

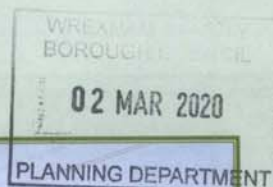


Elite Ecology

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P2020/0138

**Land at Cefn Road,
Bwlchgwyn**



Preliminary Ecological Appraisal

February 2020

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20/02/2020	V1	Draft	First Draft
20/02/2020	V1	Final Draft	Proof Read

0. Executive Summary

This report has been prepared at the request of Mr. Dale Roberts (Proprietor). Elite Ecology were commissioned to undertake a Preliminary Ecological Appraisal at the land at Cefn Road, Bwlchgwyn, Wrexham, LL11 5YE (Central OS Grid Reference: SJ 2701 5370). This survey effort involved both a desktop study and field survey being undertaken.

Under the current proposals, a farm building with associated hard-standing and access drive will be constructed on site.

The preliminary ecological appraisal survey revealed numerous habitats on site with further habitats present in the surrounding area. The phase 1 habitat map, habitat codes and target notes for the site are located within Appendix D. The following predominant habitats were recorded on site (in habitat code order):

- A3.1 – Broadleaved Scattered Trees
- B4 – Improved Grassland
- G2 – Running Water
- J2.2.2 – Species-poor Defunct Hedge
- J2.3.2 – Species-poor Hedge with Trees
- J2.4 – Fence
- J2.5 – Stone Wall
- J4 – Bare Ground/Disturbed Soil

Designated Sites:

Awaiting ecological record data for designated sites within 2 km.

Habitats:

No habitats of conservation concern were located within the site itself. Therefore, the proposed works will not impact on any rare or valuable habitats.

Species:

The site was found to contain the potential to support protected species, including bats. Despite, this some precautionary alterations to the proposed plans can ensure any negative impacts are fully mitigated and the site may be enhanced for wildlife. Please see below for details:

- To ensure no trees are damaged and to reduce future pressure for removal: Undertake a tree survey to determine the root protection area (RPA).
- To protect the trees and water feature: Alter the location of the building and hard-standing by a minimum of 2 metres to the south OR by the distance stated within the RPA as determined by the tree survey, whichever is greatest.
- To protect the hedge and water feature, and enhance the site for wildlife: Incorporate a riparian buffer strip between the ditch and proposed structure and hard-standing. This can be in the form of rank grassland which is less frequently grazed or managed.
- Due to the potential presence of foraging and commuting bats: Avoid overnight lighting of the structure. If censored lighting is to be used this should be covered and pointed to the ground, and only to be triggered by large bodies to ensure that flying insects cannot trigger the lights.

PRELIMINARY RECOMMENDATIONS (SUBJECT TO CHANGE) - AWAITING ECOLOGICAL DATA RECORDS

Contents

0. Executive Summary	2
1 Introduction	4
1.1 Report rationale	4
1.2 Site description and works	4
2 Survey Methodology	6
2.1 Desktop Survey	6
2.2 Field Survey	6
3 Desktop Survey Results	7
3.1 Statutory Sites	7
3.2 Non-Statutory Sites	7
3.3 Woodland Sites	7
3.4 Regionally Important Geological Sites (RIGS)	7
3.5 Species Records	7
4 Field Survey	9
4.1 Habitats	9
4.2 Species	11
4.3 Potential impacts of the development	13
5 Recommendations	14
5.1 Designated Sites	14
5.2 Habitats	14
5.3 Species	14
6 References	15
7 Appendices	16
Appendix A: Site Plans	17
Appendix B: The Ecological Data Tables	18
Appendix C: The Ecological Data Search Maps	19
Appendix D: Phase 1 Habitat Map	20
Appendix E: Site Photographs	21
Appendix F: Biodiversity Legislation and Policy	25
Appendix G: Bats and Artificial Light	31
8 Notice to Readers: Conditions of this Report	32

1 Introduction

1.1 Report rationale

This report has been prepared at the request of Mr. Dale Roberts (Proprietor). Elite Ecology were commissioned to undertake a Preliminary Ecological Appraisal at the land at Cefn Road, Bwlchgwyn, Wrexham, Wales, LL11 5YE (Central OS Grid Reference: SJ 2701 5370). This survey effort involved both a desktop study and field survey being undertaken.

