ecology**report**

including Preliminary Ecological Appraisal

for

Land off Dalzell Street,
Moor Row,
Whitehaven,
Cumbria.
NY 0040 1477.

October 2026



bringing **e**cological **e**xcellence **t**o **l**ocal **e**nvironments

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ecological consultants

Contents

		Page
1.0	Introduction	1
2.0	Desk Study	1
3.0	Potential Presence Protected Species	7
4.0	Policies and other data considered	9
5.0	Recommendations	10
6.0	Closure	10
7.0	References	11

Appendices
Appendix 1
Photo sheet DS/SL/WB/01 Aerial view of Site

Appendix 2
Photo sheet DR/PEA/WB/PS01 Habitat Features

Appendix 3
Bat and Bird Enhancement products
Hedgehog Ecology



1.0 Introduction

1.0.1 Whistling Beetle Ecological Consultants were commissioned in February 2026 to undertake a Preliminary Ecological Appraisal (PEA) on a parcel of land located off Dalzell Street, Moor Row, Whitehaven, Cumbria. The site is located at a central grid reference of NY 0040 1477.

1.0.2 The purpose of the PEA is to identify any potential ecological constraints to the proposed works at the earliest opportunity, to minimise future delays to potential works and provide advice as to how works on site will avoid breaching any UK or European nature conservation legislation.

1.0.3 The ecological assessment results are presented in this report, together with the current ecological status of the site, and:

- Any potential significant ecological constraints present within the proposed working area that could affect the development proposal:
- Identify the potential for any legally protected species or species of note to be present within the proposed development area.
- Recommend further ecological survey effort necessary to prevent potential harm or disturbance to any legally protected or notable species.

1.0.3 The outcomes of the PEA have been used to assess the nature conservation value of the proposed working area with regards to the habitats and species identified on site or within close vicinity of the site.

1.0.4 Site Description

The site is located on the northern edge of the Phase 2 development at Moor Row and is accessed from Dalzell Street. The site is made up of linear strips of poor condition modified grassland bordered with lengths of mixed scrub. There is an artificial unsealed surface track from the main road to the end of the site where it joins the Phase 2 development. This is an area of field made up predominantly of rush meadows surrounded by similar habits both adjacent to and in the wider area. The site will be converted into a paved road to allow access for emergency vehicles into the Phase 2 housing development.
The site covers an area of approximately 0.12Ha (0.27 Acres).

(see Appendix 1 Site Location DS/PRA/WB/01)

All assessments and surveys were supervised by Principal Ecologist Graham Workman who has over forty-five years professional experience in the ecology field. He has the specialist knowledge and ecological skills to undertake and complete all the surveys contained within this report. He was accompanied by accompanied by Rebecca Curtis, MSc in Conservation Biology, BSc in Conservation, Wildlife and Zoo Biology, 6 years field experience, over 10 years' experience using QGIS and various data analysis software and recently completed multiple CIEEM training courses on UKHab, QGIS, DEFRA Metric and Biodiversity Net Gain

2.0 Desk Study

2.0.1 The desktop study was used to identify statutory and non-statutory



designated sites and other notable features of interest within and within a 2km buffer zone surrounding the proposed development boundary.
The baseline conditions are based on details gathered from the following sources:

- Multi-Agency Geographical Information for the Countryside (MAGIC) website - to identify statutory designated sites and Priority Habitats;
- Aerial photography (to identify potentially notable habitats);
- Cumbria Biodiversity Action Plan (CBAP);
- The National Biodiversity Network Atlas (NBNA)

**These resources were interrogated prior to the site visit in February and again whilst completing the PEA report in July 2026 to ensure all information was still accurate.*

2.0.2 A synopsis of relevant information is presented below -

Site Check Report generated on Thursday October 22 2026
The following features have been found in your search area:
You selected the location: Centroid Grid Ref: NY 0040 1477
Parishes (GB)
NAME. Whitehaven CP
DESCRIPTION. Civil Parish or Community
FILE NAME CUMBERLAND

NAME. Egremont CP
DESCRIPTION. Civil Parish or Community
FILE NAME CUMBERLAND

Parliamentary Constituencies (England)
NAME. Copeland Co Const
MEASURE. 1222431661.1

2.0.3 Statutory designated sites within 2km of the proposed development site

Special Areas of Conservation (SAC)
The River Ehen Special Area of Conservation (SAC) situated approximately 1.5km south-east of the site boundary. The SAC comprises the River Ehen (Ennerdale Water to Keekle Confluence) Site of Special Scientific Interest (SSSI) condition is unfavourable and declining.
This SAC is a critically important, nutrient-poor river renowned for holding over 90% of England's remaining Freshwater Pearl Mussel population. Originating at Ennerdale Water, the river flows to the Irish Sea at Sellafield and serves as a vital stronghold for this endangered species and Atlantic salmon.
General site character

- Inland water bodies (Standing water, Running water) (90%)
- Broad-leaved deciduous woodland (8%)
- Coniferous woodland (2%)

Annex I habitats that are a primary reason for selection of this site
Not Applicable

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site
Not Applicable

Annex II species that are a primary reason for selection of this site
1029 Freshwater pearl mussel (Margaritifera margaritifera)
The River Ehen supports the largest freshwater pearl mussel (Margaritifera



margaritifera) population in England. Exceptionally high densities (greater than 100 m2) are found at some locations, with population estimates for the entire river exceeding 100,000. The conservation importance of the site is further enhanced by the presence of juvenile pearl mussels, indicating recruitment since 1990.

Annex II species present as a qualifying feature, but not a primary reason for site selection
1106 Atlantic salmon Salmo salar.

2.0.4 Sites of Special Scientific Interest Units (England)
Clints Quarry SSSI is located approximately 2km south of the proposed development site Grid reference: NY 008 124. Clints Quarry nature reserve was purchased from British Steel and Lord Egremont in 1984.
The SSSI is managed by Cumbrian Wildlife Trust and was designated for its geological interest and the species-rich neutral and calcareous grasslands it supports. The quarry floor is characterised by ridges created from spoil heaps, piles of waste material accumulated when the quarry was active, which have become a part of the land. These ridges are the most wildflower-rich areas of the site due to the shallow alkaline soils and dry conditions. The wildflowers attract an array of butterflies, damselflies and dragonflies.

Sites of Special Scientific Interest (England)
NAME - River Ehen (Ennerdale Water to Keekle Confluence) SSSI
REF_CODE - 1006660
CONTACT_NO - 0845 600 3078
MEASURE - 23.774182
HYPERLINK - 1000777
HOTLINK -
http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1000777

2.0.5 Non Statutory Designated Sites
The following Country Wildlife Sites (CWS), Site of Invertebrate Significance (SIS) and Local Geological Sites (LGS)are located within the 2km buffer zone –

- Birkhouse Pond CWS
- Longlands Lake CWS
- Keekle River CWS
- Stanley Pond CWS and Site of Invertebrate Significance
- Clints Quarry LGS and SIS
- Orebank House Quarry LGS

2.0.6 The Cumbria Biodiversity Action Plan was a local strategy designed to implement national nature conservation targets. This has now been succeeded and expanded upon by the comprehensive Cumbria Local Nature Recovery Strategy (LNRS). The LNRS, launched in late 2025 by local councils and Natural England, sets the blueprint for habitat restoration, species recovery, and natural flood management across the region.

The Cumbria Local Nature Recovery Strategy details 27 key priorities and actions for nature recovery. Key focus areas include

- **Habitats:** Restoring upland bogs, expanding ancient woodlands, connecting wildlife-rich grasslands, and enhancing coastal habitats.
- **Species Recovery:** Targeted interventions for endangered species of principal importance.
- **Land and Water:** Improving water quality, managing invasive species,

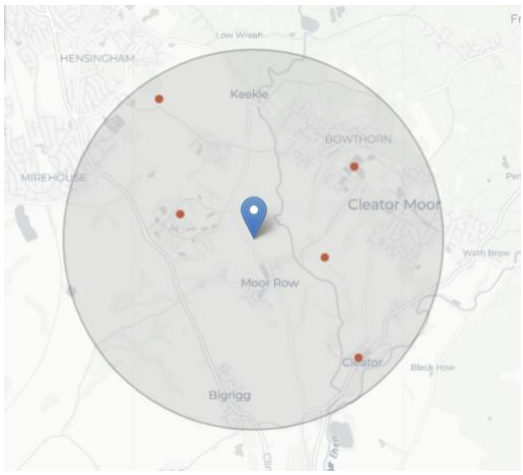
and restoring natural river processes for natural flood management.

