



## **Cottam Parkway Railway Station**

**Priority Species Report**

**B2327FEF-JAC-EBD-00-RP-ENV-0011 | P02**

**2021/02/25**

**Lancashire County Council**



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## Executive Summary

Jacobs UK Ltd (Jacobs) was commissioned by Lancashire County Council (LCC) to undertake a range of ecological surveys to inform the Cottam Parkway Railway Station scheme (hereafter referred to as the 'scheme'). The scheme will serve the North West Preston Strategic Housing Location. It will comprise a new road to the proposed railway station connecting from Cottam Link Road with a bridge over the Lancaster Canal and a car park to serve the railway station.

As part of the ecological support to inform the scheme, Jacobs have undertaken an assessment of priority species. The assessment included a desk study and the recording of incidental observations during a range of ecology field surveys conducted for the scheme between October 2019 and October 2020. Ecology surveys completed for the scheme over this period included an extended Phase 1 habitat survey along with surveys for bats, badger (*Meles meles*), water vole (*Arvicola amphibius*), otter (*Lutra lutra*), birds and great crested newt (*Triturus cristatus*). A separate report for common toad (*Bufo bufo*) is also to be submitted to inform the scheme. This report is intended to capture all the relevant data for priority species not included within the relevant ecology reports for these surveys. Priority species are defined in this report as all species listed in Section 41 of the Natural Environment and Rural Communities Act 2006.

The purpose of the assessment was to gather information on the presence and distribution of priority species within the scheme and adjacent land. This information will be used to establish an ecological baseline for priority species to inform an Environmental Impact Assessment (EIA) for the scheme. This will be presented for planning consideration within an Environmental Statement (ES).

The desk study identified the presence of several priority species within a 1km search radius from the scheme. This included records of butterfly, beetle and moth species along with records of hedgehog (*Erinaceus europaeus*), brown hare (*Lepus europaeus*), slow worm (*Anguis fragilis*) and European eel (*Anguilla anguilla*). Records of two species, brown hare and slow worm, were located within the scheme or land immediately adjacent. No desk study records of priority listed vascular plants, fungi (including lichens) and non-vascular plants were identified.

Incidental observations of brown hare, hedgehog and slow worm were recorded during the ecology field surveys. The extent of the data collection for incidental records varied per field survey type and covered up to a 500m radius from the scheme boundary. For evaluation purposes, the population and biodiversity importance of each priority species is based upon species occurrence within the scheme and a 50m radius from the scheme boundary (the defined study area for evaluation).

Brown hare were recorded frequently with one to four individuals recorded within the scheme boundary and a peak count of 14 recorded during a wintering bird survey within the scheme and a 500m buffer area. Based on the frequency of observations and numbers recorded, the brown hare population associated with the study area is considered to be of **Local** importance for biodiversity.

Two sightings of hedgehogs were recorded in pasture fields to the north and south of the Lancaster Canal within the scheme boundary. In consideration of the desk study and field-based results, the hedgehog population recorded with the study area is considered to be of **Local** importance for biodiversity.

A slow worm was identified in a woodland located along Lea Road adjacent to the eastern boundary of the scheme. This field record adds to the desk study results which included records of slow worm within the marginal vegetation that bounds the Preston to Blackpool rail line on the southern boundary of the scheme. In consideration of the desk study and field results, the slow worm population associated with the study area is considered to be of **Local** importance for biodiversity.

A robust assessment of the potential impacts on the brown hare, hedgehog and slow worm populations associated the scheme will be detailed within the Ecology Chapter (Chapter 6) of the ES, along with any prescribed avoidance, mitigation and compensation measures, opportunities for enhancement, requirements for pre and/or post construction monitoring and an assessment of residual impacts (where appropriate).

## 1. Introduction

### 1.1 Background

Jacobs UK Ltd (Jacobs) was commissioned by Lancashire County Council (LCC) to provide ecological services to inform the proposed Cottam Parkway Railway Station scheme (hereafter referred to as the 'scheme'). This development is related to the permitted road schemes of Preston Western Distributor (PWD) and the East West Link Road (EWLR) including Cottam Link Road.

The scheme comprises (but not exhaustively): a road connecting to Cottam Link Road at the Sidgreaves junction roundabout; a bridge over the Lancaster Canal connecting to the railway station; station platforms; buildings and associated structures; a footbridge over the railway; a 250/500 space car park and associated bridge approach embankments and earthworks. This development is related to the permitted road schemes of Preston Western Distributor (PWD) and the East West Link Road (EWLR) including Cottam Link Road.

