

**PRELIMINARY ECOLOGICAL
APPRAISAL**

at

**Land adjacent to 33 Arthur Street
Golcar
Huddersfield
West Yorkshire
HD7 4DF**

Client:

LGS Construction

Client Address:

**4A Tateley Lane
Ossett
WF5 9RG**

Client Contact:

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JCA Ref:

20743/AWe

Date of Report:

30/05/23



Quality Assurance

Version	Desktop Survey Completed:		Site Surveyed:		Report Completed:		Reviewed:	
	Date	Name	Date	Name	Date	Name	Date	Name
Planning	30/05/23	Adam West	04/05/23	Adam West	30/05/23	Adam west	30/05/23	James Foster

This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development 2018* and the *CIEEM's Code of Professional Conduct*.

Risk Assessment Completed	Redacted
Bio-security Procedure Completed	
Lone Worker Procedure Completed	



Summary

JCA Limited has been commissioned by **LGS Construction** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Land adjacent to 33 Arthur Street, Golcar**. The site is located at Ordnance Survey (OS) National Grid Reference SE 10068 15953 with nearby postcode HD7 4DF.

A desk study and field survey were undertaken in order to assess the potential of the site to support protected habitats and species and species of conservation concern. Recommendations for further survey, avoidance, mitigation and enhancement – where appropriate - have been made and are summarised in Table 1 on the following page and are detailed in full in Chapter 6 of this report.

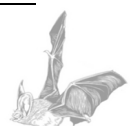


Table 1: summary of ecological receptors at the site and recommended mitigation.

Receptor	Potential Risk to Project if No Action Taken	Cause of Impact Description of Effect	Further Survey Required	Mitigation Required
Designated sites				
Statutorily protected	None	N/A	N/A	N/A
Non-statutorily protected	None	N/A	N/A	N/A
S41 habitat	None	N/A	N/A	N/A
Other habitats	None	N/A	N/A	N/A
Protected species				
Flora (WCA Sch 8, CHSR Sch 5)	None	N/A	N/A	N/A
Invertebrates	None	N/A	N/A	N/A
White-clawed crayfish	None	N/A	N/A	N/A
Fish	None	N/A	N/A	N/A
Great crested newt	None	N/A	N/A	N/A
Reptiles	None	N/A	N/A	N/A
Birds	None	N/A	N/A	N/A
Bats	None	N/A	N/A	N/A
Badgers	Low	Badgers falling into excavations and becoming trapped	No	All excavations to be covered overnight or a means of escape provided
Otters	None	N/A	N/A	N/A
Water voles	None	N/A	N/A	N/A
Beaver	None	N/A	N/A	N/A
Other Species e.g. S41 species	Moderate	Obstruction of hedgehog commuting and dispersal	No	Boundary treatments to incorporate hedgehog holes
Invasive Species (WCA Sch 9) Injurious Weeds (Weeds Act, 1959)				
	None	N/A	N/A	N/A
Key: S41 habitat/species – habitats and species listed as priority for conservation importance under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. WCA Sch – Wildlife and Countryside Act 1981 (as amended) Schedule CHSR – Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019				



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1. Introduction

1.1 Background

1.1.1 In April 2023, JCA Limited was instructed by **LGS Construction** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Land adjacent to 33 Arthur Street, Golcar** hereafter referred to as 'the site'. The purpose of the survey is to establish a baseline of ecological information and assess whether the proposed works, hereafter referred to as 'the scheme', have the potential to adversely affect any protected or notable habitats or species.

1.2 Scheme Description and Location

1.2.1 The site is located at Ordnance Survey (OS) National Grid Reference SE 10068 15953, with nearby postcode HD7 4DF. The site is bordered to the north, to the east and to the south by residential properties. To the west the site is bordered by agricultural; fields currently used for grazing.

1.2.2 The scheme is the construction of a single residential dwelling. To facilitate the development, the garage present on site will be demolished.

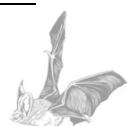
1.3 Aims and Objectives

1.3.1 The purpose of the survey is to establish a baseline of ecological information and assess whether the proposed development activities have the potential to adversely affect any protected or notable habitats or species. The following tasks have been undertaken:

- Desktop study – a review of environmental records for the surrounding area to obtain existing information on statutory and non-statutory designated sites of nature conservation interest, and the presence of protected and notable habitats and species within the site and its environs.
- Field surveys – an UKHab Habitat survey involving a site visit to record habitat types and dominant vegetation, including any invasive species. During this survey evidence of protected or notable fauna and habitats or habitat capable of supporting protected or notable fauna was recorded.
- Ecological report – an assessment of the potential ecological constraints to the proposed works at the site and recommendations for



further survey, avoidance, mitigation, and enhancement where appropriate. Locations of any features constituting ecological constraints or of other ecological interest and vegetation recorded on and around the development are included in an accompanying UKHab Habitat Map (**Appendix 1**). This report and the maps are supported by photographs (**Appendix 2**) and information regarding current legislation (**Appendix 5**).



