

**PRELIMINARY ECOLOGICAL
APPRAISAL**

**at
Land adjacent 962 Edenfield
Road
Rochdale
Lancashire
OL12 7TN**

**Client:
Jackson, Jackson & Sons Limited**

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**Date of Report:
24/10/2023**



Quality Assurance

Version	Desktop Survey Completed:		Site Surveyed:		Report Completed:		Reviewed:	
	Date	Name	Date	Name	Date	Name	Date	Name
Planning	23/10/23	James Foster	19/10/23	James Foster	24/10/23	James Foster	25/10/23	Eleanor Clark
							06/11/23	Adam West

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	
Bio-security Procedure Completed	
Lone Worker Procedure Completed	



Summary

JCA Limited has been commissioned by **Jackson, Jackson & Sons Limited** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Land adjacent 962 Edenfield Road, Norden**. The site is located at Ordnance Survey (OS) National Grid Reference **SD 85160 14825** with nearby postcode **OL12 7TR**.

A desk study and field survey were undertaken 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	None	No	No
Non-statutorily protected	Moderate	Doctor Dam & Holt Wood SBI, Old House & Mill Croft Brook SBI and Fordoe & Naden Woods & Quarry SBI are non-statutory sites within 500m of the site. Adverse impacts could occur as a result of direct effects from the development.	No	Consult Rochdale Council regarding potential impacts and necessary mitigation.
S41 habitat	None	None	No	No
Other habitats	None	None	No	No
Protected species				
Flora (WCA Sch 8, CHSR Sch 5)	None	No	No	No
Invertebrates	Moderate	Removal of the habitats present on site which contains ragwort and willowherb could adversely impact cinnabar moths, small phoenix moths and a range of generalist invertebrates, as well as species which feed on invertebrates.	No	Native scrub and wildflower planting, inclusive of ragwort and willowherb is recommended to compensate for any loss. A Biodiversity Enhancement Plan (BEP) is recommended.
White-clawed crayfish	None	No	No	No
Fish	None	No	No	No
Great crested newt	Moderate	Removal of vegetation as a result of works has the	Yes – a HSI survey of the two ponds within 500m is	Dependent on the results of the HSI survey.



		potential to disturb, injure or kill great crested newts, resulting in a breach of legislation.	recommended. An eDNA survey may be required following the results of the HSI survey.	A precautionary approach should be adopted to include an Ecological Clerk of Works (ECOW) being present. Any vegetation to be removed should be hand searched by a suitably qualified and experienced ecologist prior to removal, to ensure no great crested newts are currently resting in these habitats.
Reptiles	Moderate	Removal of vegetation and rockpiles as a result of works has the potential to disturb, injure or kill reptiles, resulting in a breach of legislation.	No	A precautionary approach should be adopted to include an Ecological Clerk of Works (ECOW) being present. Vegetation and rockpiles to be removed should be hand searched by a suitably qualified and experienced ecologist prior to removal, to ensure no reptiles are currently resting in the vegetation or rockpile.
Birds	Moderate	Potential breach of legislation from destruction of nests or disturbance of nesting birds.	Dependent on timing of works.	A preconstruction site walkover is required prior to any vegetation removal commencing. If removal occurs outside of the breeding bird period (1st February until 31st August) and birds are found, the removal must



				cease immediately, and a suitably competent ecologist contacted.
Bats	Low	The site has potential for commuting and foraging bats. Any disturbance to bats results in a breach of legislation. Inappropriate, obtrusive lighting from the development would affect the ability of bats to forage and commute onsite.	No	For artificial lighting within the development, guidance from Institute of Lighting Professionals (08/23) should be followed.
Badgers	Low	Potential breach of legislation from killing and injury of individual badgers.	No	Any excavation of the site should be covered overnight, or if not possible, a safe exit route provided for badgers to leave the site, such as an artificial ramp to aid their exit.
Otters	None	No	No	No
Water voles	None	No	No	No
Beaver	None	No	No	No
Other Species e.g. S41 species	Moderate	The habitats on site provide favourable habitat for hedgehogs and brown hare. The removal of these habitats could disturb, injure, or kill hedgehogs and brown hare. Hedgehogs are legally protected during their hibernation period and while raising their young. Any disturbance to nesting	No	A precautionary approach should be adopted to include an Ecological Clerk of Works (ECoW) being present. Habitats to be removed should be hand searched by a suitably qualified and experienced ecologist prior to removal, to ensure no hedgehogs or brown hare are currently nesting



		or hibernating hedgehogs would result in a breach of legislation.		or hibernating in vegetation.
Invasive Species (WCA Sch 9) Injurious Weeds (Weeds Act, 1959)				
Himalayan balsam and wall cotoneaster.	Moderate	The spread of a Schedule 9 species due to inappropriate management and handling, resulting in the unwanted spread to the wider environment, is in breach of legislation.	No	A method statement for the safe management and removal of these species is required.
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 October 2023, JCA Limited was instructed by **Jackson, Jackson & Sons Limited** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Land adjacent 962 Edenfield Road**, 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 **SD 85160 14825**, with nearby postcode **OL12 7TN**. The site is bordered to the north by arable fields to the northeast by woodland, Greenbooth Reservoir, Naden Brook and Doctor Dam, to the east and southeast by residential properties, to the west by arable fields, woodland and a pond and to the south by residential properties and arable fields.