This report presents desk and field-based data for priority species identified within and adjacent to the scheme. Priority species are defined in this report as all species listed in Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. Priority species records were gathered via a desk-based data search and the recording of incidental field observations between October 2019 and October 2020. Ecology surveys completed for the scheme over this period included an extended Phase 1 habitat survey and surveys for bats, badger (*Meles meles*), water vole (*Arvicola amphibius*), otter (*Lutra lutra*), birds and great crested newt (*Triturus cristatus*). A report for common toad (*Bufo bufo*) is also to be submitted to inform the scheme.

This report is intended to capture all records of priority species recorded within the scheme and not included within the relevant ecology reports of these surveys.

The data search and the recording of incidental field observations has been undertaken in consideration of the proposed scheme boundary provided by LCC (LCC Drawing CLM07-DEV-010-01; Dated 10-01-2020) and the walkover notice area/survey exclusion area drawing provided by LCC (LCC Drawing CLM07-DEV-010-03; Dated 16-12-2019). Further information on the scheme design was not available at the time of survey/writing.

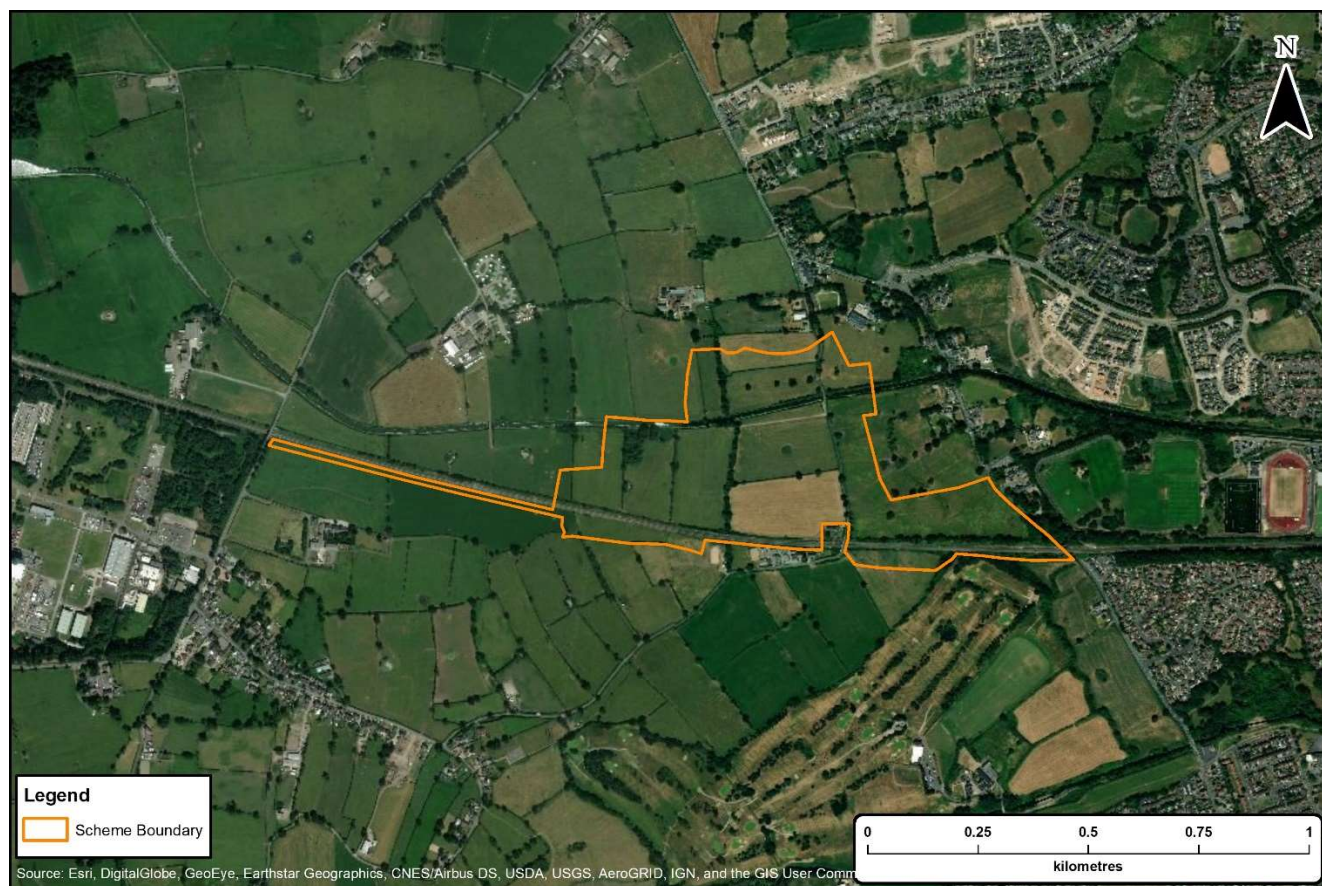
### 1.2 Site Context

An aerial image of the location of the scheme is provided in Plate 1.1 below. The scheme is proposed to be located within a semi-rural area approximately 4km north-west of central Preston and to the immediate south-west of the largely residential area of Cottam. The central grid reference for the site is SD 48714 31645<sup>[1]</sup>. Land use within the scheme largely comprises pasture land used for grazing and/or fodder production. This land is bound by a network of hedgerows and tree lines with occasional small woodlands, small watercourses, waterbodies, farmsteads and dwellings. Both the Lancaster Canal and the Preston to Blackpool rail line run east to west through the scheme. Sidgreaves Lane leading to Darkinson Lane runs north to south through the centre of the scheme.

Pasture land dominates much of the wider area, particularly to the west of the scheme. The eastern boundary of the scheme is bordered by Lea Road with Westleigh Conference Centre and sports pitches further eastwards; to the south is pasture land with Aston and Lea Golf Club further beyond. To the north is pasture land with both existing and new housing developments further northwards. In addition, the construction of the PWD/Cottam Link Road was also underway along the west and north boundaries of the main scheme area at the time of survey.

<sup>[1]</sup> Ordnance Survey National Grid reference system used throughout the report.

Plate 1.1. Overview of scheme location



### 1.3 Aims and Objectives

The primary aims of this report are to provide baseline information relating to priority species and to assess the collated data in accordance with good practice guidance, planning policies and legislative framework.

The objectives were to:

- Review existing records of priority species within 1km of the scheme boundary;
- Record incidental records of priority species throughout the duration of the site-based surveys;
- Assess the distribution of each priority species where present;