2. Methodology

2.1 Desktop Study

2.1.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites and European Protected Species (EPS) licensing applications within a 2km radius of the site. In addition, international sites designated for bats within 30km of the site were searched for. The baseline conditions are based on a review of existing available information including:

- MAGIC (Multi-Agency Geographical Information for the Countryside) website (to identify statutory designated sites and EPS licences).
- Ordnance Survey mapping (to identify potentially notable habitats including ponds).
- Aerial photography (to identify potentially notable habitats).
- Data search for records of protected/notable species on and within 2km of the site within the last ten years (exempting bat roosts, of which all records are included) obtained from West Yorkshire Ecology Service (WYES), the local environmental records centre for Golcar, along with information for non-statutory wildlife sites.

2.1.2 The records were checked against species listed as priority species under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and the Kirklees Biodiversity Action Plan (Kirklees Council, undated) to assess national and regional habitat and species status.

2.2 Field Survey

2.2.1 A UKHab habitat survey of the site was conducted on 04/05/23. All areas of the site were investigated and areas around the site where access permitted.

2.2.2 The vegetation and habitat types within the site were noted during the survey in accordance with the categories specified for a Vegetation and Habitat Survey (The UK Habitat Classification, Habitat Definitions Version 1.1, UKHab, 2020). Dominant and abundant plant species were recorded for each habitat present.



2.2.3 The site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, the Wildlife & Countryside Act (WCA) 1981 (as amended), including those given a higher level of legal protection under Section 41 (S41) of the NERC Act 2006 and Countryside & Rights of Way (CROW) Act 2000, and those listed on the LBAP. The following species were considered:

- Invertebrates (including white-clawed crayfish *Austropotamobius pallipes*).
- Great crested newt *Triturus cristatus* freshwater habitat potential within 500m of the site.
- Reptile habitat within the site.
- Nesting and foraging habitat for birds within the site.
- Bat roost potential and foraging habitat within the site.
- Badger *Meles meles* setts within 30m of the site, where accessible.
- Otters *Lutra lutra* and suitable habitat within 30m of the site, where accessible.
- Water vole *Arvicola amphibius* habitat within 20m of the site, where accessible.
- Eurasian beaver *Castor fiber* habitat within 30m of the site, where accessible.
- Other notable species.
- Invasive species.

2.3 Survey Constraints

2.3.1 To determine presence or likely absence of protected species usually requires multiple visits at suitable times of the year. As a result, the survey undertaken focused on assessing the potential of the site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to the National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2018), especially those given protection under UK wildlife legislation.



- 2.3.2 The optimum time of year for completing the survey is between April and September, as many plant species have a seasonal expression in spring and summer only. The survey was undertaken on 04/05/23.
- 2.3.3 The weather at the time of the survey was dry and overcast. There had been no heavy rain prior to the survey, so any field signs of protected species would still have been present during the survey.
- 2.3.4 There are no factors which would constitute a constraint on the survey or the conclusions drawn from it.
- 2.3.5 The details of this report will remain valid for a period of 18 months. If works have not commenced within this period or land use on site changes, it is recommended that a new review of the ecological conditions is undertaken.



3. Desk Study Results

3.1 Statutory Designated Sites

3.1.1 The MAGIC website revealed no internationally designated sites within 2km of the site. The closest internationally designated sites are South Pennine Moors Phase 2 Special Protection Area (SPA) and South Pennine Moors Special Area of Conservation (SAC) which have contiguous boundaries. These sites are located approximately 5.7km to the south west of the site at their closest point.

3.1.2 The MAGIC website revealed no nationally designated sites within 2km of the site. The closest nationally designated site is Elland Bypass Cutting Site of Special Scientific Interest (SSSI) which is located approximately 4.6km to the north east.

3.2 Non-statutory Designated Sites

3.2.1 Records received from WYES revealed three non-statutory designated sites within 2km of the site, detailed in Table 2 below.

Table 2: Non-statutory designated sites within 2km of the site, returned from WYES.

Site Name	Distance (m) from Site	Reasons for Designation
Huddersfield Narrow Canal LWS	560	Standing open water, value for appreciation of nature
Low Westwood Pond LWS	1410	Species rich standing water
Shaw Wood LWS	1827	Species rich acid woodland, high bluebell cover
Key: LWS – Local Wildlife Site		

3.3 Section 41 of the NERC Act 2006 Priority Habitat Inventory

3.3.1 The MAGIC website revealed no priority habitats within or immediately adjacent to the site.

3.4 Protected and Notable Species

3.4.1 European Protected Species (EPS) Licence Applications



The MAGIC website revealed no EPS licence applications within 2km of the site.

3.4.2 Records of Protected and Notable Species

3.4.3 Flora

One record of bluebell *Hyacinthoides non-scripta*, a schedule 8 (WCA as amended), and Kirklees Biodiversity Action Plan (KBAP) species was returned by WYES. The record was made in 2022, approximately 557m from the site.