The main purpose of this assessment was to identify the broad habitats (as stated in the JNCC Phase 1 Handbook) and the flora species present within the survey area, with any further evidence of protected species usage and/or features of potential ecological interest also included. The field survey was undertaken on the 5th February 2020 by Mr. Alex Fitzroy (BSc [Hons]).

1.2 Site description and works

The site is situated on the outskirts of the village of Bwlchgwyn which is located approximately 600m to the south-west. In the 2011 census Bwlchgwyn had a population of 855 people.

The surveyed site is comprised of a field which measures approximately 16126m² (1.61ha). It is dominated by seven habitat types which include broadleaved scattered trees, improved grassland, running water, species-poor defunct hedge, species-poor hedge with trees, stone wall and bare ground/disturbed soil. Some of the habitats on or immediately adjacent to the site have the potential to support protected species. Photographs of the site are found within Appendix E.

Within the wider landscape, further habitats are present. These come in the form of residential housing with their associated gardens, hardstanding ground, agricultural fields, pastureland, farm buildings, several patches of broadleaved woodland and coniferous woodland to the north, north east and north west of the site, a patch of 'young trees' to the north west of the site and a patch of mixed mainly broadleaved woodland and mixed mainly coniferous woodland to the north of the site. Cefn Road runs adjacent to the site. The habitats that surround the site also have the potential to be utilized by a variety of protected species.

Under the current proposals, a farm building is proposed to be built along the northern boundary of the site in the centre. Hardstanding ground is proposed which will surround the farm building, run along the northern boundary and run down the western boundary of the site (which will become a new access drive). The proposed site plans that were received at the time of writing this report can be found within Appendix A. This report considers the potential impact of the works on the habitats and species present on site.

Figure 1: An aerial map (obtained from Google Maps) showing the location of the land proposed for development at Cefn Road, Bwlchgwyn (yellow star) in relation to some of the local landscape.



Figure 2: An aerial OS map (obtained from Bing Maps) showing the location of the land proposed for development at Cefn Road, Bwlchgwyn (yellow star) in relation to some of the local landscape.



2 Survey Methodology

2.1 Desktop Survey

A variety of resources were independently consulted to assess the known local records within the nearby area and the importance of the site within the local landscape from an ecological perspective. The resources used were the Local Records Centre, www.naturalengland.org.uk, www.ordnancesurvey.co.uk, Google Maps, Google Earth and Bing Maps. A search of other relevant nature conservation information was made through the use of the Multi-Agency Geographic Information for the Countryside (MAGIC) database.

This report is a draft as ecological records data from within 2km of the site have not arrived at the time of writing. These will be added once received.

2.2 Field Survey

A Preliminary Ecological Appraisal (previously referred to as an Extended Phase 1 Habitat Survey) was carried out using the methodology outlined in the JNCC Handbook for *Phase 1 Habitat Survey: a technique for environmental audit (2010)*. This method aims to map and describe the broad habitat types and notable features present on the surveyed site. In addition to this, the presence and/or the potential presence of protected species is also noted during the survey effort.

Some of the classification codes and colours listed within the JNCC handbook may have been slightly modified for this project.

The optimal survey period for habitat surveys falls between April to September, when many floral species are in bloom. Despite this, these surveys can be carried out at any time of the year. This survey was carried out in February 2020, which falls outside of the optimal time period for flora surveys which means some floral species may have been missed. However, Elite Ecology feels confident that the report gives an accurate representation of the site's suitability for protected species to be present.

3 Desktop Survey Results

3.1 Statutory Sites

Awaiting site record data.

3.2 Non-Statutory Sites

Awaiting site record data.

3.3 Woodland Sites

Awaiting site record data.

3.4 Regionally Important Geological Sites (RIGS)

Awaiting site record data.

3.5 Species Records

3.5.1 Amphibians

Awaiting species records data.

3.5.2 Birds

Awaiting species records data.

3.5.3 Crustacean

Awaiting species records data.

3.5.4 Fish

Awaiting species records data.

3.5.5 Flora

Awaiting species records data.

3.5.6 Invertebrates

Awaiting species records data.

3.5.7 Mammals

Awaiting species records data.

3.5.8 Molluscs

Awaiting species records data.

3.5.9 Reptiles

Awaiting species records data.