- Provide an evaluation of the importance of the priority species that have been recorded within the scheme based on the guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018); and Highways England's Design Manual for Roads and Bridges LA 108 Biodiversity (Highways England, 2020); and
- Provide sufficient information to inform both the project design and an assessment of potential impacts to priority species associated with the finalised scheme so that appropriate mitigation hierarchy can be followed and opportunities for enhancement can be developed.

### 1.4 Legislation and Biodiversity Context

#### 1.4.1 General

The legislative framework for priority species comprises varying degrees of protection with certain species included within the Conservation of Habitats and Species Regulations 2017 (as amended) and/or the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. Generally, the priority species that are afforded the strictest legal protection and were considered to be potentially present within the



scheme have been subject to specialist surveys as detailed within the relevant technical reports listed in Section 2.2.1 and referenced in Section 5.

Legislation for species of particular relevance to this report including brown hare (*Lepus europeus*), hedgehog (*Erinaceus europaeus*) and slow worm (*Anguis fragilis*) is included within Appendix B.

#### **1.4.2 Natural Environment and Rural Communities Act 2006**

S41 of the Natural Environment and Rural Communities (NERC) Act 2006 requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. There are 56 habitats and 943 species of principal importance which were initially identified as requiring conservation action under the UK Biodiversity Action Plan (BAP) and which continue to be regarded as priorities under the UK Post-2010 Biodiversity Framework (JNCC and Defra, 2012). The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities Act 2006 "to have regard" to the conservation of biodiversity in England, when carrying out their normal functions.

#### **1.4.3 Lancashire Biodiversity Action Plan**

The Lancashire Biodiversity Action Plan (LBAP) was devised as the means by which national biodiversity targets for priority species under the UK Biodiversity Action Plan (UKBAP) would be met locally. The LBAP contains 11 habitat and 39 species action plans (Lancashire's Biodiversity Partnership, 2001). Of particular relevance to this report, brown hare, hedgehog and slow worm are included on the LBAP 'Long List of Species' (Lancashire's Biodiversity Partnership, 2010) and a species action plan has been completed for brown hare.

## 2. Methodology

### 2.1 Desk Study

#### 2.1.1 Lancashire Environmental Records Network

Records of priority species within the scheme and a 1km buffer radius from the scheme boundary were obtained from Lancashire Environmental Records Network (LERN) as part of the Extended Phase 1 Habitat Survey Report (Jacobs, 2020a). For the purposes of this report, priority species records located within the scheme boundary and a 50m radius from the scheme boundary were considered most pertinent to the assessment; however, notable data outside of this distance is included where relevant.

#### 2.1.2 Preston Western Distributor/East West Link Road

A review of priority species information contained within *The Preston Western Distributor and East West Link Road Environmental Statement*, Chapter 6, Volume 2 was undertaken (Jacobs, 2017). The PWD/EWLR scheme is located adjacent to and within the Cottam Parkway scheme.