The strategy comprises a formal Statement of Biodiversity Priorities and an interactive Local Habitat Map that guides where conservation efforts will have the greatest landscape-scale impact.

2.0.7 Species presence within the 2km Buffer Zone recorded on the National Biodiversity Network Atlas. Location Maps are included for legally protected or species of note

Amphibians
Species Recorded 4.

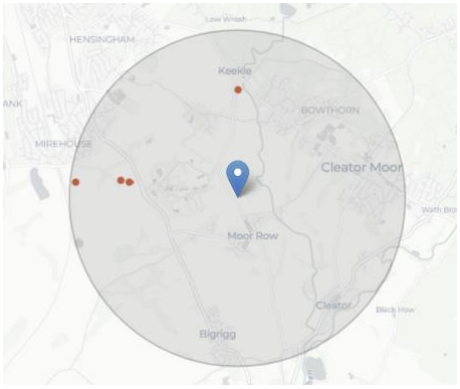
	Common Name	Species	Records
1.	Common Toad	*Bufo bufo*	5
2.	Great Crested Newt	*Triturus cristatus*	3
3.	Palmate Newt	*Lissotriton helveticus*	1
4.	Common Frog	*Rana temporaria*	1



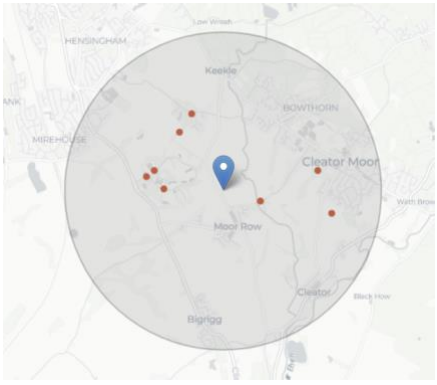
Amphibians.

Mammals
Species Recorded. 18

	Common Name	Species	Records
1.	Hedgehog	*Erinaceus europaeus*	55
2.	Feral Cat	*Felis catus*	46
3.	Grey Squirrel	*Sciurus carolinensis*	21
4.	Mole	*Talpa europaea*	14
5.	Rabbit	*Oryctolagus cuniculus*	8
6.	Red Squirrel	*Sciurus vulgaris*	8
7.	Otter	*Lutra lutra*	5
8.	Wood Mouse	*Apodemus sylvaticus*	4
9.	Roe Deer	*Capreolus capreolus*	2
10.	American Mink	*Neovison vison*	2
11.	Common Shrew	*Sorex araneus*	2
12.	Domestic Dog	*Canis lupus subsp. familiaris*	1
13.	Red Deer	*Cervus elaphus*	1
14.	Stoat	*Mustela erminea*	1
15.	Polecat	*Mustela putorius*	1
16.	Natterer's Bat	*Myotis nattereri*	1
17.	Noctule	*Nyctalus noctula*	1
18.	Pygmy Shrew	*Sorex minutus*	1



Otter: *Lutra lutra*



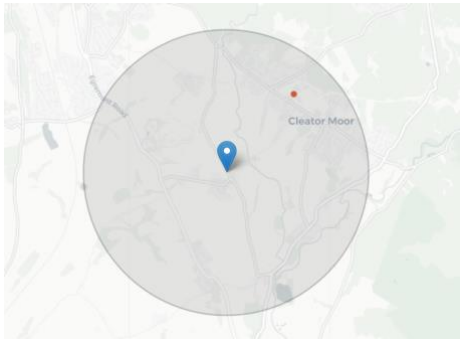
Red Squirrel: *Sciurus vulgaris*

Birds
Species Recorded. 93

A full list of all the bird species recorded within the 2km buffer zone can be provided but some of the species are given special protection under the Wildlife & Countryside Act 1981, Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006, Annex I of the European Birds Directive 1979 or the Red List of the Birds of Conservation Concern 5 2021 and should not be entered in the public domain.

Priority Species for CS Targeting - Lapwing
ENGNAME
Lapwing
Priority Species for CS Targeting - Curlew
ENGNAME
Curlew

Reptiles
Species Recorded. 1 Common Lizard (*Zootoca vivipara)*



2.0.8 Habitats
Field data was collected during an initial site visit on the 6th October 2026. Habitat identification and condition assessments were undertaken by Graham Workman of Whistling Beetle Ecological Consultants, an experienced Consultant Ecologist and Rebecca Curtis from Rubecula Ecology. Vegetation and habitat types within the site were noted in accordance with the categories specified in the UK Habs Classification (v2.01) and condition assessed using the Statutory Biodiversity Metric Condition Assessments.
The site is made up of two linear strips of mixed scrub that work as boundaries separating the track from an adjacent property and the field used for the phase 2 development. There are two types of grassland, poor condition 'modified grassland and moderate condition 'other lowland acid grassland'.

(see Appendix 2 Photo sheet DR/PEA/WB/PS01

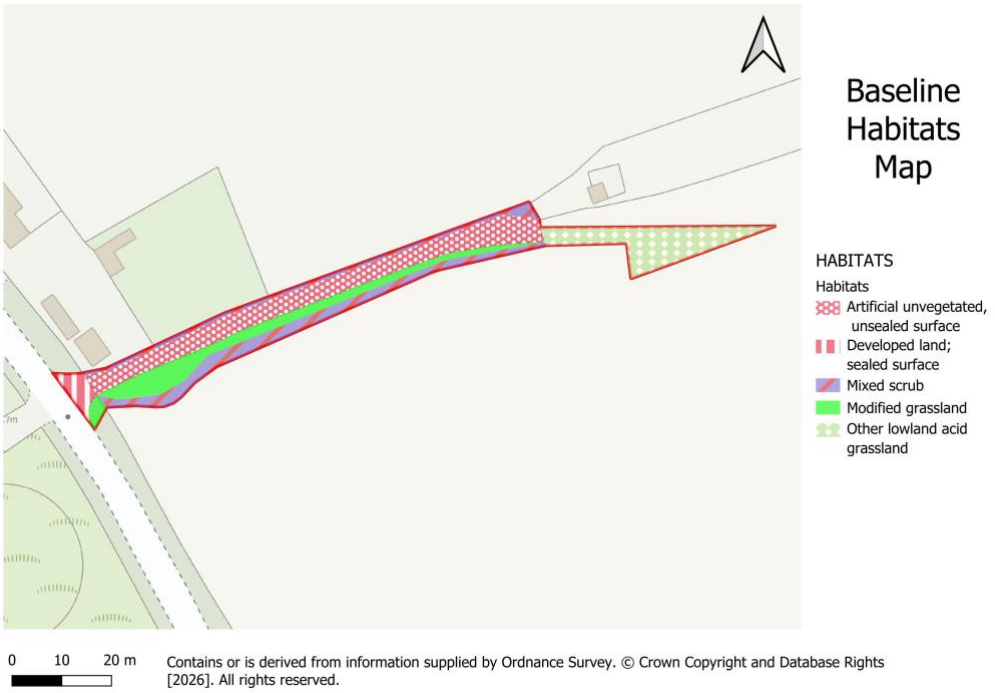
2.0.9 Modified grassland was dominated by perennial ryegrass (Lolium sp). There were less than 6 vascular species per m2 in each quadrat measured resulting in it being in poor condition. This area was being mowed to provide access to the field.

