about such matters.

³¹ <https://www.bats.org.uk/our-work/buildings-planning-and-development/bat-boxes>

³² More information can be found here: <http://www.barnowltrust.org.uk/infopage.html?Id=42>

³³ http://www.barnowltrust.org.uk/content_images/gallery/ENGLAND_Southern1159973743.jpg

³⁴ More information can be found here <http://www.barnowltrust.org.uk/infopage.html?Id=56>

³⁵ Possible species, which also provide food for dormice and grow relatively quickly, include bramble *Rubus fruticosus* agg., hawthorn *Crataegus monogyna*, honeysuckle *Lonicera* species, and hornbeam *Carpinus betulus*. Other species include include hazel *Corylus avellana*, oak *Quercus* species, blackthorn *Prunus spinosa* and ivy *Hedera helix* (English Nature, 2006).

³⁶ More information can be found here: <http://www.greenblueurban.com/climbing-plant-guide.php> and <http://www.london.gov.uk/priorities/environment/urban-space/parks-green-spaces/green-roofs-walls>

³⁷ Spring flowering bulbs and plugs of nectar rich flowering plants should be embedded into amenity grassland to increase the biodiversity and amenity value of the grassland and to provide early sources of nectar for insects. Suitable bulbs include Snake's head fritillary *Fritillaria meleagris*, Ramsons *Allium ursinum*, Snowdrop *Galanthus nivalis*, Primrose *Primula vulgaris*, Bluebell *Hyacinthoides non-scriptus*, Wild daffodil *Narcissus pseudonarcissus*, Lesser celandine *Ranunculus ficaria*

- Integration of Sustainable Urban Drainage Systems (SUDS)³⁹.
- Consider using grid mesh system (or Ground Reinforcement Grids) with topsoil and seeding with a wildflower species mix, to car parking areas and new access drives to retain some vegetation as well as drainage, or Gravel turf⁴⁰.
- Development of a full Biodiversity Management Plan for any retained habitat.
- The landscape project team should refer to the 'Kent Design Guide'⁴¹.

Priority should be given to habitats and species present on the Kent Biodiversity Strategy⁴².

³⁸ <http://hedgeline.org.uk/hedgeline/hedgerow-management.htm>,
http://ptes.org/files/310_hedgerow_guide_web_version.pdf ,
<http://naturalengland.etraderstores.com/NaturalEnglandShop/IN139> and
http://ec.europa.eu/environment/integration/research/newsalert/pdf/cheaper_alternatives_to_traditional_hedge_laying_can_reap_conservation_benefits_419na3_en.pdf for more information

³⁹ <http://www.ciria.org.uk/suds/index.html> for more information

⁴⁰ http://www.schotterrasen.at/e_index.htm

⁴¹ <https://www.kent.gov.uk/about-the-council/strategies-and-policies/regeneration-policies/kent-design-guide>

⁴² <http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

5 References and Bibliography

- Joint Nature Conservation Committee (2003). *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. JNCC, Peterborough.⁴³
- Bat Conservation Trust (2012). *Bat Surveys - Good Practice Guidelines – 2nd Edition*. Bat Conservation Trust, London.
- English Nature (2004). *Research Reports Number 576: An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus*. English Nature, Peterborough

Websites Visited:

- <http://webapps.kent.gov.uk/KCC.KLIS.Web.Sites.Public/ViewMap.aspx>
- <http://www.magic.gov.uk/magicmap.aspx>
- <http://www.kentbap.org.uk/species/>

With kind permission from Google Earth Brand

⁴³ http://www.jncc.gov.uk/pdf/pub90_HandbookforPhase1HabitatSurveyA5.pdf

Appendix A – Wildlife Legislation & Policy

The following is a summary of wildlife legislation and planning policy which affords protection to plants and animals and seeks to conserve, enhance and restore biodiversity. This section is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

For further information, please see:

<https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals>

Commonly encountered protected species

Many species of plants, invertebrates and animals receive protection under the legislation detailed above. However, of these, the following are the most likely to be affected by development in the southeast:

Species	Legal Protection
Great crested newts and other amphibians	<p>The great crested newt is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2019 (as amended) and is therefore a European Protected Species (EPS); further protection is afforded by the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to:</p> <ul style="list-style-type: none"> • Deliberately capture (or take), injure or kill GCN • Deliberately or recklessly disturb GCN, in particular (i) any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species. • Damage or destroy a breeding site or resting place - even if GCN are not occupying the place at the time; • Intentionally or recklessly obstruct access to a sheltering or resting place. <p>An EPS licence is required from Natural England before works can be undertaken which will impact on GCN and/or their habitat (such as any damage to or removal of ponds, grassland, hedgerow bases or dense scrub in which they are likely to occur).</p> <p>Great crested newts and common toads are also listed as Species of Principal Importance under Section 41 of the NERC Act 2006.</p>
Hazel dormice	<p>The hazel dormouse is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2019 (as amended) and is therefore a European Protected Species (EPS); further protection is afforded by the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to:</p> <ul style="list-style-type: none"> • Deliberately capture (or take), injure or kill hazel dormouse • Deliberately or recklessly disturb hazel dormouse, in particular (i) any