1.2.2 The scheme is the construction of a single residential property.

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 – a 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 UK Hab Habitat Map (**Appendix 1**). This report and the maps are supported by photographs (**Appendix 3**) and information regarding current legislation (**Appendix 6**).



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 Greater Manchester Ecology Unit (GMEU), the local environmental records centre for Greater Manchester, 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 Greater Manchester Biodiversity Action Plan (multiple contributors, 2009) to assess national and regional habitat and species status.

2.2 Field Survey

2.2.1 A UK Hab survey of the site was conducted on 19/10/2023. 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 2, UKHab, 2023). 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 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 19/10/2023. This could be a constraint, but the site was mostly bare ground and the plants present on site were still in growth.
- 2.3.3 The weather on the day of the survey was wet, with a calm breeze, mild temperatures and cloudy with sunny intervals. The weather in the days leading up to the survey were similar but with heavy showers. This can be a constraint to the survey, as any field signs such as hair, droppings and tracks can be washed away. Therefore, the precautionary principle will be applied.
- 2.3.4 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 or nationally designated sites within 2km of the site, The site however is in the Site of Special Scientific Interest (SSSI) Impact Risk Zone of Rochdale Canal SSSI, but due to the small scale and distance of the proposed development consultation with Natural England is not required.

3.2 Non-statutory Designated Sites

3.2.1 Records received from GMEU revealed six 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 GMEU.

Site Name	Distance (m) from Site	Reasons for Designation
Doctor Dam & Holt Wood SBI	275 east	Ancient woodland, with wetland areas and willow carr. Supports bluebells, Devil's bit scabious, kingfisher and large mammals.
Old House & Mill Croft Brook SBI	285 southwest	Ancient woodland, which supports, bluebells, Solomon's seal and large mammals.
Fordoe & Naden Woods & Quarry SBI	500 north	UK BAP habitat: Broad leaved deciduous woodland.
Naden Brook SBI	1350 south	Freshwater habitat supporting a good population of invertebrates and macrophytes.
Ashworth Valley SBI	1570 southwest	Ancient and semi-natural broadleaved woodland with lowland fens, purple moor grass and rush pasture and lowland meadows.
Knowl Moor SBI	1790 north	Blanket bog habitat.
Key: SBI: Site of Biological Importance		

3.3 Section 41 of the NERC Act 2006 Priority Habitat Inventory



3.3.1 The MAGIC website revealed no priority habitats within or 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 application within 2km of the site.

3.4.2 Records of Protected and Notable Species

3.4.3 Flora

No records of protected or notable flora species were returned by GMEU.

3.4.4 Invertebrates (including white-clawed crayfish)

The following records were received from GMEU:

Table 3: Invertebrate species Records Received from GMEU.

Scientific Name	Common Name	Designation	Latest Date	Number of records	Distance from Site (m)
<i>Mniotype adusta</i>	Dark brocade moth	S41 UKBAP	2017	1	1280
<i>Helotropha leucostigma</i>	Crescent moth	S41 UKBAP	2015	1	1410
<i>Chiasmia clathrata</i>	Latticed heath moth	S41 UKBAP	2018	1	1180
<i>Coenonympha pamphilus</i>	Small heath butterfly	S41 UKBAP	2021	110	48
<i>Ecliptopera silaceata</i>	Small phoenix moth	S41 UKBAP	2017	2	1280
<i>Lasiommata megera</i>	Wall butterfly	S41 UKBAP	2022	280	50
<i>Melanchra persicariae</i>	Dot moth	S41 UKBAP	2017	1	1280
<i>Satyrrium w-album</i>	White letter hairstreak butterfly	WCA S41 UKBAP	2021	16	295



<i>Spilosoma lubricipeda</i>	White ermine moth	S41 UKBAP	2017	1	1280
<i>Spilosoma luteum</i>	Buff ermine moth	S41 UKBAP	2017	2	1280
<i>Tyria jacobaeae</i>	Cinnabar moth	S41 UKBAP	2020	2	809
<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot carpet moth	S41 UKBAP	2017	1	1280

Key:

WCA: Schedule 5 of the Wildlife & Countryside Act 1981 (as amended)

S41: Section 41 of the NERC Act 2006

UKBAP: UK Biodiversity Action Plan

3.4.5 Fish

No records of protected or notable fish species were returned by GMEU.

3.4.6 Amphibians

Three records of common toad *Bufo bufo* a Schedule 5 WCA (as amended), S41 and UKBAP designated species were returned by GMEU. The most recent record was from 2019 and the closest record was 1410m north of the site.

3.4.7 Reptiles

One record of viviparous lizard *Zootoca vivipara* a Schedule 5 WCA (as amended), S41 and UKBAP designated species was returned by GMEU. The record was from 2021 and situated 940m east of the site.

3.4.8 Birds

The following records were received from GMEU:

Table 4: Bird Records Received from GMEU.