The grassland present within the field was moderate condition other lowland acid grassland. The area was dominated by hard and soft rush (Juncus sp) (approx. 85%+). Yorkshire fog (Holcus lanatus) and Sweet Vernal-grass (Anthoxanthum odoratum) are also present in the sward, along with Creeping Buttercup (Ranunculus repens), White clover (Trifolium repens) Common bird's -foot-trefoil (Lotus corniculatus), Creeping Thistle (Cirsium arvense) and Cuckoo Flower (Cardamine pratensis).

The mixed scrub followed the length of the track on both sides providing a buffer between the surrounding habitats. The scrub consisted of Bramble (Rubus fruticosus), Bracken (Pteridium aquilinum), Gorse (Ulex europaeus), Fern spp (Polypodiopsida spp), Creeping buttercup (Ranunculus repens), Ribwort plantain (Plantago lanceolata), Nettle (Urtica dioica) and Ragwort (Jacobaea vulgaris).

There are no waterbodies present on the site although in some areas there are occasional areas of ephemeral water. These exist for short periods, typically during or immediately after rainfall or snowmelt, remaining dry the rest of the year and disconnected from the groundwater table. These temporary water bodies are crucial for biodiversity, providing unique habitats for specialized organisms and acting as important corridors and filters for wildlife, even when dry.

2.0.10 Baseline Habitats Map, Land off Dalzell Street, Moor Row, Cumbria.





Parcel	Broad Habitat Type	UK Habs	Condition	Area
2	Grassland	g4	Poor	212m²
5	Grassland	g1d	Moderate	216m²
3	Heathland and shrub	h3h	Poor	247m²
4	Urban	u1b	N/A	37m²
1	Urban	u1c	N/A	378m²

UK Habs polygon attributes

There are no irreplaceable habitats on site.

3.0 Potential Presence of Protected and Notable Species within the boundary of the site

3.0.1 Otter

Occasional otter presence had been recorded within the 2km buffer zone. The River Keekle and Nor Beck could be used by otter for travel and foraging but the banks along both watercourses in the vicinity of the site boundary have no obvious features that would be suitable for holts. Otters are solitary animals with large territory ranges. A male otter's territory can be as large as 35km and a females can be 25km.
Potential Presence on site unlikely.
Potential Negative Impact. No

3.0.2 Bats

Natterer's (*Myotis nattereri***) and Noctule (**Nyctalus noctula**) Bats**
A single record of each species both more than a Km from the site.
No buildings on site and few trees.
Potential Presence on site highly likely for commuting and foraging.
Potential Negative Impact. No (the provision of permanent bat enhancement features (bat Bricks and Boxes included in the properties will have a significant uplift to bat potential on the site.
(see Appendix 3 for suitable Roost Opportunities bricks and boxes)

3.0.3 Badger

No records of badger within the 2km buffer zone.
Potential Presence on site, possible for commuting and foraging.
Potential Negative Impact. No

3.0.4 Red Squirrel

Seven records within the 2km buffer zone. No suitable habitat on site for drey construction or foraging.
Potential Presence on site possible but unlikely.
Potential Negative Impact. No

3.0.5 Water Vole

No records of water vole within the 2km buffer zone.
Potential Presence on site, unlikely due to species ecology but possible occurrence on the River Keekle and Nor Beck where habitat needs are met.
Potential Negative Impact. No



3.0.6 **European Hedgehog**

The most recorded mammal within the 2km buffer zone with 57 records.
Potential Presence on site highly likely for commuting and foraging.
Potential Negative Impact. No. This species will have measures to improve habitats through garden connections and identified 'Hedgehog Highways included in the site plans.
Hedgehogs are listed as a UK 'Priority Species' under S41 of the NERC Act (2006). They also have limited protection under Schedule 6 of the Wildlife and Countryside Act (1981) as amended, which means they cannot be caught or trapped without a licence. The Wild Mammals (Protection) Act (1996) prohibits cruel activities and mistreating of hedgehogs.
(see Appendix 3 for Hedgehog Ecology)

3.0.7 **Other Mammals**

Several species of mammal are highly likely to be using the site now. This will include small rodents, shrew, moles and larger species such as deer, rabbit and fox etc. There will be loss of mixed scrub which will impact connectivity between adjacent habitats, reducing opportunities for wildlife to move safely. The scrub was not suitable to be used by nesting birds. Potential Negative Impact. Negligible

3.0.8 Birds

A total of 93 species of bird has been recorded within the 2km buffer zone (3 species which are considered 'sensitive' have been excluded from these totals). The habitat loss caused by the development is more than compensated for by the amount of similar and suitable habitat being available surrounding and in the wider area to the site. Although there will be no habitat creation on site, for species such as Blackbird, Robin, Blue, Great, Coal and Long-tailed Tit there will be a biodiversity uplift in the adjacent Phase 2 development by the proposed creation of gardens to the properties and opportunities for nesting and feeding are realised.
Potential Presence on site of some of these species is highly likely now and after the development has been completed.
Potential Negative Impact. No. The enhanced biodiversity value of the Phase 2 gardens to the properties will significantly increase the overall opportunities through tree, shrub and plant diversity.

3.0.9 Reptiles

A single species Common Lizard was recorded over a km away from the site. The species was recorded in June 2020.
Potential Presence on site unlikely.
Potential Negative Impact. No

3.0.10 Amphibians

A total of five amphibian species were recorded within the 2Km buffer zone around the site. Only the Great crested Newt (GCN) is designated as a European Protected Species (EPS) and three records in two locations both over 1.5km away from the site.
Potential Presence of GCN on site is highly unlikely.
Potential Negative Impact. No
The presence of amphibians once the development is completed increases to highly likely presence due to the increase in optimum habitats provided in the gardens associated with the new properties.

3.0.11. It should not be taken as providing a full and definitive survey of any protected species group. Additional surveys may be recommended if based on the preliminary assessment or during subsequent surveys, if it is

considered reasonably likely that protected species may be present.

3.0.12 To determine likely presence or absence of protected species can require multiple visits at suitable times of the year. As a result, the PEA 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 (NPPF, 2024), especially those species given protection under UK or European wildlife legislation.

3.0.13 UK BAP species

Some of the habitats recorded on site have potential to support the foraging activities of West European hedgehog (*Erinaceus europaeus*), Noctule Bat (*Nyctalus noctula*) Soprano Pipistrelle (*Pipistrellus pygmaeus*), Brown Long – eared Bat (*Plecotus auritus*), bird species Hedge Accentor (*Prunella modularis*), Song Thrush (*Turdus philomelos*), House sparrow (Passer domesticus), Eurasian tree sparrow (Passer montanus), Common starling (Sturnus vulgaris), and herptile species such as Common Toad (*Bufo bufo*). It is considered likely that all these species have the potential to be occasionally present within the site and the surrounding area.

4.0 Policies and other data considered in regard to the development area.

- The National Planning Policy Framework (NPPF, 2019)
  Chapter 15 sets out the Government's objectives for planning in regard to the protection of habitats and biodiversity.

- The Conservation of Habitats and Species Regulations 2017

- The Wildlife and Countryside Act 1981
  The act is up to date with all changes known to be in force on or before 09 July 2026. There are changes that may be brought into force at a future date.

- JNCC.
  Nature Positive 2030: *Nature Positive 2030* was produced by JNCC, Natural England, Natural Resources Wales, NatureScot and the Northern Ireland Environment Agency in September 2021

- The Copeland Local Plan 2021-2038
  In particular Strategic Policy N1PU: Conserving and Enhancing Biodiversity and Geodiversity.
  Strategic Policy N3PU: Biodiversity Net Gain
  Policy N13PU: Woodlands, Trees and Hedgerows

- Cumbria Local Nature Recovery Strategy (LNRS)

- Cumbria Local Nature Partnership
  The partnership is one of 30 Local Nature Partnerships across England and Cumbria Local Nature Partnership is the only nature partnership which represents and works across the whole of Cumbria; acting as a hub for nature – focused strategy and action.
  Its functions include:
  - Acting as an advocate for the natural environment in Cumbria;
  - Coordinating delivery for the natural environment;
  - Acting as a forum for the stakeholders in Cumbria's natural



environment;
- Providing input on the natural environment for local policies, plans and frameworks;
- Providing information/data on the natural environment.