#### 2.1.3 Other Sources

A review was undertaken of the field survey results included within two preliminary ecological appraisal reports produced for two proposed housing developments in 2019 (E3P, 2019a and 2019b). The areas subject to survey for these proposed developments included a large parcel of pasture land between Sidgreaves Lane and Lea Road within the scheme itself and a parcel of land to the direct south of the scheme along Lea Road.

### 2.2 Field Survey

#### 2.2.1 Incidental Observations

All incidental observations of priority species were recorded during all ecology surveys undertaken for the scheme from October 2019 to October 2020. The extent of the data collection for incidental records varied per field survey type and covered up to a 500m radius from the scheme boundary. The following ecology surveys were completed for the scheme:

- Extended Phase 1 Habitat Survey (Jacobs, 2020a).
- Bats (Jacobs, 2020b and 2020c).
- Badger (Jacobs, 2020d).
- Great crested newt (Jacobs, 2020e).
- Otter and water vole (Jacobs, 2020f).
- Wintering birds (Jacobs, 2020g).
- Breeding birds (Jacobs, 2020h).
- Barn owl (*Tyto alba*) (Jacobs, 2020i).

It should be noted that common toad, which are a priority species, are to be covered in a separate document. In addition, any incidental records of the species and species groups listed above were captured within the corresponding reports referenced in Section 5.

Both the breeding and wintering bird surveys undertaken for the scheme also included the recording and mapping of brown hare and hedgehog sightings. The recording of mammals was introduced by the British Trust for Ornithology for use during their breeding bird survey methods as a way of collecting data on the distribution and population trends of common mammals. The extent of the bird survey area included land within the scheme and a 500m buffer area from the scheme boundary. The dates of each bird survey for the scheme are shown in Table 2.1.



Table 2.1 Breeding and wintering bird survey dates

Visit Number	Date of Survey Visit
<b>Wintering Bird Surveys</b>	
1	31 <sup>st</sup> October 2019
2	15 <sup>th</sup> November 2019
3	19 <sup>th</sup> December 2019
4	24 <sup>th</sup> January 2020
5	26 <sup>th</sup> February 2020
6	20 <sup>th</sup> March 2020
<b>Breeding Bird Surveys</b>	
1	28 <sup>th</sup> April 2020
	29 <sup>th</sup> April 2020
2	14 <sup>th</sup> May 2020
	15 <sup>th</sup> May 2020
3	11 <sup>th</sup> June 2020
	12 <sup>th</sup> June 2020

## 2.3 Evaluation

Ecological Impact Assessment uses a hierarchical geographic framework to assign importance to ecological features. This is based on an understanding of how the ecological feature may contribute to the conservation status or distribution of the species or habitat at a particular geographic scale. It involves an assessment of the biodiversity importance of ecological features and also involves consideration of other factors that can be attached to ecological features including ecosystem services and natural capital (CIEEM, 2018). The evaluation is based on professional judgement<sup>1</sup>, local knowledge and available data sources. The Lancashire Biological Heritage Site (BHS) selection criteria (Lancashire County Planning Department, 1998) provides criteria to indicate habitats (and some species populations) of **County** importance for biodiversity and this document has been used to inform the evaluation process. Opinions may differ slightly between professionals as to the value of ecological features/biodiversity resources; therefore, a clear explanation is provided to justify how the evaluation category has been assigned.

The new Design Manual for Roads and Bridges (DMRB) LA 108 Biodiversity guidance (Highways England, 2020) and the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland; Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018) recommends that the value/importance of a biodiversity resource/ecological feature be considered within a defined geographical context. The geographic categories stated in the two sets of guidance differ slightly but are largely comparable (see below).

Therefore, the value/importance of biodiversity resources within the study area was assessed according to the following defined geographical framework as per current CIEEM and Highways England guidance<sup>2</sup>.

- International and European (International or European).
- National (UK or National).
- Regional (Regional) e.g. North-West England.
- Metropolitan, County, Vice County or other local authority-wide area (County or equivalent authority) e.g. Lancashire.
- River Basin District (CIEEM only). District is used herein as a geographic frame of reference e.g. Preston.
- Estuary System/Coastal cell (CIEEM only).

<sup>1</sup> Professional judgement requires a trained and appropriately experienced individual to apply their skills and knowledge to reach an informed decision, as per British Standard 42020:2013. Biodiversity - Code of practice for planning and development (The British Standards Institution, 2013).

<sup>2</sup> The CIEEM (2018) value is given first with the corresponding Highways England (2020) value given in brackets where applicable.