Scientific name	Common name	Designation	Latest Date	Number of records	Distance from site (m)
<i>Alauda arvensis</i>	Skylark	S41 UKBAP	2021	13	815
<i>Alcedo atthis</i>	Kingfisher	WCA	2016	2	450
<i>Ardea cinerea</i>	Grey heron (Heronry)	WCA	2015	1	770
<i>Carduelis cabaret</i>	Lesser redpoll	S41 UKBAP	2021	28	840



<i>Charadrius dubius</i>	Little ringed plover	WCA	2021	6	235
<i>Cuculus canorus</i>	Common cuckoo	S41 UKBAP	2020	3	990
<i>Emberiza schoeniclus</i>	Reed bunting	S41 UKBAP	2021	32	845
<i>Falco peregrinus</i>	Peregrine	WCA	2021	10	770
<i>Falco subbuteo</i>	Hobby	WCA	2021	1	940
<i>Larus argentatus</i>	Herring gull	S41 UKBAP	2020	2	250
<i>Linaria cannabina</i>	Linnit	S41 UKBAP	2021	8	1035
<i>Locustella naevia</i>	Grasshopper warbler	S41 UKBAP	2019	4	1660
<i>Passer domesticus</i>	House sparrow	S41 UKBAP	2021	182	140
<i>Perdix perdix</i>	Grey partridge	S41 UKBAP	2021	1	980
<i>Phylloscopus sibilatrix</i>	Wood warbler	S41 UKBAP	2020	3	340
<i>Melanitta nigra</i>	Common scoter	WCA S41 UKBAP	2020	1	670
<i>Muscicapa striata</i>	Spotted flycatcher	S41 UKBAP	2021	4	675
<i>Numenius arquata</i>	Curlew	S41 UKBAP	2021	23	500
<i>Prunella modularis</i>	Dunnock	S41 UKBAP	2021	231	375
<i>Pyrrhula pyrrhula</i>	Bullfinch	S41 UKBAP	2021	122	295
<i>Sturnus vulgaris</i>	Starling	S41 UKBAP	2021	213	140
<i>Turdus philomelos</i>	Song thrush	S41 UKBAP	2021	82	140
<i>Turdus torquatus</i>	Ring ouzel	S41 UKBAP	2016	1	1870
<i>Tyto alba</i>	Barn owl	WCA	2021	30	680
<i>Vanellus vanellus</i>	Lapwing	S41 UKBAP	2021	25	500

Key:

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

S41: Section 41 of the NERC Act 2006

UKBAP: UK Biodiversity Action Plan

3.4.9 Bats

The following records were received from GMEU:

Table 5: Bat Records Received from GMEU.



Scientific Name	Common Name	Designation	Latest Date	Number of records	Distance from Site (m)
<i>Pipistrellus</i> sp.	Pipistrelle bat species	EPS WCA GMBAP	2022	121	350
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	EPS WCA GMBAP	2022	8	750
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	EPS WCA S41 UKBAP GMBAP	2016	2	840
<i>Vespertilionidae</i> sp.	Unidentified bat species	EPS WCA GMBAP	2012	1	1230

Key:

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

WCA: Schedule 5 of the Wildlife & Countryside Act 1981 (as amended)

S41: Section 41 of the NERC Act 2006

UKBAP: UK Biodiversity Action Plan

GMBAP: Greater Manchester Biodiversity Action Plan

3.4.10 Bat Roosts

The following records were received from GMEU:

Table 6: Bat Records Received from GMEU.

Scientific Name	Common Name	Roost type	Date	Distance from Site (m)
<i>Plecotus auritus</i>	Brown long-eared bat	Unspecified	21/01/2003	1980
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Hibernation roost	30/11/2022	1750
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Day roost: 1 individual	01/05/2019	133
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Unspecified	01/10/2014	270
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Tree roost: 41 individuals	28/08/2019	1465



<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Day roost: 1 individual	17/06/2019	810
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Maternity roost 1 baby found	07/07/2021	1595
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Roost: 78 individuals	30/06/2013	1600
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Maternity roost: 153 individuals	11/07/2016	1615
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Maternity roost: 1 baby found	07/07/2021	1610
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Unspecified	24/05/2011	1430
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Roost: 56 individuals	18/07/2005	470
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Roost: 70 individuals	10/06/2003	1890
<i>Pipistrellus</i> sp.	Pipistrelle bat species	Maternity roost: 178 individuals	30/06/2013	1600

3.4.11 Badgers

76 records of badger were returned by WYES, the most recent record is from 2022.

3.4.12 Otters

No records of otter were returned by GMEU.

3.4.13 Water Voles

No records of water vole were returned by GMEU.

3.4.14 Beaver

No records of beaver were returned by GMEU.

3.4.15 Other Notable Species

The following records were received from GMEU:

Table 7: Other Notable Species Records Received from GMEU.



Scientific Name	Common Name	Designation	Latest Date	Number of records	Distance from Site (m)
<i>Erinaceus europaeus</i>	West European hedgehog	WCA S41 UKBAP	2021	54	1020
<i>Lepus europaeus</i>	Brown hare	S41 UKBAP GMBAP	2020	12	810

Key:

WCA: Schedule 6 of the Wildlife & Countryside Act 1981 (as amended)

S41: Section 41 of the NERC Act 2006

UKBAP: UK Biodiversity Action Plan

GMBAP: Greater Manchester Biodiversity Action Plan

3.4.16 Invasive Species

No records of Schedule 9 WCA (as amended) designated invasive species were returned by GMEU.