4 Field Survey

4.1 Habitats

The preliminary ecological appraisal survey revealed six main habitats on site with further habitats present in the surrounding area. The phase 1 habitat map, habitat codes and target notes for the site are located within Appendix D. Photographs of the site are located within Appendix E. The following habitats were recorded on site (in habitat code order):

- A3.1 – Broadleaved Scattered Trees
- B4 – Improved Grassland
- G2 – Running Water
- J2.2.2 – Species-poor Defunct Hedge
- J2.3.2 – Species-poor Hedge with Trees
- J2.4 – Fence
- J2.5 – Stone Wall
- J4 – Bare Ground/Disturbed Soil

4.1.1 A3.1 – Broadleaved Scattered Trees

This habitat is confined to a few young common alder (*Alnus glutinosa*) trees in the far north-east corner of the site. Two young ash (*Fraxinus excelsior*) trees are also present adjacent to the stone wall midway along the southern boundary of the site. These trees currently offer little cover and limited foraging opportunities due to their small size. More mature trees are present within the hedgerow that runs along/beyond the northern border of the site (see section 4.1.4 below).

4.1.2 B4 – Improved Grassland

This habitat makes up most of the site which is comprised of two horse pasture fields separated by a post and wire fence and a patchy gorse hedgerow. The grass sward height is very short due to regular grazing. The bottom portion of the fields by the northern boundary are waterlogged. Rushes (*Juncus* sp.) occur in patches throughout the north-eastern portion of the site, forming denser patches adjacent to the ditch. The species diversity is very poor. Numerous mole (*Talpa europaea*) hills were recorded along the eastern boundary of the site.

4.1.3 J2.2.2 – Species-poor Defunct Hedge

Patches of common gorse (*Ulex europaeus*) run along the fence that separates the two fields, which may be the remains of a hedgerow. A small patch of gorse also runs along the stone wall in the south-east corner of the site. The cover offered by this habitat is negligible, particularly as it is completely isolated from other suitable cover.

4.1.4 J2.3.2 – Species-poor Hedgerow with Trees

This habitat is located on the north side of the drainage ditch that runs along the northern site boundary. The hedgerow is formed predominantly of common hawthorn (*Crataegus monogyna*), with a sparse bramble (*Rubus fruticosus*) understory. The hedge is not stock proof, so the cover at its base is not extensive. A large ash (*Fraxinus excelsior*) also forms part of this habitat which overhangs the ditch and part of the survey site (red line boundary). It is located approximately halfway along the northern boundary of the western field (approximate grid reference: SJ 26949 53724). A large branch has split and fallen/been removed from this tree, leaving a tear out cavity/hollow within the main trunk (please see figure 3 below). This feature is likely to be suitable for roosting bats. Furthermore, this feature is placed within a linear habitat that could be utilised by commuting and foraging bats, particularly with the water feature running alongside the hedge. The current location of the proposed building and hard-standing may impact this tree depending on the area covered by the root system.

Figure 3: A photograph of the tear out within the large ash tree that sits just beyond the northern site boundary.



4.1.5 J2.5 – Stone Wall

The stone wall runs along the entire southern boundary of the site.

4.1.6 J2.6 – Drainage Ditch with Running Water

Running water (running west to east) was present during the time of survey. The banks offer limited cover, with the southern bank that adjoins the survey site boundary being regularly disturbed through grazing. The opposite bank offers a low amount of cover at the base of the hedgerow. More extensive cover is apparent along the banks of the ditch within the land to the west. No signs of protected species were present. The ditch that runs along the site boundary is of poor suitability for protected species.

4.1.7 J4 – Bare Ground/Disturbed Soil

A small section of the field within the south-west corner has been excavated leaving disturbed soil/bare ground.

4.2 Species

The preliminary ecological appraisal survey revealed that the habitats that have been outlined for the proposed development area do have the potential to support some protected species:

4.2.1 Amphibians (including great crested newts)

No suitable hibernacula or cover is present within the site boundaries. Some limited cover is offered by the hedgerow. The ditch may offer opportunities for commuting. Due to the proximity of the works to the ditch and hedgerow it is recommended that the proposed location of the building and hard-standing ground is moved 3 metres into the field to retain a buffer between the works and these habitat features. If this can be achieved the low potential for detrimental impacts on amphibians can be avoided. It is also recommended that a riparian buffer strip is implemented between the ditch and proposed development, possibly comprised of less frequently managed grassland thus creating a rank grassland area. This will provide additional habitat for a range of species but also enhance bank stability and filter runoff from the field.