- Local (Local) e.g. within 2km of the scheme.
- Less than local.

## **2.4 Limitations**

This report is intended to present information of priority species which may be present or were confirmed to be present within the scheme via a desk based study and incidental field sightings. It is not intended to replicate species / species group surveys. Generally, surveys were completed for species which were considered to be potentially present within the scheme and / or relevant buffer area (see Section 2.2.1). Further details of the ecological scoping process is to be detailed within the Ecology Chapter (Chapter 6) of the Environmental Statement (ES).

Although the data provided is the most complete set of species data available, the absence of records should not be taken as an indication of the absence of species.

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

## 3. Results

### 3.1 Desk Study

Desk study results for priority species supplied by LERN and also those relevant records gathered to inform the PWD/EWLR scheme are summarised below. Figure 1 (Appendix A) provides the location of all records within the scheme and a 50m radius from the scheme boundary.

#### 3.1.1 LERN Priority Species Data

A total of 84 desk study records of priority species within 1km of the scheme boundary were returned by LERN (full details provided in Table C-1 Appendix C). Of the 84 records, there were:

- One butterfly species (two records in total).
- Sixteen moth species (27 records in total).
- Two mammal species (43 records in total).
- One reptile species (nine records in total).
- One bony fish species (two records in total).
- One *Coleoptera* species (one record in total).

The vast majority of the butterfly and moth records relate to land within Springfield's Fuels (nearest record >60m west from the linear western section of the scheme and 850m west of the main body of the scheme) and the housing development areas around Cottam (500m north-east of the scheme).

The vast majority of mammal records relate to sightings of brown hare with records scattered throughout the 1km search radius (31 records – also see 3.1.2). Only one record of brown hare was within the scheme boundary. This record relates to the PWD/EWLR incidental records information (see Section 3.1.2). The location of this brown hare record is included on Figure 1. The remaining mammal records are of hedgehog with most records between 120m to 500m north-east of the scheme (also see Section 3.1.2).

All reptile records are of slow worm. Five records are located along the edge habitats of the Preston to Blackpool rail line<sup>3</sup>. Three of these records relate to the same location and were recorded during reptile surveys conducted for the PWD/EWLR scheme (see below). The other records relate to land within Springfield's Fuels. All slow worm records located within 50m of the scheme boundary are shown in Figure 1.

The LERN data search did not return any records of priority listed vascular plants, fungi (including lichens) and non-vascular plants. It can be confirmed that LERN supplied ten records of vascular plants included on the Lancs BAP Provisional Long List (Lancashire's Biodiversity Partnership, 2010). These records dated between 1991 and 2007. Whilst the locations of the records are only to within 0.5 to 1000m accuracy, based on the site descriptions, none of the listed species were recorded within the scheme boundary.

#### 3.1.2 PWD/EWLR Priority Species Data

A summary of the priority species recorded during the ecology surveys to support the PWD/EWLR scheme are provided below.

##### **Brown Hare**

A total of 25 of the 45 incidental brown hare records across the PWD/EWLR scheme between 2014 and 2015 fall within 1km of the Cottam Parkway scheme (Jacobs, 2017). The nearest record in relation to the scheme is a

<sup>3</sup> NB. One of the records only had a six figure grid reference (100m x 100m grid square) which limits the location accuracy as shown on the figure. The location of this record is described as 'north of the railway line' within LERN records.

sighting within an area of woodland immediately south of Lancaster Canal (SD 48649 31511 – Figure 1). This record was included in the LERN data.

### **Hedgehog**

A total of four records of hedgehog across the PWD/EWLR scheme fall within 1km of the Cottam Parkway scheme. These were recorded at three properties: Earl's Farm (two records), Foxfield Children's Home and Clock House Farm. All records were near Sidgreaves Lane (Jacobs, 2017). The nearest record of hedgehog is 120m north of the scheme at Earl's Farm (SD48753 31850).

### **Slow Worm**

Slow worm (one individual) was recorded during reptile surveys in 2015 (Jacobs, 2017) under an artificial refuge tile on three separate occasions (as listed in the LERN data). The record was immediately adjacent to the scheme boundary to the south of the railway line (SD48387 31391 – Figure 1).

### **Other Sources**

The preliminary ecological appraisals conducted on the land parcels within and adjacent to the scheme in 2019 (E3P, 2019a and 2019b) did not include any incidental records of priority species not already covered within the ecology reports listed in Section 2.2.1 and referenced in Section 5.

## **3.2 Field Survey**

Incidental observations of priority species recorded during the ecology field surveys are summarised below. Figure 1 (Appendix A) provides the location of all records located both within the scheme and a 50m radius from the scheme boundary.