4. Field Survey Results

4.1 Habitats

4.1.1 g4 – Modified grassland

10 – Scattered scrub, 14 – Scattered rushes, 202 – Young trees – self-set, 524 – Invasive non-native species

There is a section of modified grassland in the centre of the site which is bordered on all sides by a 0.5m wall (**Appendix 1 & Appendix 3, photo 1 & 2**). Species identified here include common bent *Agrostis capillaris*, rosebay willowherb *Chamerion angustifolium*, hawthorn *Crataegus monogyna*, hairy willowherb *Epilobium hirsutum*, strawberry *Fragaria × ananassa*, Himalayan balsam *Impatiens glandulifera*, soft rush *Juncus effusus*, perennial ryegrass *Lolium perenne*, ribwort plantain *Plantago lanceolata*, juniper haircap *Polytrichum juniperinum*, meadow buttercup *Ranunculus acris*, bramble *Rubus fruticosus*, broad-leaved dock *Rumex obtusifolius*, goat willow *Salix caprea*, ragwort *Senecio jacobaea*, white clover *Trifolium repens* and stinging nettle *Urtica dioica*.

4.1.2 u1c – Developed land; unsealed surface

81 – Ruderal/ephemeral, 114 – Dry-stone wall, 510 – Bare ground, 517 – Recent management, 524 – Invasive non-native species, 532 – Scattered grass

The site has been recently cleared down to the topsoil, leaving most of the site as bare ground with plant species taking root. There is a drystone wall that borders the site to the north, east and south with tall ruderal/ephemeral plants growing at the base and out of the wall itself. There is also a rockpile towards the northeastern corner of the site. (**Appendix 1 & Appendix 3, photo 1, 3, 4, 5 & 6**). Species identified here include sycamore *Acer pseudoplatanus*, Hart's tongue fern *Asplenium scolopendrium*, Serbian bell flower *Campanula poscharskyana*, wall cotoneaster *Cotoneaster horizontalis* (**Appendix 1, target note 1 & Appendix 3, photo 7**), cock's-foot *Dactylus glomerata*, fringed willowherb *Epilobium ciliatum*, cleavers *Galium aparine*, shining crane's-bill *Geranium lucidum*, ivy *Hedera helix*, Himalayan balsam *Impatiens glandulifera*, perennial ryegrass *Lolium perenne*, bracken *Pteridium aquilinum*, scarlet firethorn *Pyracantha coccinea*, meadow buttercup *Ranunculus acris*, bramble *Rubus fruticosus*, broad-leaved dock *Rumex obtusifolius* and stinging nettle *Urtica dioica*.



4.1.3 h2a6 – Other native hedgerows

81 – Ruderal/ephemeral, 114 – Dry-stone wall, 524 – Invasive non-native species

There are two hedgerows on site; one runs along the southern boundary alongside a drystone wall, the other is more overgrown and runs along a section of the eastern boundary, both contained similar species and were hawthorn dominant (**Appendix 1 & Appendix 3, photo 2 & 4**). Species identified here include drooping sedge *Carex pendula*, creeping thistle *Cirsium arvense*, hawthorn *Crataegus monogyna*, hairy willowherb *Epilobium hirsutum*, shining crane's-bill *Geranium lucidum*, herb Robert *Geranium robertianum*, ivy *Hedera helix*, holly *Ilex aquifolium*, Himalayan balsam *Impatiens glandulifera*, perennial ryegrass *Lolium perenne*, ribwort plantain *Plantago lanceolata*, meadow buttercup *Ranunculus acris*, bramble *Rubus fruticosus*, pink campion *Silene dioica* and stinging nettle *Urtica dioica*.

4.2 Protected and Notable Species

4.2.1 Flora

No records of protected or notable flora species were returned by GMEU. No protected or notable flora species were identified on site. As such, flora will not be mentioned further in this report.

4.2.2 Invertebrates (including white-clawed crayfish)

12 species of protected and notable invertebrates within 2km and three within 500m were returned by GMEU (including records of white letter hairstreak which is a WCA (as amended) designated species). There is potentially suitable habitat to support resting and foraging invertebrates in the hedgerow, dry-stone wall, rockpile, grassland and tall ruderal/ephemeral habitats.

4.2.3 Fish

No records of protected or notable fish species were returned by GMEU. No potentially suitable habitat was identified on site. As such, fish will not be mentioned further in this report.

4.2.4 Amphibians



Three records of common toad were returned by GMEU. There is potentially suitable habitat on site to support resting/hibernating and foraging amphibian species in the hedgerow, dry-stone wall, rockpile, grassland and tall ruderal/ephemeral habitats. There is potentially suitable habitat for breeding amphibians in the further vicinity with direct habitat connectivity to the site.

4.2.5 Reptiles

One record of viviparous lizard *Zootoca vivipara* was returned by GMEU. There is potentially suitable habitat on site to support resting/hibernating, basking and foraging reptile species in the hedgerow, rockpile, dry-stone wall, grassland, tall ruderal/ephemeral and the bare ground habitats.

4.2.6 Birds

25 species of protected and notable birds within 2km and 11 within 500m were returned by GMEU (including records of WCA (as amended) designated species). No protected or notable bird species were identified on site. There is potentially suitable habitat on site to support nesting birds. The hedgerows offer nesting opportunities for a range of bird species.