3.4.4 Invertebrates (including white-clawed crayfish)

One record of white ermine *Spilosoma lubricipeda*, a West Yorkshire Biodiversity Action Plan (WYBAP) and S41 species, was received from WYES. The record was made in 2016, approximately 967m from the site.

3.4.5 Fish

One record of brown trout *Salmo trutta*, a West Yorkshire Biodiversity Action Plan (WYBAP) and S41 species, was received from WYES. The record was made in 2015, approximately 1927m from the site.

3.4.6 Amphibians

One record of common frog *Rana temporaria*, a WYBAP species, was received from WYES. The record was made in 2015, approximately 1353m from the site.

3.4.7 Reptiles

No records of protected or notable reptiles were returned by WYES.

3.4.8 Birds

The following records were received from WYES:

Table 3: Bird Records Received from WYES.

Scientific name	Common name	Designation	Latest Date	Number of records	Distance from site (m)
<i>Passer domesticus</i>	House sparrow	S41, WYBAP, KBAP	2017	1	1734
<i>Passer montanus</i>	Tree sparrow	S41, WYBAP, KBAP	2015	1	279

Key:

WCA: Schedule 1 of the Wildlife & Countryside Act 1981 (as amended)

S41: Section 41 of the NERC Act 2006



WYBAP: West Yorkshire Biodiversity Action Plan

KBAP: Kirklees Biodiversity Action Plan

3.4.9 Bats

The following records were received from WYES:

Table 4: Bat Records Received from WYES.

Scientific Name	Common Name	Designation	Latest Date	Number of records	Distance from Site
<i>Myotis daubentonii</i>	Daubenton's bat	EPS, WYBAP, KBAP	2019	1	1932
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	EPS, WYBAP, KBAP	2019	6	379
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	EPS, S41, WYBAP, KBAP	2019	1	1932
<i>Plecotus auritus</i>	Brown long-eared bat	EPS, S41, WYBAP, KBAP	2021	1	1444

Key:

EPS: European Protected Species: Species listed under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

S41: Section 41 of the NERC Act 2006

LBAP: Local Biodiversity Action Plan

3.4.10 Bat Roosts

The following records were received from WYES:

Table 5: Bat Records Received from WYES.

Scientific Name	Common Name	Roost type	Date	Distance from Site (m)
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2008	1981
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Maternity	2007	1697
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2021	1444
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2021	1444



<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2018	898
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2018	910
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2018	890
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2018	989
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Not recorded	2006	1297
<i>Plecotus auritus</i>	Brown long-eared bat	Not recorded	2021	1444
<i>Plecotus auritus</i>	Brown long-eared bat	Not recorded	2022	1444
<i>Vespertilionidae</i>	Unidentified bat	Hibernacula	2012	1891
<i>Vespertilionidae</i>	Unidentified bat	Hibernacula	2005	1450
<i>Vespertilionidae</i>	Unidentified bat	Hibernacula	2004	1602
<i>Vespertilionidae</i>	Unidentified bat	Hibernacula	2012	1931
<i>Vespertilionidae</i>	Unidentified bat	Hibernacula	2011	1931
<i>Vespertilionidae</i>	Unidentified bat	Hibernacula	2011	1943
<i>Vespertilionidae</i>	Unidentified bat	Hibernacula	2012	1919
<i>Vespertilionidae</i>	Unidentified bat	Hibernacula	2012	1919
<i>Vespertilionidae</i>	Unidentified bat	Possible	2011	1919
<i>Vespertilionidae</i>	Unidentified bat	Not recorded	2011	1919
<i>Vespertilionidae</i>	Unidentified bat	Excluded	2011	1934
<i>Vespertilionidae</i>	Unidentified bat	Maternity	2008	1968
<i>Vespertilionidae</i>	Unidentified bat	Not recorded	2014	1991

3.4.11 Badgers

WYES returned no records of badgers within 200m of the site. The nearest badger sett is 1896m from the site. The site falls within the area of increased probability of badger activity.

3.4.12 Otters

One record of otter *Lutra lutra*, a S41, a schedule 5 (WCA as amended), WYBAP and KBAP species was returned by WYES. The record was made in 2020, approximately 1855m from the site.



3.4.13 Water Voles

No records of water vole were returned by WYES.

3.4.14 Beaver

No records of beaver were returned by WYES.

3.4.15 Other Notable Species

One record of west European hedgehog *Erinaceus europaeus*, a S41, WYBAP, and KBAP species, was received from WYES. The record was made in 2021, approximately 470m from the site.

3.4.16 Invasive Species

The following records of invasive species, listed on schedule 9 of the Wildlife and Countryside Act 1981 (as amended), were returned by WYES:

Four records of Himalayan balsam *Impatiens glandulifera*. The most recent record was made in 2022. The closest record is 557m from the site.