- SK Environmental Solutions Ltd
  Preliminary Ecological Appraisal.
  September 2022.Phase 1 of the Land off Dazell Street. Moor Row Developmen.t

5.0 Recommendations

5.0.1 The site development will be the creation of an Emergency Vehicle Access Road as required for the Phase 2 development.

5.0.2 Impact on Designated Sites (Statutory and Non-Statutory).
It is not expected that the proposed development will have any detrimental impact upon any statutory designated sites. The River Ehen Special Area of Conservation (SAC) is situated approximately 1.5km south-east of the site boundary. The SAC comprises the River Ehen (Ennerdale Water to Keekle Confluence) and Site of Special Scientific Interest (SSSI). It is not expected that the creation of a new access road will have any negative impact on the SAC or SSSI.

5.0.3 It is not expected that any non-statutory sites will be negatively impacted by the proposed development.

5.0.4 Habitats
Of the limited number of habitats present within the site it is not expected that the loss of these habitats will have any significant detrimental impact on the overall biodiversity or landscape of the area.

6.0 Closure

This report has been prepared by Whistling Beetle Ecological Consultants Limited with all reasonable skill, care and diligence. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

The information presented in this report provides guidance to reduce the risk of offences under UK law. However, Whistling Beetle Ecological Consultants Limited is not a legal practice and disclaims any responsibility to the client and others for actions that lead to offences being caused, whether or not the guidance contained in this report is followed. Interpretation of UK legislation is presented in good faith; however, for the avoidance of doubt, we recommend that specialist legal advice is sought.

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7.0 References

HMSO (2005) Biodiversity and Geological Conservation – Statutory Obligations and Their Impact
Within the Planning System. Office of the Deputy Prime Minister (ODPM) Circular 06/2005
HMSO, Norwich.

Multi-Agency Geographic Information Centre (MAGIC) website: http://magic.defra.gov.uk/

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Bat Conservation Trust (2012) *Bat Surveys - Good Practice Guidelines 2nd Edition*, Bat Conservation Trust, London.

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Ernest, N and Cheeseman, C. 1996. *Badgers*. T & AD Poyser

Harris, S., Cresswell, W. And Jefferies, D. 1989. *Surveying Badgers.* Mammal Society Occasional Publication No 9. Mammal Society London.

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Froglife (1999), Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.



Web addresses for access to full UK legislation and policy text:

http://www.magic.gov.uk/MagicMap.aspx

Conservation of Habitats and Species Regulations 2010:
http://www.opsi.gov.uk/si/si2010/uksi_20100490_en_1

Wildlife and Countryside Act 1981:
www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1

Countryside and Rights of Way Act 2000:
www.legislation.hmso.gov.uk/acts/acts2000/20000037.htm

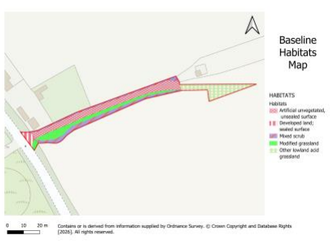
Natural Environment and Rural Communities Act 2006:
http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1

Planning Policy Statement 9:
www.communities.gov.uk/documents/planningandbuilding/pdf/147408

Countryside Stewardship Higher Tier (CSHT)
https://www.gov.uk/government/publications/countryside-stewardship-higher-tier-csht

Appendix 1





Land off Dalzell Street

Title

Preliminary Ecological Appraisal

Site Location

Land off Dalzell Street,
Moor Row,
Whitehaven,
Cumbria.

Project

Development at land off Dalzell Street.

Photo Sheet	DS/PEA/WB/01
Date	October 2026
Scale	N/A

Appendix 2



1.Existing track onto site.



2. General photographs of site



3. General photographs of site



4. General photographs of site

5. General photographs of site

6. General photographs of site



7. General photographs of site



8. General photographs of site



9. General photographs of site

whistlingbeetle ecological consultants

Project

Preliminary Ecological Appraisal

Title

Land located off Dalzell Street, Moor Row, Whitehaven, Cumbria
G.R. NY 0040 1477.

Photo Sheet	DR/PEA/WB/PS01
Date	October 2026
Scale	N/A

Appendix 3

Bat Box Information Pack


© Andrew Dumbleton

Bats are amazing animals that are important to ecosystems in the UK and worldwide. We have 18 species of bat in the UK, all of which are protected under European law. Bat populations in the UK have declined dramatically over the past century due to persecution and habitat loss. However, a number of UK bat species have recently shown signs of population increases so there is hope.

Bat boxes are artificial roosts designed to provide bats with alternative resting places or to encourage bats into areas where there are few existing suitable roost sites. There are various designs of bat box; wooden boxes that you can make yourself, ready-assembled external boxes for buildings and trees, and even integrated bat boxes that can be built into walls.

Providing bat boxes can increase opportunities for roosting bats but it can take a while for bat boxes to be used regularly, particularly where a number of suitable alternative roost sites exist. Bat boxes can have an important additional function in encouraging interest and educating members of the public about bat conservation. The correct design and placement of boxes will help increase the likelihood of their uptake by bats.

Bat roost preferences

Bat boxes are now available from many outlets, and in a range of shapes and sizes, so some knowledge of what bat species are in your local area and their preferences will help you choose the best possible box. For example, some species such as horseshoe bats and grey long-eared bats do not use bat boxes.

Microclimate within a new roost is a very important factor in terms of increasing the chance of successful uptake by bats. In general, they prefer warm, dry spaces in the summer for rearing young and cooler damper spaces in the winter for hibernation. The box should be draught proof and made from a thermally stable material such as untreated wood, ecostyrocrete, woodcrete, brick or stone. If possible, it's better to provide several internal chambers so that the bats can move to where the conditions suit them best.


©Hugh Clark

Orientation and location

Structures for summer roosting should be positioned where they are sheltered from the wind but unshaded for most of the day. Summer maternity roosts (in the northern hemisphere) should be on a south-easterly to south-westerly aspect. It is always best to provide a number of different options for bats so that they can choose the most appropriate temperature based on their needs. This can be achieved by grouping a number of bat boxes each with a different aspect; two or three boxes is preferable to one, although a single box still has a chance of being used depending on the bat species that use the local area. Three boxes can be arranged around the trunk of larger trees – see below for details about putting up bat boxes.


© Fern Alder

Bat boxes are more likely to succeed in areas where there is a good mixture of foraging habitat, including trees, and a source of water (most maternity roosts are located within a short distance of permanent fresh water such as a stream, pond, river or lake). Bat boxes in areas with few other roosting opportunities are also likely to be more successful.

Bat boxes should also be located close to unlit linear features, such as lines of trees or hedgerows and no lit should fall on the bat box itself or the adjacent habitat. Bat species use dark linear features for navigation between their roosting sites and feeding grounds and to avoid predation by flying in open and exposed areas. Ensure the bats approach to the box is not impeded, for example by branches – clear away underneath the box so the bats can land easily before crawling up into the box.

Size of the bat box

The most frequently used bat boxes are small, with narrow apertures to enter them and are only suitable for crevice-dwelling bat species.

Access

Crevice dwelling bats crawl into their roosts via small gaps around 15-20mm high. Roughened vertical surfaces or landing areas allow better access (by landing and crawling), horizontal landing perches should be avoided as these are not necessary, may even deter bats and encourage birds to nest within the bat box.


© John Altringham

Other considerations

Bats are nocturnal and adapted to low light conditions. Artificial light sources should not be directed onto bat boxes or flight paths as most bat species find artificial lighting very disturbing.

If possible, make or purchase bat boxes with an entrance slit along the bottom so that accumulated bat waste can drop out of the box or be pushed out as bats emerge. This will also help stop birds nesting in the box and blocking the entrance, which can happen with bat boxes that have entrance holes in the middle or entrances holes that are too large.

Boxes that may accumulate bat droppings will also need to be cleaned regularly by a licensed bat worker. It is important to remember that bat boxes must not be opened by anyone except a licensed bat worker (see 'monitoring bat boxes' below for more details on licences). In addition, nesting birds must not be disturbed so leave the area immediately upon finding an active nest in a box, and there is the potential for dormice to be found in some woodland boxes, in which case the box must only be checked by a licensed ecologist.