4.2.7 Bats

Four species of bat within 2km and three within 500m and 14 records of bat roosts were returned by GMEU. No potentially suitable habitat for roosting bats was identified on site. However, there is potential suitable habitat to support commuting and foraging bats on site and potential for roosting bats adjacent to site.

4.2.8 Badgers

76 records of badger were returned by WYES. No field signs of badger or of badger setts were identified on site. There is however potentially suitable habitat on site to support commuting and foraging badgers in the hedgerows, grassland and bare ground habitats.

4.2.9 Otters

No records of otter were returned by GMEU. No potentially suitable habitat was identified on site. As such, otters will not be mentioned further in this report.



4.2.10 Water Voles

No records of water vole were returned by GMEU. No potentially suitable habitat was identified on site. As such, water voles will not be mentioned further in this report.

4.2.11 Beaver

No records of beaver were returned by GMEU. No potentially suitable habitat was identified on site. As such, beavers will not be mentioned further in this report.

4.2.12 Other Notable Species

54 records of hedgehog and 12 records of brown hare were returned by GMEU. There is potentially suitable habitat on site to support resting/hibernating, commuting and foraging hedgehogs and commuting and foraging brown hares. The hedgerow, grassland and bare ground habitat has the potential to support resting/hibernating, commuting and foraging hedgehogs. The grassland and bare ground habitat have the potential to support commuting and foraging brown hares.

4.2.13 Invasive Species

No records of Schedule 9 (WCA, as amended) designated species were returned by GMEU. However, both Himalayan balsam and wall cotoneaster (**Appendix 1, target note 1 & Appendix 3, photo 6 & 7**) were identified on site. The wall cotoneaster was found on the dry-stone wall on the southeastern corner of the site. The Himalayan balsam was scattered throughout the site with the highest concentrations to the west of the site.



5. Assessment

5.1 Designated Sites

5.1.1 Statutory designated sites

The MAGIC website revealed no internationally or nationally designated sites within 2km of the site, The site however is in the SSSI Impact Risk Zone of Rochdale Canal SSSI, but due to the small scale of the proposed development consultation with Natural England is not required.

5.1.2 Non-statutory designated sites

The records received by GMEU revealed six non-statutory sites within 2km of the site and three within 500m. Doctor Dam & Holt Wood SBI, Old House & Mill Croft Brook SBI and Fordoe & Naden Woods & Quarry SBI are all within 500m of the site (Doctor Dam & Holt Wood SBI and Old House & Mill Croft Brook SBI are within 290m of the site) and could be subject to indirect detrimental impacts from the construction of the proposed development. Consultation with Rochdale Council is recommended.

5.2 Habitats

5.2.1 The most valuable habitats for biodiversity within the development site boundary are the hedgerows, the grasslands and the dry-stone walls. The proposed works will impact the grassland and bare ground habitats by removal.

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. The flora recorded in these habitats is considered to be locally common and widespread and they do not fall into any of the NERC S41 or Local BAP Priority Habitat descriptions.

5.3 Protected and Notable Species

5.3.1 Invertebrates (including white-clawed crayfish)

12 species of protected and notable invertebrates within 2km and three within 500m were returned by GMEU (including records of white letter hairstreak which is a WCA (as amended) designated species). There is



suitable habitat to support resting and foraging invertebrate species. Small phoenix, and cinnabar moth have specific food plants that were found on site. Willowherbs (the foodplants for small phoenix) and ragwort (the sole food plant for cinnabar moth caterpillars) were found on site. The sole food plant for white letter hairstreak (elm) was not found on site. The proposed development does involve the removal of the habitat in which ragwort and willowherbs were identified. Further recommendations are therefore provided in **Section 6.2.1**.

5.3.2 Amphibians

Three records of common toad were returned by GMEU. There is potentially suitable habitat on site and in the further vicinity. The dry-stone wall, rockpile and hedgerows that run along the boundary has the potential to support resting/hibernating amphibians and the grassland and bare ground offers commuting opportunities for amphibians. The woodlands and two ponds within 400m of the site also offers foraging and breeding opportunities and there is good habitat connectivity to the site. Under the current development plans, the majority of the existing habitats on site are to be removed which could negatively impact local amphibian populations through fragmentation and destruction of suitable habitat. Further recommendations are therefore provided in **Section 6.2.2**.

5.3.3 Reptiles

One record of viviparous lizard was returned by WYES. There is potentially suitable habitat to support reptile species on site and in the further vicinity. The dry-stone wall, rockpile and hedgerows that runs along the boundary has the potential to support resting/hibernating reptiles and the grassland and bare ground offers commuting and basking opportunities for reptiles. The woodlands, grasslands and moorlands in the further vicinity has the potential to support commuting, foraging, basking and resting/hibernating reptile species, and there is good habitat connectivity to the site. Under the current development plans, the majority of the existing habitats are to be removed which could negatively impact local reptile populations through fragmentation and destruction of suitable habitat. Further recommendations are therefore provided in **Section 6.2.3**.