21 records of Japanese knotweed *Fallopia japonica*. The most recent record was made in 2022. The closest record is 557m from the site.

One record of *Rhododendron ponticum*. The record was made in 2018, 975m from the site.

Two records of eastern grey squirrel *Sciurus carolinensis*. The most recent record was made in 2018. The closest record is 846m from the site.



4. Field Survey Results

4.1 Habitats

4.1.1 g4 – modified grassland

The majority of the site is occupied by a residential garden lawn. The sward is a single species lawn comprising meadow foxtail *Alopecurus pratensis*. Other species present include common dandelion *Taraxacum officinale*, sow thistle *Sonchus* sp., marsh thistle *Cirsium palustre*, clover *Trifolium* sp., ragwort *Jacobaea vulgaris* and creeping buttercup *Ranunculus repens*.

4.1.2 Buildings/structures

There is one building on site (see **Appendix 1: UKHab Habitat Map**). A single garage is present in the south west corner of the site. The walls of this structure are constructed of concrete panels and the roof is covered with corrugated metal sheets. The building does not contain any potential to support protected or notable species.

4.2 Protected and Notable Species

4.2.1 Flora

No records of protected or notable flora were returned by WYES. No such species were noted during the survey and the site holds little potential to support them. Flora will, therefore, not be mentioned further in this report.

4.2.2 Invertebrates (including white-clawed crayfish)

One record of white ermine moth was returned by WYES. The site does not contain the plant species on which the white ermine caterpillar depends. No invertebrate species of note were recorded during the survey. The site holds little potential to support invertebrate species due to a lack of floral diversity. Invertebrates will, therefore, not be mentioned further in this report.

4.2.3 Fish

One record of brown trout was returned by WYES. The site does not contain any watercourses or standing water and, consequently, any habitat to support brown trout or other fish species. Fish will, therefore, not be mentioned further in this report.



4.2.4 Amphibians

One record of common frog was returned by WYES. The site does not contain suitable habitat for amphibians during the terrestrial phase of their life cycle, nor does there appear to be any suitable breeding habitat within the vicinity of the site. Amphibians will, therefore, not be mentioned further in this report.

4.2.5 Reptiles

No records of protected or notable reptiles were returned by WYES. No reptiles were noted during the survey and the site holds no potential to support them due to a lack of diverse habitats in which reptiles could bask, shelter and forage. Reptiles will, therefore, not be mentioned further in this report.

4.2.6 Birds

Two records of protected or notable birds were returned by WYES. The site does not contain any suitable habitat for nesting birds and only low quality foraging habitat. Birds will, therefore, not be mentioned further in this report.

4.2.7 Bats

Records of four bat species were returned by WYES. The closest recorded roost is 890m from the site. The building on site contains no suitable roosting habitat. The site as a whole provides only low quality commuting and foraging habitat. Bats will, therefore, not be mentioned further in this report.

4.2.8 Badgers

The records from WYES show that no badgers have been recorded within 200m of the site and the nearest known sett is 1896m from the site. The site does, however, fall within the area of increased probability of badger activity. Given the habitats present on site, it is unlikely that badgers would venture onto site, although this cannot be ruled out entirely.

4.2.9 Otters

No records of otters were returned by WYES. The site does not contain any watercourses or standing water and, consequently, any habitat to support this species. Otters will, therefore, not be mentioned further in this report.

4.2.10 Water Voles

No records of water voles were returned by WYES. The site does not contain, and is not adjacent to, any watercourses and, consequently, any habitat to



support this species. Water voles will, therefore, not be mentioned further in this report.

4.2.11 Beaver

No records of beavers were returned by WYES. The site does not contain any watercourses or trees and, consequently, any habitat to support this species. Beavers will, therefore, not be mentioned further in this report.

4.2.12 Other Notable Species

One record of west European hedgehog was returned by WYES. The site contains limited foraging habitat for hedgehogs but could be used by commuting hedgehogs.

4.2.13 Invasive Species

28 records of invasive species were returned by WYES. No evidence for the presence of invasive species was noted during the survey. Invasive species will, therefore, not be mentioned further in this report.



5. Assessment

5.1 Designated Sites

5.1.1 Statutory designated sites

The closest internationally designated sites are approximately 5.7km to the south west of the site at their closest point (see paragraph 3.1.1). The closest nationally designated site is located approximately 4.6km to the north east (see paragraph 3.1.1).

Given the distance to these designated sites and the small scale nature of the proposed development, no negative impacts to any statutory designated site are anticipated.

5.1.2 Non-statutory designated sites

The desk study revealed three non-statutory designated sites. Given the small scale nature of the development and the lack of connectivity between the site and the designated sites, no adverse impacts on any of these designated sites are anticipated.

5.2 Habitats

5.2.1 The most valuable habitat for biodiversity within the development site boundary is the modified grassland, which is only of low ecological value. The proposed works will impact this habitat by the removal of a large part of it.