Types of bat boxes

Bat boxes come in many forms depending on their materials, function and location. Simple bat boxes are available commercially or can even be home-made. Bat boxes can be divided into the following categories: self-made external bat boxes, ready-made external bat boxes, integrated bat boxes and free standing bat boxes. Advanced forms of artificial roost creation include bat houses, bat barns and internal bat lofts (if you are interested in these please refer to the websites and publications listed at the end of this document).

Self-made external bat boxes

Self-made wooden bat boxes are usually located on trees or the outside walls of buildings. These boxes are usually cubic or rectangular, with a grooved 'bat ladder' and a narrow entrance slit at the bottom. These will last for approximately ten years and can either be bought in kit form, or you can make your own from scratch (there are instructions for the 'The Kent bat box' pictured below in the Appendix at the end of this document – these boxes are also available commercially).

They come in a variety of shapes but key requirements are:


Kent Bat Box

- While commercial wooden bat boxes may be made from a variety of materials, to make sure self-made bat boxes are suitable for bats we recommend the wood used should be rough sawn for grip and untreated.
- Bats do not like draughts; the entrance slit should be no more than 15-20mm wide and there should be no gaps where the sides and top join - the box should be well put together.
- A box that cannot be opened is best - it will lessen the chances of the bats being harmed through becoming trapped under the opened lid, or disturbed by people opening the top.
- To increase longevity of the box, use screws rather than nails.
- Any screws, hardware or staples used must be exterior grade (galvanized, coated, stainless, etc).

Ready-made external bat boxes

There are a number of ready made external bat boxes suitable for buildings and trees that can be purchased. These boxes can be made from wood, however there are an increasing number of more durable options, such as ecostyrocrete (pictured right). These types of boxes can come in a range of finishes to blend into the buildings façade or indeed to highlight their presence!





Integrated bat boxes

Integral or integrated bat boxes can be built into the walls or masonry of houses and other buildings.. The boxes can be embedded such that they do not impair the air-tightness of the building.

Many designs are available including some that have bespoke coverings that can match the building façade and / or highlight the boxes presence. The same principles for size, location and access apply.

©Green&Blue

Ready-made free standing boxes

American style bat houses (larger, multi-chambered boxes) have been successfully used for bat conservation in North America and elsewhere. These large multi-chambered boxes are increasingly being used in the UK for sites where there are few suitable features (such as trees or buildings) for boxes to be attached to, as they can be put up on poles:

http://www.batcon.org/files/RocketBoxPlans.pdf



The Roost Partnership scheme

The Roost Partnership is a unique conservation-lead built environment scheme involving BCT and bat box or access product manufacturers working together to provide bat conservation features that can be incorporated onto and into buildings and other structures that are designed with the latest best practice guidance and research in mind.

The Partnership doesn't endorse particular products but rather promotes the importance of our common goal of improving roosting opportunities for bats within our built environment. The Roost Partnership also acts as an information sharing hub used to gather feedback from industry professionals to constantly improve our understanding of bat roosting requirements. Details of companies and products within the Partnership scheme are found on the BCT website: https://www.bats.org.uk/our-work/buildings-planning-and-development/roost-replacement-and-enhancement/partnerships

Putting up bat boxes

Most bat species will use higher positioned boxes (around 4m up); assess the risk of working at height when undertaking the installation, then place the box as high as it is safe to do so. This will also help protect bats from vandalism and falling prey to cats. If working in the public realm, try to locate boxes so they are not above public walkways.

Ensure the boxes are appropriately fitted, to avoid the risk of them falling off. The boxes should be checked at least annually and after high winds to ensure they are still securely in place.


© Sue Burchett

On buildings

Place the boxes high up by the eaves on a building, which can also help shelter the box from the weather. As detailed above, the aspect of the box should capture sun for part of the day if the intention is to attract maternity colonies.

Gazebos, garden walls and sheds have been suggested as sites for bat boxes. However, the main danger is that the boxes are not high enough above the ground, the structures may not be robust enough to support the box in high winds and the boxes are too visible to predators or vandals.

On trees

Consideration should be given to tree growth and boxes may need rehanging over time, regularly check boxes to assess this. Use headless or domed nails not fully hammered home to allow the tree growth, again regular checks will ensure that this allowance can be made while still being securely fitted. Iron nails can be used on trees with no commercial value. Copper nails can be used on conifers, but aluminium alloy nails are less likely to damage saws and chipping machinery.

Monitoring bat boxes

Making and putting up bat boxes is a great conservation action but what is even more useful is to know whether they are being used, when and by which species.

How long before bats will use the box?

Sometimes it can take several years for bats to find a new box. Be patient! Slow (or no) uptake may be due to the availability of other roosts locally. Sometimes, however, bats move in within months or even weeks!



How will I know if the box has been successful?

To check if the box is being used, look out for droppings and urine-staining on the vertical 'bat ladder' below the box and listen for 'chattering' during the day, especially during the summer months. You can also watch the box for an hour either side of sunset to observe any bats leaving to feed, or around dawn to see any bats returning to their roost. Bats may be observed by looking up into the box from below, however no light should be used as this may disturb any bats that are present.

Licensing and the law

You can undertake the non-invasive checks above without needing a licence. However, if the box needs to be opened to check it then there must be a suitably licensed bat worker present. Anyone wishing to undertake bat box checks should obtain training in bat handling and identification before applying for a licence. You can find out more about licensing and bats on the Bat Conservation Trust website at: www.bats.org.uk/pages/licensing.html



All bats and their roosts are protected by law and it is an offence to deliberately disturb, handle or kill bats. The relevant legislation in England & Wales is the Wildlife and Countryside Act 1981 and Conservation of Habitats & Species Regulations 2017. In Scotland it is the Conservation (Natural Habitats, etc.) Regulations 1994 and in Northern Ireland the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995.

A bed without breakfast?

Bats often use features such as hedgerows, tree lines and watercourses as commuting pathways between roosts and foraging areas. This type of habitat also provides shelter, allowing insects to gather and therefore supports foraging bats. The highest densities of bats occur where insects are most plentiful.



Make sure you maintain or create good foraging habitats for bats by planting a wide range of plants such as flowers that vary not only in colour and fragrance, but also in shape. See BCT's 'Encouraging Bats' leaflet for more information (www.bats.org.uk\publications).

Useful websites

Bat Conservation Trust www.bats.org.uk
The Bat Conservation Trust (BCT) is working towards a world where bats and people thrive in harmony, to ensure they are around for future generations to enjoy. BCT is the only organisation solely devoted to bat conservation in the UK.

Bat Conservation International www.batcon.org
Bat Conservation International's mission is to conserve the world's bats and their ecosystems to ensure a healthy planet. Based in Austin, Texas, BCI is devoted to conservation, education and research initiatives involving bats and the ecosystems they serve.

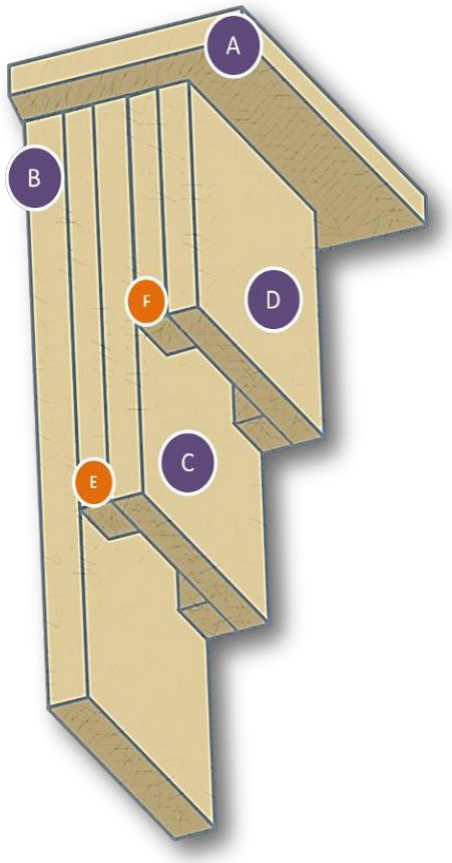
Vincent Wildlife Trust www.vwt.org.uk
The Vincent Wildlife Trust (VWT) is an independent charitable body founded by Vincent Weir in 1975 and has been supporting wildlife conservation ever since. They conserve a range of endangered mammals through management of their own reserves, undertake pioneering research and provide expert advice to others through practical demonstration.