4.2.2 Badgers

The proposed development site was assessed for the presence of badgers. No signs were found. Therefore, the works will not have a negative impact upon this species.

4.2.3 Bats

The hedgerow and ditch that run along the northern boundary of the site are likely to offer commuting and foraging habitat for bats. Furthermore, the ash tree (as highlighted within the phase 1 map in Appendix A and shown in figure 3) offers potential roosting opportunities. The proposed plans will see these features be retained during and post-development, however, there may be a negative impact foreseeable from the proposed works. This could be from increased disturbance from artificial lighting and damage to the tree and hedgerow if the works fall within the root protection area (RPA). It is recommended that no artificial lighting is left to run overnight, and that any sensor lighting is set so that only large bodies can trigger the sensor. It is recommended that a tree survey is undertaken to determine if a root protection area (RPA) is required for the ash tree onsite.

4.2.4 Birds

The hedgerow is likely to support birds. However, under the current proposals these habitats are to remain therefore no detrimental impacts on these species will be incurred.

4.2.5 Hedgehogs

The site does not offer adequate cover for this species. Therefore, the works are unlikely to impact on this species.

4.2.6 Invertebrates

The site is likely to support common species only due to the limited floristic and structural diversity on site. Due to this, no further action is required. However, some enhancements are recommended (please see section 5.4).

4.2.7 Otter

The habitat on site is of negligible potential to support otters (*Lutra lutra*). There are no suitable water features on site for this species. The cover onsite is also too limited for this species. Therefore, no further action is required.

4.2.8 Reptiles

The site is deemed to be of negligible potential to support reptiles. This is due to the lack of cover and undisturbed basking sites. This means that no further action is required.

4.2.9 Water Vole

The habitat on site is of negligible potential to support water voles due to a lack of suitable riparian habitat along the drainage ditch. With this considered, no further action is required.

4.3 **Potential impacts of the development**

Please note, the potential impacts of the development cannot be fully determined without the ecological records data. The following potential impacts are therefore preliminary and are subject to change if relevant records are revealed:

- Amphibians – Negligible
- Badgers - Negligible
- Bats – Low
- Birds – Low
- Flora (including trees) – Low
- Hedgehogs - Negligible
- Invertebrates – Negligible
- Otter – Negligible
- Reptiles – Negligible
- Water Vole – Negligible

5 Recommendations

PRELIMINARY - AWAITING ECOLOGICAL DATA RECORDS – SUBJECT TO CHANGE

5.1 Designated Sites

Awaiting sites records data.

5.2 Habitats

No habitats of conservation concern were located within the site itself. Therefore, the proposed works will not impact on any rare or valuable habitats.

5.3 Species

The site was found to contain the potential to support protected species, including bats. Despite, this some precautionary alterations to the proposed plans can ensure any negative impacts are fully mitigated and the site may be enhanced for wildlife. Please see below for details:

- To ensure no trees are damaged and to reduce future pressure for removal: Undertake a tree survey to determine the root protection area (RPA).
- To protect the trees and water feature: Alter the location of the building and hard-standing by a minimum of 2 metres to the south OR by the distance stated within the RPA as determined by the tree survey, whichever is greatest.
- To protect the hedge and water feature, and enhance the site for wildlife: Incorporate a riparian buffer strip between the ditch and proposed structure and hard-standing. This can be in the form of rank grassland which is less frequently grazed or managed.
- Due to the potential presence of foraging and commuting bats: Avoid overnight lighting of the structure. If censored lighting is to be used this should be covered and pointed to the ground, and only to be triggered by large bodies to ensure that flying insects cannot trigger the lights.