5.2.2 The other habitats described in Chapter 4, Section 4.1 have lower biodiversity and provide less opportunity to support protected or notable species and they do not fall into any of the NERC S41 or Local BAP Priority Habitat descriptions.

5.3 Protected and Notable Species

5.1.1 Badgers

The site is located within an area of increased probability of badger activity. It is possible that badgers may enter the site while foraging. Consequently, further recommendations have been made with regard to badgers (see paragraph 6.2.1).



5.1.2 Other Notable Species

The site holds potential to support commuting hedgehogs, which have been recorded within 500m of the site. The proposed development has the potential to restrict the dispersal and free movement of hedgehogs. Consequently, further recommendations have been made with regard to hedgehogs (see paragraph 6.2.2).



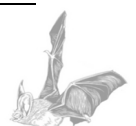
6 Recommendations

6.1 Habitats

6.1.1 The proposed works provide limited opportunities to institute enhancement for biodiversity. A landscaping plan should be devised which incorporates, as far as practicable, native species with known benefits to wildlife common in the area and faunal boxes for bats and birds should be incorporated into the building.

6.2 Protected and Notable Species

- 6.2.1 To prevent badgers becoming trapped or injured during construction, any excavations must be covered at night when badgers are most active. If this is not feasible, a means of escape, such as a plank inserted at 45 degrees must be provided so that badgers can exit the excavations.
- 6.2.2 To prevent the free movement of hedgehogs from becoming obstructed, the boundary treatments of the proposed development must contain holes at ground level measuring 13 x 13cm to allow hedgehogs to pass through the site.



7 References

Guidelines for surveys and report writing:

British Standards Institute (BSI), (2013) *BS 42020:2013, Biodiversity - Code of practice for planning and development*. London.

Chartered Institute of Ecology and Environmental Management (CIEEM), (2015) *Guidelines for Ecological Report Writing*. Winchester.

Joint Nature Conservation Committee (JNCC), (2010) *Handbook for Phase 1 habitat survey: A technique for environmental audit*.

Websites:

Advice on protected species is consolidated at:

Environmental management: Wildlife and habitat conservation - GOV.UK (2016) Gov.uk. Available at: <https://www.gov.uk/topic/environmental-management/wildlife-habitat-conservation>

Magic Map Application (2016) [Magic.defra.gov.uk](http://magic.defra.gov.uk). Available at: <http://magic.defra.gov.uk/MagicMap.aspx>

The RSPB (2016). Available at: <http://www.rspb.org.uk/>

Surveys and mitigation plans: protected species - Detailed guidance (2015) Gov.uk. Available at: <https://www.gov.uk/guidance/surveys-and-mitigation-plans-protected-species>

Within this detailed guidance on surveys and mitigation information is available on the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

Wildlife licences: when you need to apply - Detailed guidance (2014) Gov.uk. Available at: <https://www.gov.uk/guidance/wildlife-licences>

Within this detailed guidance on licensing information is available on licences for the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

As well as:

- Non-native Bumblebee species
- Deer
- Freshwater fish
- Invertebrates
- Mink, coypu, muskrat and grey squirrel
- Plants

5.2 *UK Hab* (2022) *The UK Habitat Classification System*. Available at: <http://ukhab.org/>



Species Specific Information:

Badgers:

Natural England, (2007) *Badgers and Development: A Guide to Best Practice and Licensing*.

Competencies for Species Survey: Badger, Chartered Institute of Ecology and Environmental Management CIEEM, 2013

Bats:

Bat Conservation Trust, (2007) *Bats, Development & Planning in England*. London.

Bat Conservation Trust and Institute of Lighting Professionals (2018) *Guidance Note 08/18: Bats and artificial lighting in the UK*. ILP, Rugby

Collins, J. (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd edition. Bat Conservation Trust, London.

Mitchell-Jones, A.J. & McLeish, A.P. (2012) *The Bat Workers' Manual*. Pelagic Publishing, Exeter.

Bats: surveys and mitigation for development projects, <https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects> Accessed 2018-06-21

Dormice:

Bright, P., Morris, P. and Mitchell-Jones, A. (1996) *The dormouse conservation handbook*. Peterborough: English Nature.

Great Crested Newts:

Langton, T., Beckett, C. and Foster, J. (2001) *Great Crested Newt Conservation Handbook*. Halesworth: Froglife. pdf

Advice note 4 (revised) - *Amphibian Disease Precautions, A Guide for UK Fieldworkers*, Amphibian and Reptile Conservation trust, 2017. Accessed 2018-06-21

Otters: Natural England, (2007) *Species Information Note SIN006, Otter: European protected species*.

Reptiles and Amphibians:

Baker, J., Beebee, T., Buckley, J., Gent, T. and Orchard, D. (2011) *Amphibian Habitat Management Handbook*. 1st ed. Bournemouth: Amphibian and Reptile Conservation.

Edgar, P., Foster, J. and Baker, J. (2010) *Reptile Habitat Management Handbook*. 1st ed. Bournemouth: Amphibian and Reptile Conservation.