Publications

- Gunnell, K., Murphy, B. and Williams, C. (2013) Designing for biodiversity: a technical guide for new and existing buildings (2nd ed.)
- Gunnell, K., Grant, G. and Williams C. (2012) Landscape and urban design for bats and biodiversity
- Mitchell-Jones, A.J (2004) Bat mitigation guidelines
- Mitchell-Jones, A.J. and McLeish, A.P. (2004) Bat workers' manual (3rd edition)
- Tuttle, M.D., Kiser M. and Kiser S (2004) The Bat House Builder's Handbook

Appendix: The Kent bat box (D.I.Y. instructions)

Design and measurements



Simple to construct, self-cleaning and low maintenance, the Kent bat box (designed by the Kent Bat Group) is a great way to encourage bats in your garden or your green space. The box should be rainproof and draught-free.

The only critical measurement is the width of the crevices: between 15-25mm. Other measurements are approximate. Timber should be approximately 20mm thick.

Measurements for one Kent bat box kit would be as follows:

Part	Quantity	Size (mm)
Roof (A)	1	x 160 x 20
Back (B)	1	x 200 x 20
Centre (C)	1	x 200 x 20
Front (D)	1	x 200 x 20
Centre Rails (E)	2	x 20 x 20
Front Rails (F)	2	x 15 x 15
Stand-offs (optional)	2	x 20 x 20

Material and Tools

This kit requires approximately 1.6m of rough wood and 25 screws (8 x 1 ½ inches) to assemble. You can rough it up by scraping with a suitable tool – possibly a saw blade or even a screwdriver but make sure you use untreated wood as some preservative chemicals can kill bats.

Pre-drill the holes to prevent the wood splitting. Alternatively you can assemble your bat box kit with nails although they tend to be less robust than boxes made with screws.

The hanging screws may either be at the edges of the front panel or in the side centre block (not in the rails!). Fixing may be by use of brackets, durable nylon cord or wires.

When installing the box, assess the risks of working at height, use the appropriate fittings and assess where the box will be located, in relation to any public access. Regular checks should be made to ensure the box remains securely fitted, especially after high winds.

Photos and illustrations in this document by the Bat Conservation Trust unless otherwise stated.



Hedgehog ecology and land management



Hedgehogs are declining

Hedgehogs are one of the few wild mammals we sometimes encounter up close and are a firm favourite of the British public. Sadly, we're seeing concerning population declines across the UK. Between 2000-14 hedgehog populations declined by over half in our countryside and nearly a third in our cities and suburbs.

Easy actions can have a big impact

But there's hope! Our recent analyses suggest the decline, at least in urban areas, may be slowing, possibly even turning around. The concerted efforts of communities could be working. Sympathetic green-space management and design by local authorities, businesses and private land managers whether it be schools, cemeteries or golf clubs, has the potential to really help bolster urban hedgehog populations. And, what's good for hedgehogs is good for many other species, including us.

This guide outlines several ways to better manage land to help hedgehogs:

- Reduce habitat loss and fragmentation by connecting up green spaces
- Remove hazards from the site
- Think about roads and controlling hedgehog access to busy or dangerous areas
- Consider limiting predator access to certain areas of the site where hedgehogs are most vulnerable
- Keep an eye out for disease or illness in local hedgehog populations

Ecology and behaviour of hedgehogs

There are three main habitat requirements to consider when managing green space for hedgehogs:

- A range of nesting opportunities
- High quality feeding areas
- Ensuring varied habitats are well-connected

Nesting

Hedgehogs nest year-round and produce different types of nest for day-time resting, breeding and hibernation. Day-time nests are a retreat during the active season, and are often temporary, flimsy and found in areas of rough grassland, loose leaf piles or garden vegetation.



Breeding nests are made by females and are used to raise young. They tend to be more robust, like hibernation nests. Winter nests can be used for several months to hibernate through periods of cold weather and low food availability.

The most sturdy nests rely on medium-sized deciduous leaves and a structure to hold the leaves in place. Bramble patches, log piles and open compost heaps are common locations for breeding nests and hibernacula.

Feeding
Hedgehogs are omnivores, but the bulk of their diet consists of macro-invertebrates such as beetles, worms, slugs, earwigs, caterpillars and millipedes. In urban areas, supplementary food in the form of cat, dog or formulated hedgehog food can make up a significant part of their diet. Access to water is also very important.

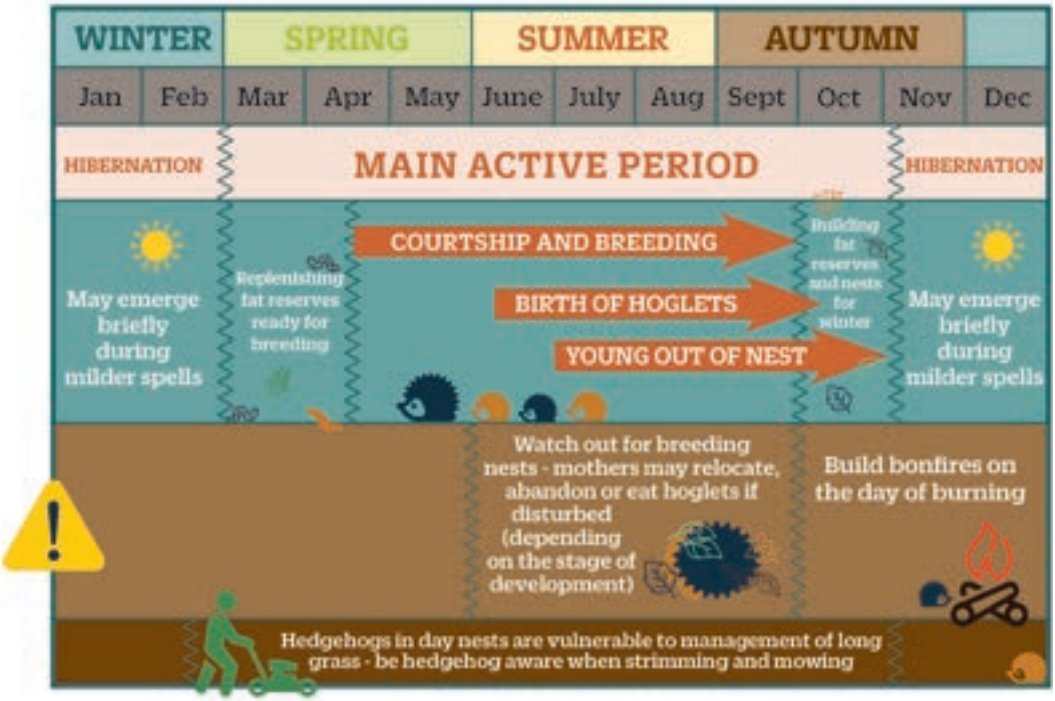
Habitat
Hedgehogs are highly active and range widely. They need to be able to move freely through a well-connected range of habitats to find food, mates and areas to nest. Radio-tracking studies show that hedgehogs can travel around 2km in a night in urban areas, and up to 3km a night in rural landscapes, though distances differ between the sexes. A viable population of urban hedgehogs is thought to need around 0.9km^2 of well-connected habitat.