6 References

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7 Appendices

Appendix A: Site Plans

Appendix B: Desktop Study Table

Appendix C: Desktop Study Map

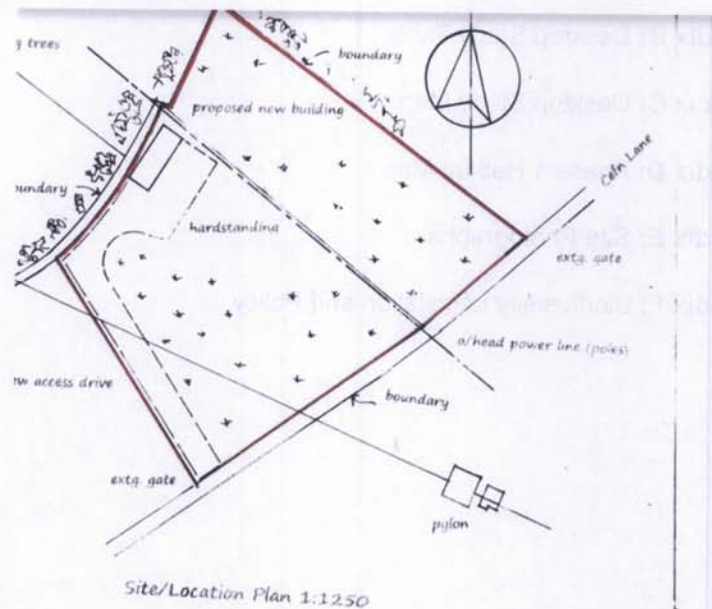
Appendix D: Phase 1 Habitat Map

Appendix E: Site Photographs

Appendix F: Biodiversity Legislation and Policy

Appendix A: Site Plans

The following site plan was provided at the time of survey:



Client
Mr. DALE ROBERTS
Proposal
**Access Drive from existing Gate,
Hardstanding & Farm Building.**
Site
**Land at Cefn Road, Bwlchgwyn, Wrexham,
LL11 5YE**
Drawing
SITE PLAN.
(showing new access drive, hardstanding & building)

BDS Surveyors
Planning + Architecture + Surveying
01782 - 720939 + 07773 - 899399
Job No 19.20/06 Drawn P.D.Palmer.
Drg No 19.20/06/01 Scales 1:1250 / 1:200
Date 01.10.19 Issue

Appendix B: The Ecological Data Tables

Amphibians	
Common Name	Latin Name
Awaiting Ecological Records	
Birds	
Common Name	Latin Name
Awaiting Ecological Records	
Fish	
Common Name	Latin Name
Awaiting Ecological Records	
Flora	
Common Name	Latin Name
Ash	<i>Fraxinus excelsior</i>
Bramble	<i>Rubus fruticosus</i>
Common Alder	<i>Alnus glutinosa</i>
Common Gorse	<i>Ulex europaeus</i>
Common Hawthorn	<i>Crataegus monogyna</i>
Rush	<i>Juncus sp.</i>
Awaiting Ecological Records	
Invertebrates	
Common Name	Latin Name
Awaiting Ecological Records	
Mammals	
Common Name	Latin Name
European Mole	<i>Talpa europaea</i>
Awaiting Ecological Records	

Appendix C: The Ecological Data Search Maps

No ecological data has been received at the time of writing. This will be added once this has been received.

Appendix D: Phase 1 Habitat Map

KEY	
	Site Boundary
	A3.1 – Broadleaved Scattered Trees
	B4 – Improved Grassland
	G2 – Running Water (Ditch)
	J2.2.2 – Species-poor Defunct Hedgerow
	J2.3.2 – Species-poor Hedge with Trees (defunct)
	J2.4 – Fence
	J2.5 – Wall
	J4 – Bare Ground (Disturbed)
	Target Note – Tree with Bat Roost Potential

Appendix E: Site Photographs

Plate 1: A photograph of the hedgerow and ditch that run along the southern boundary of the site.



Plate 2: A photograph of some of the young scattered trees within the corner of the western field.



Plate 3: A photograph of the large ash tree within the hedgerow.



Plate 4: A photograph of the defunct gorse hedgerow and fence that divides the two fields.



Plate 5: A photograph of the lower portion of the field with associated patches of rush.



Plate 6: A photograph taken from the top of the eastern field overlooking the survey site (looking north-west).



Appendix F: Biodiversity Legislation and Policy

General Legislation and Policy:

The framework of legislation and policy which underpins nature conservation in England. This is a material consideration in the planning process in England.

Conservation of Habitats and Species Regulations 2010 (Habitats Regulations 2010 as amended)

The Habitats Regulations 2010 consolidate and update the Conservation Regulations 1994 and all its various amendments. The Habitats Regulations 2010 are the principal means by which the EEC Council Directive 92/43 (The Habitats Directive) as amended is transposed into English and Welsh law.

The Habitats Regulations 2010 place duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest.

The Habitats Regulations 2010 also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively. Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations.