English Nature, (2004). *Reptiles: guidelines for developers*. Peterborough.

Gent, T. and Gibson, S. (ed.) (2003) *Herpetofauna Workers Manual*. Bournemouth: JNCC.



Water Voles:

Natural England, (2008) *Water voles - the law in practice. Guidance for planners and developers.*

Water Vole Conservation and Management: Lessons From Four Case Studies, Jemma Louise Gaskin, 2016

Stoddart, D.M. (1970), *Individual range, dispersal in a population of water voles (Arvicola terrestris (L.))*. *Journal of Animal Ecology* 39, 403-425.

Strachan, R. (2009), *Populations and Persistence – Developing a Strategy for Conserving Water Voles in the UK*, Presentation to Warwickshire Wildlife Trust, 2nd April 2009, Environment Agency, Wales

Strachan, R. and Holmes-Ling, P (2003), *Restoring water voles and other biodiversity to the wider countryside*. Wildlife Conservation Research Unit, Oxford.

Strachan, R., Moorehouse, T. and Gelling, M. (2011), *Water Vole Conservation Handbook*, 3rd Edn, WILDCRU

White-clawed Crayfish:

Peay, S. (2002) *Guidance on Habitat for White-clawed Crayfish and its Restoration*. Kendal: English Nature

Biodiversity Metric Guidance:

STEPHEN PANKS^A, NICK WHITE^A, AMANDA NEWSOME^A, MUNGO NASH^A, JACK POTTER^A, MATT HEYDON^A, EDWARD MAYHEW^A, MARIA ALVAREZ^A, TRUDY RUSSELL^A, CLARE CASHON^A, FINN GODDARD^A, SARAH J. SCOTT^B, MAX HEAVER^C, SARAH H. SCOTT^C, JO TREWEEK^D, BILL BUTCHER^E and DAVE STONE^A (2022) *Biodiversity metric 3.1: Auditing and accounting for biodiversity – User Guide*.

Natural England. A – Natural England, B – Environment Agency, C – Department for Environment, Food and Rural Affairs, D – Treweek Environmental Consultants Ltd, E – eCountability Ltd

Relevant Legislation:

Wildlife and Countryside Act 1981, (c. 69) (as amended). Available at:
<http://www.legislation.gov.uk/ukpga/1981/69>

Countryside and Rights of Way Act 2000 (c.37). Available at:
<http://www.legislation.gov.uk/ukpga/2000/37/contents>

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Available at:
<https://www.legislation.gov.uk/ukdsi/2019/9780111176573>

Conservation of natural habitats and of wild fauna and flora Council Directive (92/43/EEC) (The Habitats Directive) (as amended) Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0043>

Protection of Badgers Act 1992 (c. 51). Available at:
<http://www.legislation.gov.uk/ukpga/1992/51/contents>

The Hedgerow Regulations 1997 (No. 1160). Available at:
<http://www.legislation.gov.uk/uksi/1997/1160/contents/made>



Appendices

Appendix 1: UKHab Habitat Map



UK Hab Map



Address: Land adjacent to 33
Arthur Street, Golcar,
Huddersfield, HD7 4DF
Job number: 20743/AWe

Key

 Red Line Boundary

Habitats

 Building

 Developed land; sealed
surface

 Modified grassland



Appendix 2: Photographic Evidence



Photo 1: The site viewed from the east.



Photo 2: The site viewed from the west.



Photo 3: Garage present in the south west of the site which will be demolished.



Photo 4: Rear view of the garage



Appendix 3: Bat Survey Calendar

Figure 1: Survey timings calendar (taken from BCT: Bat surveys for professional Ecologists, Good Practice Guidelines; 3rd Edition).

Survey type	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Preliminary ecological appraisal - fieldwork												
Preliminary roost assessment - structures ^a												
Emergence/re-entry survey for maternity or summer roosts ^b												
Emergence/re-entry survey for transitional roosts ^b												
Emergence survey for mating roosts ^b												
Hibernation survey - structures ^a												
Preliminary ground level roost assessment - trees ^d												
Potential roost feature (PRF) inspection survey - trees												
Ground level bat activity survey - transects and automated/static												
Pre-, during and post-hibernation - automated/static bat activity survey												
Swarming survey												
Back-tracking survey												
Trapping survey ^e												
Radio tagging and tracking survey ^e												

= optimal period
 = sub-optimal period

= weather or location dependent (i.e. may not be suitable due to spring and autumn conditions in any one year or in more northerly latitudes). Note that October surveys are not acceptable in Scotland.

^a Not including trees



Appendix 4: Glossary

Activity surveys - are used to assess the level of bat activity at a site. This can be done either by using equipment such as an AnaBat device, or manually walking around a site with a heterodyne detector, documenting the number of bat passes and interceptions.

Dawn surveys - begin around 2 hours before and up to sunrise when bats are returning to their roosts from foraging, and swarming behaviour can be seen close to roost entrances.