5.3.4 Birds

25 species of protected and notable birds within 2km and 11 within 500m were returned by GMEU (including records of WCA (as amended)



designated species). There is potentially suitable habitat to support nesting birds on site. The hedgerows offer nesting opportunities for a range of bird species. Under the current development plans, the majority of the existing habitats are to be removed which could negatively impact nesting birds and reduce nesting opportunities for the local populations of bird species. Further recommendations are therefore provided in **Section 6.2.4.**

5.3.5 Bats

Four species of bat within 2km and three within 500m and 14 records of bat roosts were returned by GMEU. No potential roosting features (PRFs) were found on site. There is, however, potentially suitable habitat to support commuting and foraging bats. The grassland, and hedgerows on the boundary of site offers foraging and commuting opportunities. The current development plans involve the removal of the majority of existing habitats on site, and therefore reducing the opportunities for foraging and commuting bats. Furthermore, the scheme will likely result in increased levels of lighting. All bat species are light adverse, and therefore, this will impact the availability of 'dark corridors' which are used by bats as navigation tools. Therefore, without the appropriate mitigation measures, the development has the potential to disturb the local bat population, including foraging and commuting bats. Further recommendations are therefore provided in **Section 6.2.5.**

5.3.6 Badgers

76 records of badger were returned by WYES. No field signs of badger or badger setts were identified on site. There is potentially suitable habitat to support badgers on site and in the further vicinity. The grassland offers commuting and foraging opportunities. The woodland in the further vicinity has the potential for badger setts. Under the current development plans, the majority of the existing habitats are to be removed which could negatively impact local badger populations through fragmentation and destruction of suitable habitat. Further recommendations are therefore provided in **Section 6.2.6.**

5.3.7 Other Notable Species

54 records of hedgehog and 12 records of brown hare were returned by GMEU. There is potentially suitable habitat to support hedgehogs and hares onsite and in the further vicinity. The grassland offers commuting and foraging opportunities for both species and the hedgerows have the



potential to support resting/hibernating hedgehogs. The woodlands, grasslands and moorlands in the further vicinity has the potential to support breeding and resting brown hares and commuting, foraging and resting/hibernating hedgehogs and there is good habitat connectivity to the site. Under the current development plans, the majority of the existing habitats are to be removed which could negatively impact local hedgehog and hare populations through fragmentation and destruction of suitable habitat. Further recommendations are therefore provided in **Section 6.2.7**.

5.3.8 Invasive Species

No records of Schedule 9 (WCA, as amended) designated species were returned by GMEU. However, Himalayan balsam and wall cotoneaster were identified on site. Himalayan balsam was found scattered around the site and wall cotoneaster was found on the dry-stone wall boundary to the southeast of the site. The development has the potential to cause spread of these species. Further recommendations are therefore provided in **Section 6.2.8**.



6 Recommendations

6.1 Habitats

- 6.1.1 Consult with Rochdale Council about any possible adverse impacts on Doctor Dam & Holt Wood SBI, Old House & Mill Croft Brook SBI and Fordoe & Naden Woods & Quarry SBI.
- 6.1.2 It is recommended that a Tree Development Survey be conducted on site prior to any tree removal. This will further identify the trees on site, assess the impact of the proposed works on the trees present, and offer recommendations for tree preservation. Following this, trees should be retained but, if this is not feasible, the number of felled trees must be replaced with native species of local provenance on a three-for-one-basis.
- 6.1.3 The proposed works provide an opportunity to institute enhancement for biodiversity. Through native species planting and the addition of faunal boxes. A landscaping plan should be devised which incorporates, as far as practicable, native species with known benefits to wildlife common in the area and should be included in a **Biodiversity Enhancement Plan**.

6.2 Protected and Notable Species

6.2.1 Invertebrates (including white-clawed crayfish)

Native scrub and wildflower planting (including ragwort and willowherb species) is recommended to mitigate for the loss of habitat and floral variety which will affect cinnabar moth and small phoenix moth and many other generalist invertebrate species on site and species which may forage on invertebrates such as bats and birds. Mitigation in the form of wildflower planting is recommended and should be included in a **Biodiversity Enhancement Plan**.

6.2.2 Amphibians

A **HSI** for the ponds within 500m of the site is recommended and further **eDNA** surveys may be required following the HSI. Mitigation may be required depending on the results of the eDNA survey.

It is also advised that a precautionary approach is adopted to include an Ecological Clerk of Works (**ECoW**) being present prior to works commencing. The **ECoW** would give a toolbox talk to onsite contractors



in order to relate applicable legislation, what signs to look for, and what to do should amphibians be encountered on site. Should an amphibian be found during site clearance, the advising ecologist would move it to a place of safety. If great crested newts are found on site, all works should halt immediately and advice from a competent and licenced ecologist must be sought.

6.2.3 Reptiles

It is advised that a precautionary approach is adopted to include an **ECoW** being present prior to works commencing. The **ECoW** would give a toolbox talk to onsite contractors in order to relate applicable legislation, what signs to look for, and what to do should reptiles be encountered on site. Should a reptile be found during site clearance, the advising ecologist would move it to a place of safety.

6.2.4 Birds

The vegetation onsite provides nesting potential for breeding bird species. In the UK, the key breeding period for birds is from 1st February until 31st August (depending on species and behaviour). A preconstruction site walkover no more than 24 hours prior to any vegetation removal is required. If removal occurs outside of the breeding bird period and birds are found, the removal must cease immediately, and a suitably competent ecologist contacted.