The hedgehog's year

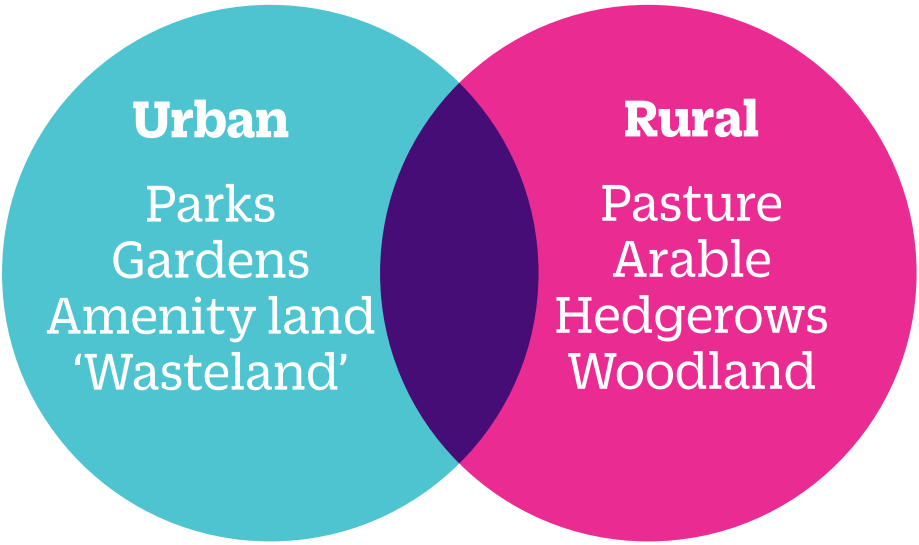
Hedgehogs are nocturnal animals, so despite their charismatic spiny appearance they are often difficult to find. They're solitary creatures, don't hold territories and rely mainly on their hearing and sense of smell. Hedgehogs are also generalists, meaning they have a varied diet and are widespread, but generally absent from moors, marshes and pine forest.

Timings of many hedgehog behaviours are dependent on temperature, gender and the body condition of the individual hedgehog. Actions at particular times of year will, however, help reduce hazards and help hedgehogs thrive.



Why are hedgehogs declining?

Hedgehogs face a multitude of natural and anthropogenic threats, many of which act together and some of which are still being understood. Whilst habitat loss and fragmentation are major issues across both urban and rural habitats, the reasons differ between the two landscapes. But many of the threats are man made and can be reduced through simple changes in land management, providing an opportunity for green-space managers to make a real difference for local hedgehogs.



Impermeable boundaries
Tidy gardening
Slug pellets
Bonfire burning
Dangerous ponds
Strimming

Habitat fragmentation
Fewer invertebrates
Road traffic
Refuse e.g. plastic
Climate change

Land use change
Pesticides (indirect)
More badgers
Flailing or tilling
Gamekeepers

Roads

Roads can act as barriers to hedgehog movement, may have genetic impacts on populations and are a large source of mortality. It has been estimated that between 167,000 – 335,000 are killed on our roads in Great Britain every year.

The solution

Road signs could alert drivers in areas of high hedgehog density, and green-space fencing could help channel hedgehog movement away from major roads. Well-connected green spaces, linked with surrounding gardens, will also reduce the need for hedgehogs to cross roads.

Road mitigation such as overbridges, underpasses and culverts are likely beneficial, as long as they are maintained and not permanently water logged or water filled.



Habitat loss & fragmentation in the countryside

Evidence shows that hedgehogs are fairing particularly poorly across agricultural landscapes. This is due to a range of factors, including; habitat fragmentation from loss of hedgerows, larger field sizes, increased pesticide use and limited areas of scrub, decaying wood or nectar rich planting. All these factors increase hedgehogs vulnerability to predation. Many farmers across the UK already do fantastic work for wildlife, but if hedgehogs are to thrive in our countryside they need a sustained effort from us all.

The solution

- Hedgerow planting and management
- Field margin management
- Reduced field sizes
- Reduced ploughing and tilling rates
- Keeping areas of scrub and decaying wood

Countryside Stewardship schemes can also help hedgehogs and other desirable wildlife.

More detailed information can be found in our farmers advice guide that can be obtained for free by contacting hedgehogs@ptes.org or by downloading it electronically from our website www.hedgehogstreet.org/farmersadvice



Habitat loss & fragmentation in our cities and suburbs

Despite covering just 6% of land, urban landscapes are increasingly important for hedgehogs. The matrix of gardens and green spaces in towns and cities can support the highest densities of hedgehogs and may act as a refuge from agricultural practices and high predator density.

Habitat loss from new developments, in-filling of gardens with housing, roads, impermeable boundaries and 'over-management' of green-spaces and gardens are all, however, threats.

The solution

Hedgehog Highways

Link parcels of land by ensuring boundaries are permeable to hedgehogs. Hedging or hedgehog-sized holes in fencing or walls help create Hedgehog Highways. Ground-level boundary holes should measure 13x13cm and should link as many neighbouring pieces of land as possible. These are easy to include for most fencing contractors, and both wooden and concrete hedgehog-friendly gravel boards can be purchased from some suppliers ready-made. Cinder blocks or piping can be used to deter use by pets. Hedgehog Highway plaques can be purchased from both People's Trust for Endangered Species (PTES) and British Hedgehog Preservation Society (BHPS) online stores to raise awareness and mark the purpose of these gaps to curious neighbours.



Wild areas for nesting and feeding

Areas of well-connected native hedging, scrub, bramble, shrubs, dead hedging and piles of dead wood become important nesting and foraging sites. Keeping fallen leaves on the ground or in accessible leaf stores is especially useful for breeding and winter nest building. Mosaic grass management provides the mix of long grass, short turf, open soil and tussocks needed for foraging and day nesting. Developing nectar sources and herbaceous vegetation provides the diverse microhabitats needed for the invertebrates hedgehogs rely upon. Edge habitat is especially important as hedgehogs often navigate landscapes by following linear features.









Hazards

Pesticides, herbicides and rodenticides

Pesticides, herbicides and rodenticides can be highly toxic, can impact non-target species, and can have both direct and indirect impacts on hedgehogs.

Herbicides can directly reduce earthworm density and reduce the varied ground cover needed for foraging. Slug pellets are potentially lethal if directly ingested and also reduce important prey sources.

The full impacts of many chemicals are still unknown but any product reducing the number of invertebrates also reduces the number of hedgehogs that can survive.

The solution

Avoid chemicals where possible and use organic alternatives where necessary. Wool pellets, nematode treatments, salt, seaweed, broken egg shells or coffee grounds are popular alternatives for slug control.

Encourage natural predators of pest invertebrate species, such as hedgehogs, frogs and toads, by installing Hedgehog Highways, wild areas and wildlife ponds.



Machinery

Hedgehogs have no flight reflex and nest year round, making them vulnerable to machine injury.

The solution

The timing and method of habitat clearance has an impact on hedgehogs, but will need to be balanced with other biodiversity needs.

Bramble disturbance is least hazardous in autumn to avoid the bird breeding season, the bulk of hedgehog breeding, and hibernation. Hedgehogs are generally absent from long grass in winter, making this the least hazardous time for cutting, but this isn't necessarily the best time to cut wildlife meadows. We recommend rotational cutting so that there's always an area left unstrimmed for insects to feed on and hedgehogs to nest in.

A high-cut, low-cut method allows nest checks in-between, and increasing the blade height of mowers will minimise risks. Ensure all machine users are trained to be hedgehog aware. BHPS offer free waterproof stickers for machines to remind operatives to check for hedgehogs.



Drowning

Ponds and lakes are excellent habitat and provide an important water source for hedgehogs in times of drought. Hedgehogs are good swimmers, but even small ponds are a hazard if they can't climb back out.

The solution

Ensure there are entry and exit points to water bodies by designing wildlife friendly ponds with shallow beaches. Reduce hazards to existing water bodies by creating ramps out of bricks, logs or sand bags. Ramps should ideally be 20cm wide and no steeper than 30 degrees.



Entanglement

Litter, wire fencing and loose or fine vegetable netting poses a risk to hedgehogs. Cricket nets and football goals are also common places for entrapment.

The solution

Information boards and adequate bins around sites will encourage responsible litter disposal. Tie up sports netting when not in use and keep fruit netting tight. Replace fine diameter thread with thicker netting or use a rigid structure instead.