Dusk surveys - begin around 30 minutes before sunset and up to 2 hours afterwards. These are done in order to see bats emerging from their roost sites at night.

Echolocation – is a system similar to sonar that allows bats to travel and forage even in total darkness. Bats make a call and then listen to the returning echoes in order to build up a map of their surrounding area. This allows bats to gauge the identity and distance of an object by how long the echo takes to return to them.

Habitat - the ecological or environmental area that is inhabited by a particular species of animal, plant or other type of organism.

Hibernation - is a state of inactivity and metabolic depression characterized by lower body temperature, slower breathing, and lower metabolic rate. Hibernating animals conserve energy, especially during winter when food is short, tapping energy reserves, i.e. body fat, at a slow rate.

Hibernacula - typically consist of underground sites, such as caves and cellars, which remain relatively cold and humid. Bats will hibernate to conserve energy over the winter months when falling temperatures cause a drop in the abundance of insects. These will typically be colonised around November to around March.

Insectivorous – is when an organism feeds exclusively on insects.

Nocturnal - a behaviour characterized by being active during the night and sleeping during the day.

Maternity roosts – colonised around late May early June and consist of mature females and their young. These roosts need to be warm and quiet, and are used up until around August, with females typically leaving first and then the young.

Mating roosts – mating begins around late October to November. Males of most species use special mating calls to attract females. These can include purrs, clicks and buzzing.

Roost – a site where bats live during the day, rear young and hibernate. These can be in man made structures, such as buildings, bridges, tunnels, cellars and mines, or natural features such as mature trees and caves.

Roosts in buildings – many types of buildings will be used by bats. The most likely sites are agricultural buildings (e.g. farmhouses and barns), buildings with exposed wooden beams (greater than 20cm thick), buildings with weather boarding and/or hanging tiles, and buildings close to woodland and/or water.

Roosts in trees – these are typically in mature trees with deep sheltered cracks, under loose sections of bark, or in woodpecker holes.

Species – a group of organisms in which all members can interbreed and produce viable offspring.

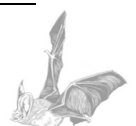
Summer roosts (non-breeding) - these are generally occupied by groups of males and immature females during the summer, and are usually only occupied for a short period before the group moves to another location.

Swarming – a behaviour exhibited by bats returning to their roost sites at dawn. Bats can be seen repeatedly flying to and from the roost entrance, making it much easier for consultants to identify where roosts are on a building or structure.



Temporary/Transitory roosts – These are used after hibernation (March – April) before mature females disperse to maternity roosts and male/immature females colonise summer (non-breeding) roosts. Similarly, temporary roosts form before hibernation (August -October).

Underground Roosts – these are typically used during the winter and can be mines, caves, tunnels or cellars.



Appendix 5: Protected Species Information

The following species are fully protected in UK law, under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019:

- All UK bat species
- Dormouse
- Great Crested Newt and Natterjack Toad
- Large Blue Butterfly
- Otter
- Pine Marten
- Polecat
- Scottish Wild Cat
- Smooth Snake and Sand Lizard
- Various aquatic and plant species

These species are afforded the highest protection in the UK. Under this protection it is an offence to; deliberately capture, injure or kill any wild animal of a European protected species; deliberately disturb wild animal of any such species; deliberately take or destroy the eggs of such an animal, or damage or destroy a breeding site or resting place of such an animal.

In addition to this it is an offence to be in possession of, or to control, transport, sell or exchange, or to offer for sale or exchange, a European Protected species.

The following species are protected under UK law, such as the Wildlife and Countryside Act 1981 (as amended):

- Badger
- Nesting birds
- Red Squirrel
- Reptiles (Adder, Common lizard, Grass snake, Slow worm)
- Water Vole
- White Clawed Crayfish
- Various bird species i.e. Barn Owl
- Various plant species

Therefore under this protection it is an offence to; kill, injure or take any of the above species.

Nesting birds are only protected during the breeding season whilst on their nest. In addition to the adults being protected, the eggs, young and nest itself whilst in use are protected.

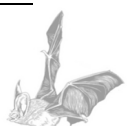
The Wildlife and Countryside Act 1981 also contains measures to prevent the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales (e.g. Japanese Knotweed and Himalayan Balsam).



Badgers are protected under The Protection of Badgers Act 1992. Under this legislation it is an offence to; take, injure, kill, or cruelly ill-treat a badger; interfere with a badger sett; sell or possess a live badger; or mark or ring a badger.