The Wildlife and Countryside Act (WCA) 1981 (As amended)

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Conservation (Natural Habitats. & c.) Regulations 1994 (as amended), offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species.

The Countryside and Rights of Way (CROW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs.

The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists supersede Section 74 of the CRoW Act 2000. These species and habitats are a material consideration in the planning process.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

UK Biodiversity Action Plan

The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, is a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contains a list of priority habitats and species of conservation concern in the UK, and outlines biodiversity initiatives designed to enhance their conservation status. Lists of Broad and Local habitats are also included. The priority habitats and species correlate with those listed on Section 41 and 42 of the NERC Act.

The UKBAP requires that conservation of biodiversity is addressed at a County level through the production of Local BAPs. These are complementary to the UKBAP, however are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs. UKBAP and Local BAP targets with regard to species and habitats are a material consideration in the planning process.

Planning Policy (England) and National Planning Policy Framework

In early 2012, the National Planning Policy Framework (NPPF) replaced much previous planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. The government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System, which accompanied PPS9, still remains valid. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives.

Chapter 11, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and, where possible, provide net gains in biodiversity. Opportunities to incorporate biodiversity gains into a development should be encouraged.

If a proposed development would result in significant harm to the natural environment which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused.

Species Specific Legislation

This section contains a summary of legislation with relation to the species present or potentially present in the survey area. The reader should refer to the original legislation for definitive interpretation.

Nesting and Nest Building Birds

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Some species (listed in Schedule 1 of the WCA) are protected by special penalties.

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird;
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

'Reckless' offences with regard to the disturbance of nesting wild birds included in Schedule 1 of the Wildlife and Countryside Act were added by the Countryside and Rights of Way Act 2000.

The Natural Environment and Rural Communities (NERC) Act 2006 places a duty on Government Departments to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. These lists include a number of bird species.

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

Badger

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;
- possess a dead badger or any part of a badger;
- cruelly ill-treat a badger;
- use badger tongs in the course of killing, taking or attempting to kill a badger;
- dig for a badger;
- sell or offer for sale or control any live badger;
- mark, tag or ring a badger; and
- 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; and
 - 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".

Bats

All species of bat are fully protected under a variety of domestic, European and international legislation and conventions. These include:

- Bern Convention (Appendix II)
- Bonn Convention (Appendix II)
- Conservation Regulations (Northern Ireland) 1995
- Conservation of Habitats and Species Regulations 2010
- Countryside Rights of Way Act 2000
- Eurobats Agreement
- Habitats Directive (Annexes IV and II)
- Habitats Regulations 1994 (as amended) Scotland
- NERC Act 2006
- Wildlife and Countryside Act 1981 (as amended)
- Wild Mammals Protection Act

In addition to this, some species have additional protection by being listed on the UK Biodiversity Action Plan (UKBAP).

The legislation afforded to bats makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.

All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which protects birds, nests, eggs and nestlings from harm. In addition to this, some rarer species, such as barn owls are afforded extra protection.

National Planning Policy Framework, Section 11:

The published framework in 2012 replaces the previous Planning Policy Statement 9.

Section 11: Conserving and enhancing the natural environment reaffirms the government's commitment to maintaining green belt protections and preventing urban sprawl, retains the protection of designated sites and preserves wildlife. It also aims to improve the quality of the natural environment and halt declines in species and habitats, protects and enhances biodiversity and promotes wildlife corridors.

Biodiversity 2020:

This sets out to halt overall biodiversity loss and support healthy well-functioning ecosystems by establishing coherent ecological networks, with more and better places for nature, to the benefit of wildlife and people. The government's policy is aimed at individuals, communities, local authorities, charities, business and government, which all have a role to play in delivering Biodiversity 2020.

Freshwater White-clawed Crayfish

The white-clawed crayfish is partially protected under Wildlife and Countryside Act 1981 (as amended). It is listed on schedule 5 and therefore afforded protection under Section 9 (1 and 5). Therefore, it is an offence to take white-clawed crayfish and to sell, or attempt to sell, any part of the species, alive or dead, or intend to buy or sell.

Great Crested Newt

The great crested newt (*Triturus cristatus*) is fully protected under a variety of legislation and conventions. These include:

- Bern Convention (Appendix II)
- Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
- Conservation of Habitats and Species Regulations 2010
- EU Habitats Directive (Annex II and IV)
- Nature Conservation (Scotland) Act 2004
- NERC Act 2006 (Section 41 England; Section 42 Wales)
- Wildlife and Countryside Act 1981 (as amended)

In addition to this, the great crested newt has been listed as a priority species on the UK Biodiversity Action Plan (UKBAP).