### **Brown Hare**

Brown hare were recorded on most visits during the wintering and breeding bird surveys with a peak count of 14 recorded during the October 2019 wintering bird visit. Generally, sightings were scattered throughout the bird survey area (encompassing the scheme and a 500m buffer area from the scheme boundary). However, a higher concentration of the species was noted in the pasture land to the south of the scheme off Darkinson Lane. Brown hare numbers reduced during the breeding bird surveys with frequent sightings of between one to four individuals. However, it is likely that due to the increase in ground cover, brown hare were less likely to be readily observable.

Within the scheme boundary and a 50m buffer, incidental sightings of between one and four brown hares were recorded during ecology surveys conducted for the scheme (as shown in Figure 1, Appendix A).

The open, grazed pasture bordered by hedgerows, along with isolated woodland blocks provides optimal habitat for brown hare. The suitability of the pasture land within the scheme for breeding populations would be largely dependent on the field grazing and field management regime in any given year. However, based on the frequency of recordings, the land within and adjacent to the scheme does support multiple numbers of breeding brown hare.

### **Hedgehog**

Two incidental sightings of hedgehog were recorded within pastures fields to the north and south of the Lancaster Canal at SD 48867 31482 and SD 48893 31652 (Figure 1), both of which are within the scheme boundary. The hedgerows, treelines, small woodlands and pasture within the scheme boundary provides suitable habitats for this species.

## Slow Worm

One record of a slow worm was recorded during an aerial tree inspection survey conducted in August 2020. The slow worm was found under a discarded large plastic container within woodland to the east of Lea Road at grid reference SD 49558 31353 (Figure 1). This location is approximately 20m from the scheme boundary.

Due to the intensive management of the pasture fields, the vast majority of the land within the scheme is of low suitability for slow worm. However, the habitats both on and adjacent to the scheme boundary, particularly along the rail line, do provide suitability to support this species as is reflected by the desk study records.

## Other Priority Species

No other priority species were recorded throughout the duration of the field surveys undertaken. Due to nature of the habitats present, the scheme and adjacent area is unlikely to support notable populations / assemblages of other priority faunal species including those listed within Section 3.1.1 and Appendix C such as moth, butterfly and beetle species. In addition, the habitats within the scheme boundary are unlikely to support priority listed plants.

## 3.3 Evaluation

Table 3.1 provides context to the findings and an evaluation of the ecological importance of the priority species recorded. As the ecology surveys conducted for the scheme encompassed a range of surveys areas, to maintain consistency, the area for which the populations of priority species have been evaluated is based upon the land within the scheme and a 50m buffer. This area takes into account the likely potential zone of influence of the scheme for these species. Further details of the establishment of the zone of influence are to be detailed within the Ecology Chapter (Chapter 6) of the ES.

**Table 3.1. Evaluation of priority species**

Species	Study area for Evaluation	UK Conservation Status <sup>4</sup>	County and Local Distribution	Ecological Importance
Brown hare	Scheme + 50m radius	Widespread but declining.	On a County level the species has experienced a marked decline. There are no figures available for regional abundance but they appear to be most numerous in west Lancashire and the Fylde (Lancashire Biodiversity Partnership, 2001).	Multiple desk study and field records. Regular sightings of up to 14 individuals were recorded between October 2019 and October 2020. Within the scheme, between 1-4 individuals were regularly recorded.  Brown hare populations at a County level have declined and a species action plan for brown hare was produced (Lancashire Biodiversity Partnership, 2001). The North West Brown Hare Project (NWBHP) was also launched to arrest the declines in the north-west at a landscape scale (NWHB, 2013). Brown hare are not part of the considerations for Lancashire BHS selection criteria (Lancashire County Planning Department, 1998).

<sup>4</sup> Distribution data based on information collected for this report and via *A Review of the Population and Conservation Status of British Mammals: Technical Summary* (Mathews *et al*, 2018); and Status of the adder *Vipera berus* and slow-worm *Anguis fragilis* in England English Nature Research Reports, Report Number 546, English Nature, Northminster House, Peterborough PE1 1UA.