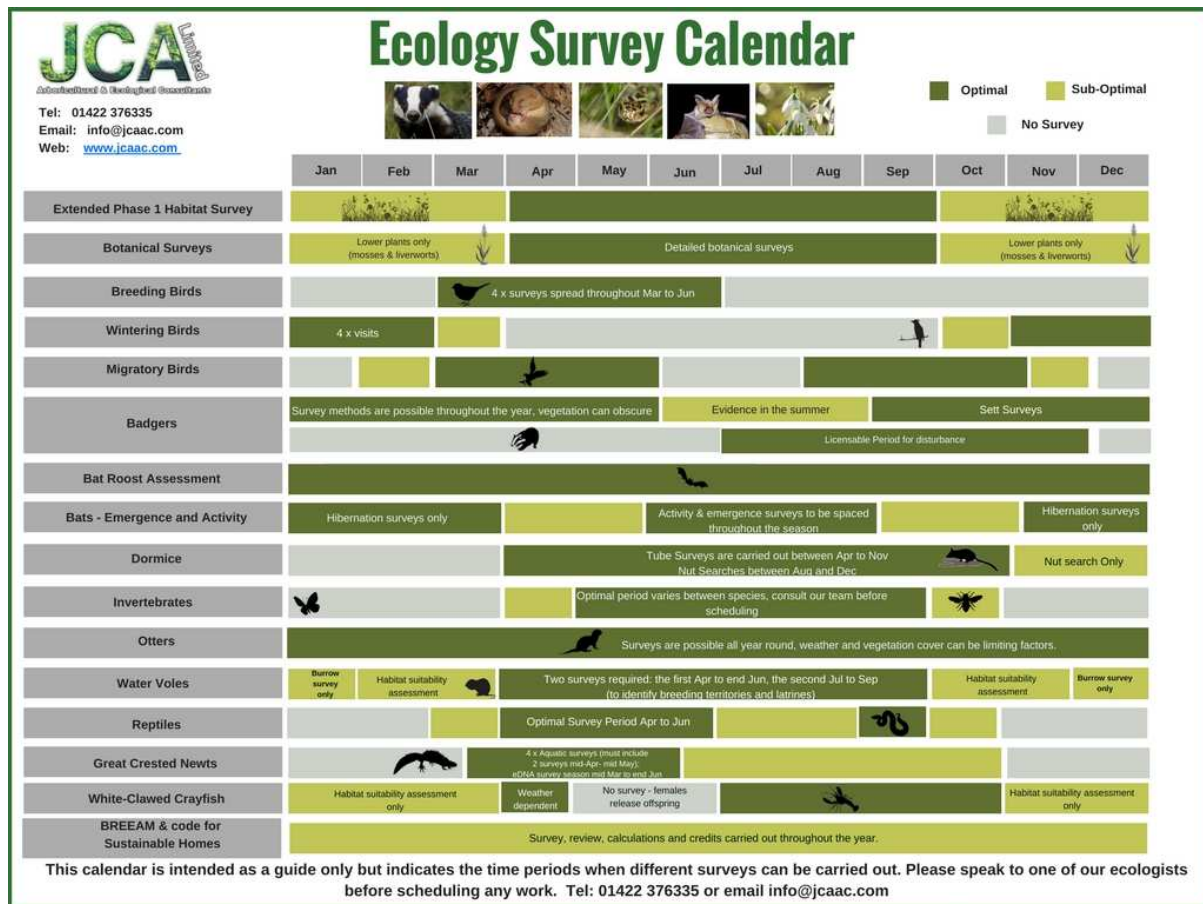
The following habitat types are protected under UK Law:

- Habitats that are used by protected species
- Habitats that fall within designated sites
- Hedgerows
- Individual trees/woods can be protected under Tree Preservation Orders



Appendix 6: Survey Calendar

Figure 2: Survey calendar for protected species and habitat surveys.



Appendix 7: Author Qualifications

Adam West, Principal Ecologist

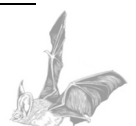
BSc (Hons) Animal and Wildlife Management.

Adam joined JCA to lead the expanding ecology department. Having returned to education as a mature student, Adam studied Countryside Management for two years before undertaking a Bachelor's degree, for which he was awarded First Class Honours. Adam has many years' experience in ecological consultancy, working on projects ranging from individual planning applications to national infrastructure projects. Adam holds a Natural England Level 1 great crested newt survey class licence and a Natural England Level 2 bat survey class licence.

James Foster, Assistant Ecologist

BSc (Hons) Biology.

James gained his undergraduate degree in biology in 2012 from University of Leeds. James has plenty of experience in ecology, having worked countless projects of different scales all over the north and midlands. James has 9 years of experience surveying anything from reptiles to hedgerows and holds a Great crested newt licence level 1 and is working towards his bat licence and barn owl licence.



The Information and advice which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and bona fide opinions.

Signed

Redacted

.....
Adam West *ACIEEM*

30/05/23

Reviewed by

Redacted

.....
James Foster

30/05/23



For and on behalf of **JCA Ltd**

Registered Office:

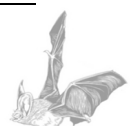
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ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes
- Butterfly & Insect Surveys

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)
- Planting Schemes
- Monitoring of bird or bat boxes.

ARBORICULTURAL SERVICES

Guidance for Architects & Developers

- British Standard 5837 Surveys
- Arboricultural Implications Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control



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