6.2.5 Bats

The hedgerows which border the site and the grassland on site offer potentially suitable habitat for commuting and foraging bats. These areas have no potential to support roosting bats therefore, no further surveys are required. The proposed scheme however has the potential to disturb commuting and foraging bats due to inappropriate lighting schemes.

All lighting must consider wildlife and be in accordance with the ILP Guidance GN01 and GN09 (2023). A key point is the avoidance of internal and external light spill. Where possible, lighting should be timed, or on sensors and avoid the hours between sunset and sunrise, when bats are out foraging.

Lighting Scheme: The development will likely increase lighting levels. All lighting must consider wildlife and be in accordance with the ILP Guidance GN01 and GN09. A key point is the avoidance of internal and external light spill. Where possible, lighting should be timed, or on



sensors and avoid the hours between sunset and sunrise, when bats are out foraging.

Artificial light is known to deter bats from entering lit areas. The development must incorporate a wildlife sensitive lighting scheme. In particular, obtrusive light is to be prevented from reaching potential foraging and commuting routes, both from new exterior and interior lights. Guidance published by the Institution of Lighting Professionals (2023) is to be followed when designing the lighting scheme for the development.

It is Important to avoid:

- Uniform levels of luminance across the site.
- Metal halide and florescent lighting.
- Upward tilting lighting that increases skyline luminance.
- Instead, the following should be installed:
- Dark buffer zones.
- Screening in the form of vegetation, fences, and structures.
- Appropriately designated darkened areas.
- Luminaries absent of UV elements.
- LED luminaries with a sharp cut-off, low intensity, and good rendition.
- A warm white spectrum (<2700 kelvin) to reduce blue light.
- Peak luminaire wavelength at a minimum of 550nm.
- Downward directional luminaires with upward light ratios of 0%.
- Lower light columns to limit light spill.
- Recessed internal light fixtures.
- Window glazing treatments or automated blind systems.

6.2.6 Badgers

To permit badger migration and safe passage of badgers through the site, any excavations created during the development stage must be covered



at night or appropriate escape routes implemented. Planks are to be placed at a 45-degree angle for badgers to escape safely.

6.2.7 Other Notable Species

The grassland on site provides suitable habitat for commuting and foraging brown hares and hedgehogs and the hedgerows provide potential to support resting/hibernating hedgehogs, which are legally protected during hibernation and while raising their young. Any removal of this habitat must take place under the supervision of an **ECoW**. Should any hedgehogs be found, the **ECoW** will remove them to a place of safety with habitat suitable for this species.

Any excavations created during the development stage must be covered at night or appropriate escape routes implemented. Planks are to be placed at a 45-degree angle for hedgehogs to escape safely.

6.2.8 Invasive Species

An Invasive Species Method Statement for the safe management and removal of the Himalayan balsam and wall cotoneaster present on site is to be conducted.



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.

UK Hab (2023) *The UK Habitat Classification System*. Available at: [http:// https://ukhab.org/](http://https://ukhab.org/)

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*. 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 gr squirrel
- Plants



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 (2023) Guidance Note 08/23: 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: Site Plan & UKHab Habitat Map

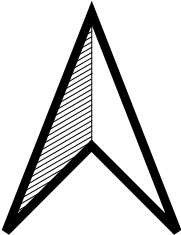




Site name & address
**Land Adjacent 962 Edenfield Road,
Norden, Rochdale, OL12 7TN**

Key

- Red Line Boundary
- Target Note
1 - Wall cotoneaster
- Habitats**
 - g4 – Modified grassland
 - 10 – Scattered scrub
 - 14 – Scattered rushes
 - 202 – Young trees – self-set
 - 524 – Invasive non-native species
 - u1c – Developed land; unsealed surface
 - 81 – Ruderal/ephemeral
 - 114 – Dry-stone wall
 - 510 – Bare ground
 - 517 – Recent management
 - 524 – Invasive non-native species
 - 532 – Scattered grass
 - h2a6 – Other native hedgerows
 - 81 - Ruderal/ephemeral
 - 114 - Dry-stone wall
 - 524 - Invasive non-native species



Site Land adjacent 962 Edenfield Road	Client Jackson, Jackson & Sons Ltd.
Project Preliminary Ecological Appraisel	Author JF
Plan ref 21386/JF	Revision 0

Appendix 2: Proposed Development Plan





Helen Jackson
Land adjacent to 962
Edenfield Road
Norden
Rochdale

Site Plan as Proposed
work to figured dimensions
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contract no	drawing no
3633	12
drawn by	date
	July 2022

revision
scale @ A3
1:250

Preliminary

Revisions:
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Appendix 3: Photographic Evidence



Photo 1: The modified grassland, the bare ground and the eastern dry-stone wall, viewed from the west.



Photo 2: The modified grassland and southern hedgerow, viewed from the north.



Photo 3: The bare ground, scattered grass and northern dry-stone wall, viewed from the southwest.



Photo 4: The bare ground, ruderal/ephemeral areas and western hedgerow, viewed from the southeast.



Photo 5: The rock pile and dry-stone wall on the northeast of the site, viewed from the southwest.