Species	Study area for Evaluation	UK Conservation Status <sup>4</sup>	County and Local Distribution	Ecological Importance
				Overall, the brown hare population associated with the study area is considered to be of <b>Local</b> importance for biodiversity.
Hedgehog	Scheme + 50m radius	Widespread but declining.	County population likely to reflect national population – widespread but declining.	<p>Two records of hedgehog were recorded in May and July 2020 and there are several desk study records within a 1km radius.</p> <p>Hedgehog populations nationwide are in decline with a more notable declines in rural populations (People's Trust for Endangered Species, 2018).</p> <p>Hedgehog are not part of the considerations for Lancashire BHS selection criteria (Lancashire County Planning Department, 1998).</p> <p>The habitats within the scheme including hedgerows, woodland and pasture land provide a valuable resource for hedgehogs and the population associated with the study area is considered to be of <b>Local</b> importance for biodiversity.</p>
Slow worm	Scheme + 50m	Widespread but declining.	Poor distribution data available. In the north-west slow worm are widespread but thought to be rare.	<p>One incidental record and five desk study records. All records are located within 50m of the scheme boundary, along the rail line and within woodland.</p> <p>Three of the desk study records relate to the reptile surveys undertaken in all suitable habitats for the PWD/EWLR scheme. Slow worm were recorded in one location only.</p> <p>Within the scheme, the vast majority of the land is sub-optimal for use by slow worm. However, the woodland, hedgerows and scrub habitats on scheme boundary present suitable locations to support the species.</p> <p>At a County level, under Lancashire BHS selection criteria Re1, any site which regularly supports a population of native reptiles (other than common lizard (<i>Zootoca vivipara</i>)) should be put forward for consideration of a BHS (Lancashire County Planning Department, 1998). It is considered that the records for slow worm within the scheme and 50m radius do not constitute BHS site selection; however, in consideration of the number and distribution of records, the slow worm population associated with the study area is considered to be of <b>Local</b> importance for biodiversity.</p>



## 4. Conclusions

The main conclusions drawn for priority species within the scheme are:

- Numerous desk study records were gathered for brown hare within a 1km radius of the scheme and a peak count of 14 brown hares were recorded during the October 2019 wintering bird survey. Additionally, brown hare continued to be recorded on a regular basis throughout the period in which other ecological surveys were being completed for the scheme. The habitats present within and adjacent to the scheme are optimal to support brown hare. Based on the number and distribution of records, the brown hare population associated with the study area is considered to be of **Local** importance for biodiversity.
- Four desk study records of hedgehog were identified within a 1km radius of the scheme. Two hedgehogs were recorded in May and July 2020. The habitats both within and adjacent to the scheme are suitable to support the species. Overall, based on the presence and distribution of hedgehog recorded via desk study and field records, the population associated with the study area is considered to be of **Local** importance for biodiversity.
- One incidental field record and five desk study records of slow worm were identified within 50m of the scheme boundary. These records were associated with woodland and the edge habitats along the rail line. The majority of the habitats within the scheme are generally considered to be sup-optimal to support slow worm; however, as the records indicate, the woodlands, hedgerows, scrub and other edge habitats, particularly along the scheme boundary are suitable to support the species. In consideration of the desk study and field results, the slow worm population associated with the study area is considered to be of **Local** importance for biodiversity.

An Ecology Chapter (Chapter 6) of an ES is to be produced for the scheme. The Ecology Chapter is to include a detailed evaluation of the data contained within this report along with an impact assessment, and where required, mitigation, avoidance, compensation and enhancement measures for brown hare, hedgehogs and slow worm.