Bonfires and compost heaps

Bonfires and compost heaps are attractive nesting sites for wildlife but can be particularly hazardous to hedgehogs who lack a flight mechanism.

The solution

Relocate the bonfire material from it's storage location to a new pile on the day of burning, so it's thoroughly checked before being lit. Where this isn't possible, fence the pile using steep plastic sheeting. Reptile fencing used by a local ecological consultant is suitable for this purpose.



Consider leaving an open compost heap for wildlife and maintaining an active compost heap in an enclosed container, inaccessible to hedgehogs.

Disease, injury and ailments

Thousands of hedgehogs are admitted to vets and rescue centres across the country every year. Hedgehogs are well known for their association with ticks and fleas, but can also carry and suffer from diseases such as salmonella, lungworm and ringworm. The population-level impact of these diseases on wild hedgehogs is still being researched.

Hedgehog fleas are species-specific, and the presence of ticks is normal unless they're carrying a particularly high burden, which can be indicative of ill-health. Hedgehogs seen out in the day exhibiting non-purposeful behaviour may require further assistance, but it's always best to obtain advice before removing a hedgehog from the wild.

The solution

Contact BHPS on 01584 890 801 for further information and advice about injured or ill hedgehogs.

Reports of hedgehogs that are thought to have died from disease can be submitted to Garden Wildlife Health - a collaborative project working to monitor the health and identify disease threats to British wildlife based at ZSL: www.gardenwildlifehealth.org. They can also conduct autopsies on preserved specimens, but please contact them before sending any samples.



GWH
Garden Wildlife Health

Predation

Foxes and dogs

Foxes and dogs can cause hedgehog mortality, but there's no indication that they impact hedgehog populations as a whole. Small populations may be more vulnerable.





Badgers

Badgers are the main natural predator of hedgehogs and also compete for similar prey. It's thought that the two species can coexist as they have for thousands of years, so long as there's enough feeding and nesting habitat for them both.

The solution

A good network of hedging, scrub and bramble provides nesting habitat for hedgehogs and cover from predators. Fence off prime natural nesting sites in public areas to reduce disturbance from dogs, ensuring the fencing is hedgehog permeable. Whilst not advised as a replacement for natural habitat, purpose-built hedgehog houses can provide additional protection from predators. Tunnels and small entrance holes (13x13cm) are best for these. See our hedgehog housing leaflet for tips www.hedgehogstreet.org/hedgehog-homes

Legislation

Hedgehogs are listed as a UK 'Priority Species' under S41 of the NERC Act (2006). They also have limited protection under Schedule 6 of the Wildlife and Countryside Act (1981) as amended, which means they cannot be caught or trapped without a licence. The Wild Mammals (Protection) Act (1996) prohibits cruel activities and mistreating of hedgehogs.

No legislation currently addresses the causes of decline in hedgehog populations.



How to detect hedgehogs

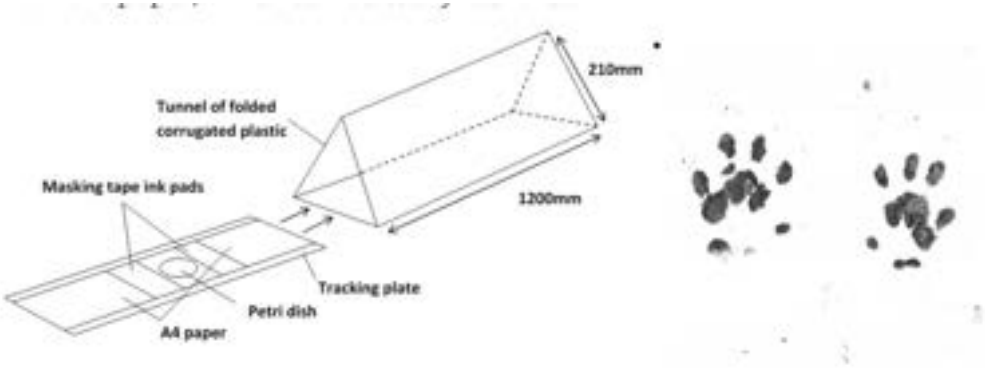
Check the Big Hedgehog Map for records local to you: www.bighedgehogmap.org, or add your own sighting. If hedgehogs have been recorded locally and suitable habitat is present, it's likely that the area will be used in some form due to their wide-ranging behaviour.

If you'd like to know whether hedgehogs are using your green-space, footprint tunnels or trail cameras are the easiest and most cost effective way of monitoring.

Footprint tunnels are cheap and easy to construct, and can be placed along linear features such as hedgerows, fences and walls. Pieces of A4 paper are attached to the inside of the tunnel, alongside two strips of non-toxic ink and a handful of meaty flavoured cat, dog or hedgehog food. The tunnels can be kept in place for up to five nights, with paper and bait being replenished daily.

If you manage to detect hedgehogs then a trail camera is a brilliant way of observing behaviour and sharing your successes with the local community. Place these around 20cm from the ground on a wooden stake, or lock them discretely to fencing or trees.

For more advice about conducting a hedgehog survey, please contact hedgehogs@ptes.org. We're giving away a free tunnel to the first 20 land managers who get in touch.



This handbook accompanies the more extensive *Hedgehog Ecology & Management Course for Practitioners*, run by PTES and BHPS. This is a one-day course aimed at land managers and consultants to inform green-space management.

For more information and to locate your nearest course leader, visit www.ptes.org/hedgehogtraining

HEDGEHOG STREET
CITY OF WILDLIFE

Hedgehog Street is a joint project run by People's Trust for Endangered Species and the British Hedgehog Preservation Society.

hedgehogs@ptes.org **www.hedgehogstreet.org**

We'd like to thank Ali North at Suffolk Wildlife Trust for her contribution to this guidance booklet.

people's trust for endangered species

020 7498 4533
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www.ptes.org
registered charity no. 274206

British Hedgehog Preservation Society

01584 890 801
info@britishhedgehogs.org.uk
www.britishhedgehogs.org.uk
registered charity no. 1164542

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House Sparrow Nest Boxes
Type 2: Brick
Supplier: Bird Brick Houses



The Standard box
Our Standard nesting boxes are suitable for House Sparrows and members of the Tit family. The single entrance hole allows the entire internal area to be available for nesting and roosting. The aperture size will vary according to the target species (see The Design) and box fronts can be removable (4 stainless steel screws) if required.



Sparrow terrace box
This has the same external dimensions as the standard box but has two entrance holes and two separate compartments – ideal for the sociable nature of house sparrows. The terrace box is also suitable for Redstarts, Black Redstarts and Wagtails.

All boxes can be supplied with bricks fitted in stretcher bond (half bond) and quarter bond (Flemish, English, both standard and garden wall bonds). Boxes can also be supplied without bricks for fitting into render walls and incorporating into stonework. The fronts have a stainless steel mesh to aid adhesion and are retained with stainless steel screws. All boxes have drainage holes.

Contact details

Website: https://www.birdbrickhouses.co.uk

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Sparrow Terrace Nest Box

- Help the declining sparrow population by putting up one of these bird boxes designed especially for house sparrows.
- Fixed roof to enable the bird nesting box to be fitted right up in the eaves just where the sparrows prefer.
- These bird nesting boxes are constructed from precision cut FSC certified wooden panels treated with water based environmentally friendly preservative.
- Each terrace can accommodate three pairs of sparrows nesting together.

✓ In stock available to order

Delivery estimated within 2-4 working days

£42.29 excl. VAT £50.75 inc. VAT

Qty. 1

Add to Cart

Description | Specification | Accessories

Product	Sparrow Terrace Nest Box
Product-Code	A1SPTZZZZ
Material	FSC Certified Exterior Grade Plywood
Construction	Panels stapled together with surface sunk staples. Slide out floor.
Finish	Non-toxic water based stain and preservative
Dimensions	Overall height: 24cm, Overall width: 39cm, Overall Depth: 17cm
Weight	2.4kg
Fixing	Keyhole at back of each nest unit