Photo 6: A view of the dry-stone wall on the southern boundary and Himalayan balsam, viewed from the north.



Photo 7: The wall cotoneaster found on site.



Appendix 4: 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 ^c 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 5: 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.

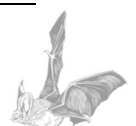
Summer roosts (non-breeding) - these are generally occupied by groups of males and immature females during the summer, and are usually only occupied for a short period before the group moves to another location.

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 6: 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.

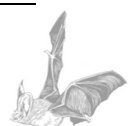
The Wildlife and Countryside Act 1981 also contains measures to prevent the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales (e.g. Japanese Knotweed and Himalayan Balsam).



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.

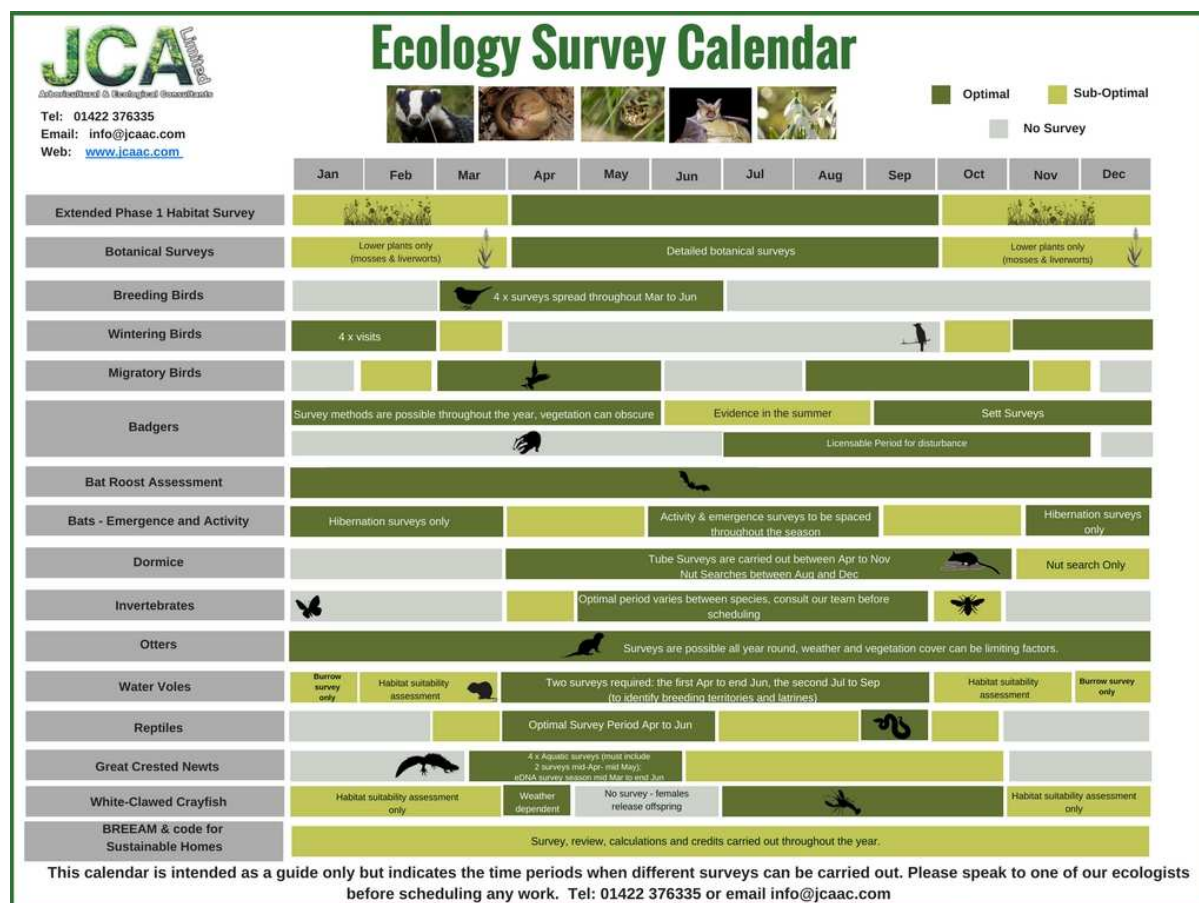
The following habitat types are protected under UK Law:

- 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 7: Survey Calendar

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



Appendix 8: 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.

Eleanor Clark, Assistant Ecologist

BSc (Hons) Biology, MSc Biodiversity, Ecology & Ecosystems.

Eleanor gained her undergraduate degree in biology in 2017 from the University of Portsmouth before going on to complete an MSc in Biodiversity, Ecology & Ecosystems at the University of York in 2019. Eleanor has 2 years of experience in ecological consultancy with experience surveying for a range of protected species. Eleanor holds a Natural England Level 1 great crested newt licence and is working towards her bat 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



.....
James Foster *BSc (Hons)*

24/10/2023

Reviewed by



.....
Eleanor Clark *BSc (Hons) MSc*

25/10/2023

Approved by



.....
Adam West *ACIEEM*

06/11/2023



For and on behalf of **JCA Ltd**

Registered Office:

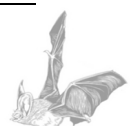
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ECOLOGICAL SERVICES

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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