	<p>disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species.</p> <ul style="list-style-type: none"> • Damage or destroy a breeding site or resting place - even if dormice are not occupying the place at the time; • Intentionally or recklessly obstruct access to a sheltering or resting place. <p>An EPS licence is required from Natural England before works can be undertaken which will impact on dormouse and/or their habitat (such as any damage or removal of hedgerows, woodland or dense scrub in which they are likely to occur).</p> <p>Hazel dormouse is also listed as a Species of Principal Importance under Section 41 of the NERC Act 2006.</p>
Bats	<p>All British bat species receive full legal protection in the United Kingdom. The Conservation of Habitats and Species Regulations 2019 (as amended) legally protects all bat species in the UK and further protection is afforded by the Wildlife and Countryside Act 1981 (Schedule 5) and the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to:</p> <ul style="list-style-type: none"> • Deliberately capture (or take), injure or kill a bat. • Deliberately or recklessly disturb a bat, in particular (i) any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species concerned. • Damage or destroy a breeding site or resting place (roost) of a bat- even if bats are not occupying the roost at the time; • Intentionally or recklessly obstruct access to a roost; • Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat. <p>An EPS Licence for bats is required where works are expected to contravene the above legal protection. Under the law, a roost is 'any structure or place used for shelter or protection'. For example any building or suitable tree. Bats use many roost sites and feeding areas throughout the year. Since bats tend to re-use the same roosts for generations, the roost is protected whether the bats are present or not.</p>
Reptiles	<p>The more widespread species of reptile – slow-worm, viviparous lizard, grass snake and adder - are afforded legal protection against killing and injury under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended).</p> <p>All six UK reptile species are listed as Species of Principal Importance under Section 41 of the NERC Act 2006.</p>
Badgers	<p>The Protection of Badgers Act 1992 was introduced in recognition of the additional threats that badgers face from illegal badger digging and baiting. Under the Act, it is an offence to:</p> <ul style="list-style-type: none"> • Wilfully kill, injure or take a badger, or to attempt to do so; • Cruelly ill-treat a badger; or • Intentionally or recklessly interfere with a badger sett by (a) damaging a sett or any part of one; (b) destroying a sett; (c) obstructing access to or

	any entrance of a sett; (d) causing a dog to enter a sett; or (e) disturbing a badger when it is occupying a sett.
Breeding birds	<p>The Wildlife & Countryside Act 1981 (as amended) protects all birds, their nests and eggs – it is an offence to intentionally kill, injure or take any wild bird or its eggs, and/or to take, damage or destroy the nest (whilst being built or in use).</p> <p>There is additional protection for rarer species – making it an offence to disturb any wild bird listed on Schedule 1 (such as hobby) while it is nest building, or at a nest containing eggs or young, or to disturb the dependent young of such a bird.</p> <p>Some species are also listed as species of a Species of Principal Importance under Section 41 of the NERC Act 2006, including skylark, common cuckoo, house sparrow, tree sparrow and song thrush.</p>
Hedgehogs	<p>Hedgehogs are listed on schedule 6 of the Wildlife and Countryside Act (1981) which makes it illegal to kill or capture wild hedgehogs. They are also listed under the Wild Mammals Protection Act (1996), which prohibits cruel treatment of hedgehogs</p> <p>Hedgehogs are a species of 'principal importance' under the NERC Act, the act confers 'a duty of responsibility' on local authorities with regard to the species.</p>
Water voles	The Wildlife and Countryside Act 1981 (as amended). This makes it illegal to intentionally damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection; it is also an offence to intentionally disturb water voles while they are using these places.

Kent Biodiversity Strategy

The Kent Biodiversity Strategy was approved by the Kent Nature Partnership in February 2020. It aims to deliver, over a 25 year period, the maintenance, restoration and creation of habitats that are thriving with wildlife and plants and ensure that the county's terrestrial, freshwater, intertidal and marine environments regain and retain good health.

The Strategy looks to protect and recover threatened species and enhance the wildlife habitats that Kent is particularly important for. It also aims to provide a natural environment that inspires citizen engagement and is well used and appreciated, so that the mental and physical health benefits of such a connection can be realised by the people of Kent.

The Strategy has identified 17 priority habitats and 13 priority species that Kent can play a significant part in the restoration of. It has also identified a handful of species that can act as indicators of the health of our ecosystems. In addition, the Strategy looks to further work addressing overarching considerations affecting biodiversity recovery, including wilding, climate change, natural solutions, soil health and invasive species.

Further information can be found here:

<http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

Red Data Books

British Red Data Books (RDB) are an additional method for classifying the rarity of species, and are often seen as a natural progression from Biodiversity Action Plans.

RDB species have no automatic legal protection (unless they are protected under any of the legislation previously mentioned). Instead they provide a means of assessing rarity and highlight areas where resources may be targeted. Various categories of RDB species are recorded, based on the IUCN criteria and the UK national criteria based on presence within certain numbers of 10x10km grid-squares (see <http://www.jncc.gov.uk/page-3425>). As with Biodiversity Action Plans, where possible, steps should be taken to conserve RDB species which are to be affected by development.

Appendix B – Plates



IMG_5348



IMG_5349



IMG_5350



IMG_5351



IMG_5352



IMG_5353



IMG_5354



IMG_5355



IMG_5356



IMG_5357



IMG_5363



IMG_5364



IMG_5366



IMG_5368



IMG_5369



✔ IMG_5370



✔ IMG_5371



✔ IMG_5372



✔ IMG_5373



✔ IMG_5374



✔ IMG_5375



✔ IMG_5376



✔ IMG_5381