This legislation covers all aspects of newt life stages (eggs, efts and adult newts) and makes it illegal to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.

Licenses can be obtained from Natural England (DEFRA) under the Conservation (Natural Habitats etc.) Regulations 1994, to permit activities for the purposes of:

- Regulation 44(2)(e): Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment, or
- Regulation 44(2)(f): Preventing the spread of disease
- Regulation 44(2)(g): Preventing serious damage to any form of property or fisheries

Or

- If there is no satisfactory alternative.

The above regulations allow people to carry out activities which would otherwise be illegal.

Otter

Otters are fully protected by the European Habitats Directive (92/43/EEC) by being incorporated in annex II of the legislation. In addition to this, otters are listed on schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take an otter.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by otters.
- To intentionally or recklessly disturb an otter whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell otters.

Reptiles

All six native reptiles within Great Britain are legally protected, with the extent of protection varying dependent upon their rarity and conservation importance.

Those that receive full protection under the Wildlife and Countryside Act 1981 (as amended) are the rare sand lizard and smooth snake. These species also receive protection under the Conservation (Natural Habitats &c.) Regulations 1994 (also referred to as the Habitats Directive). This means that they are protected from deliberate disturbance, killing, injury or capture and the habitat in which they live is also fully protected against damage or destruction. Any activity involving disturbance or damage to habitats utilised by sand lizards or smooth snakes would require a licence issued by the Department of the Environment, Food and Rural Affairs (DEFRA) following consultation with the statutory nature conservation organisation (Natural England).

The remaining four reptile species are 'partially protected' under the Wildlife and Countryside Act 1981 (as amended), with these species being slow-worm, common lizard, grass snake and adder. This means that these species are protected against intentional killing, injuring and against sale, but their habitat is not protected. In planning terms this means that the presence of these species is a material consideration and there is a requirement to ensure that any reptile interest is safeguarded. If a proposed development is likely to have an impact on these reptiles, then the statutory nature conservation organisation must be notified, particularly if capture and translocation is being proposed. In some parts of the UK, sites that support common reptile species such as common lizards and slow-worms can qualify as County Wildlife Sites. Sites of this designation may receive protection in planning policy.

Water Voles

Water Voles are fully protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take a water vole.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by water voles.
- To intentionally or recklessly disturb a water vole whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell water voles.

Non-Native Floral Species

It is an offence under schedule 9 of the Wildlife and Countryside Act 1981 (as amended) to plant or otherwise cause non-native flora to grow in the wild. This includes the transportation of earth that has previously had non-native species growing and includes the spread of the species.

All stands of non-native floral species need to be disposed of safely at a licenced landfill site according to the Environmental Protection Act (Duty of Care) Regulations 1991.

Appendix G: Bats and Artificial Light

Artificial lighting is known to affect bat's roosting and foraging behaviour, with lighting resulting in a range of impacts that includes roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including the common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux.

In contrast, slow flying bats such as the myotis bats (*Myotis* spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012).

Current recommendations for all bat species specifies that no bat roost should be directly illuminated.

Due to the impacts of lighting, mitigation and sensitive lighting design schemes are required for projects where bats are present. These should include bat friendly lighting plans that should aim to avoid lighting wherever possible. If this is not possible, then the minimisation of any lighting impacts is required by adopting the following measures:

➤ **To introduce lighting curfews or use of PIR sensors.**

Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of time.

➤ **To consider no lighting solutions where possible.**

Options such as white lining, good signage and LED cat's eyes should be considered as preferable. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.

➤ **To use only high pressure sodium or warm white LED lamps where possible.**

High pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).

➤ **To minimise the spread of light.**

The light spread should be kept at or near horizontal to ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.

➤ **To consider the height of the lighting column.**

While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard lighting can often be designed to provide up-lighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce any up-lighting.

➤ **To avoid reflective surfaces below lights.**

The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration.

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No reliance should be made on any such comments in relation to the structural integrity of the features located on the surveyed site. All information within the report is based solely on evidence that has been found on site during the service provided. No individual opinion or inference will be made other than that of the suitably qualified ecologist appointed to the project.