## 5. References

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## **Appendix A. Figure**

**Figure 1 - Priority Species Desk Study and Field Survey Results**

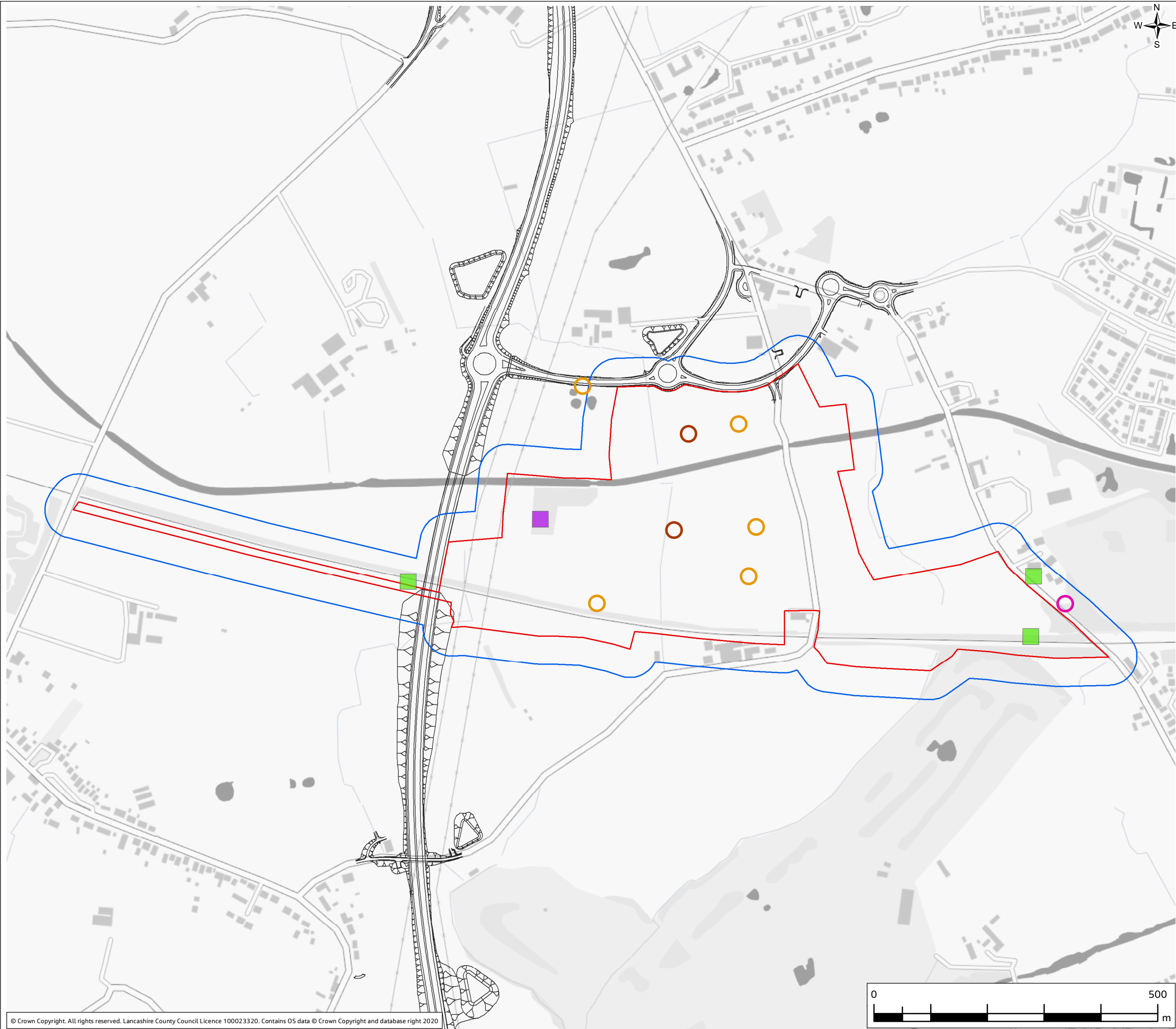


FIGURE 1

Legend

- PWD Route
- Scheme Boundary
- 50m Buffer from the Scheme Boundary

Desk Study Data Within Scheme Boundary and 50m Buffer

- Brown Hare
- Slow Worm

Incidental Field Records Within Scheme Boundary and 50m Buffer

- Brown Hare
- Hedgehog
- Slow Worm



0	DEC 20	Initial Issue	LDS	SM	RK	PH
Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd

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Project

Cottam Parkway Railway Station

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## Appendix B. Legislation, Policy and Biodiversity Background

### Brown Hare

Brown hare are afforded limited legal protection. They are protected under the Wild Mammals (Protection) Act 1996 which makes it an offence for any person to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate brown hare with intent to inflict unnecessary suffering.

Brown Hare are listed as a species of principal importance for the conservation of biodiversity in England under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006.

### Hedgehog

Hedgehog are afforded limited legal protection. Hedgehogs are protected under the Wild Mammals (Protection) Act 1996 (as above). Hedgehog also receive protection under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended). Under Schedule 6, Section 11, it is an offence to kill or capture wild hedgehogs via certain methods listed within the legislation.

Hedgehog are listed as a species of principal importance for the conservation of biodiversity in England under S41 of the NERC Act 2006.

### Reptiles

All native reptile species have some degree of protection in the UK, through section 9(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended).

The level of protection under section 9 (parts 1 and 5) applies to the four widespread species of reptile, namely the common lizard (*Zootoca vivipara*), slow-worm, grass snake (*Natrix helvetica*) and adder (*Viper berus*). Only part of sub-section 9(1) applies, which make it an offence to:

- Intentionally kill or injure; and
- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Grass snake, slow-worm and adder are all listed as a species of principal importance for the conservation of biodiversity in England under S41 of the NERC Act 2006.

A greater level of European and UK legal protection is afforded to sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*). However, both species have very localised distributions in England with no records of smooth snake in the north-west and regional records of sand lizard are limited to the coastline.



## Appendix C. Priority Species Records Provided By LERN

Table C-1 LERN desk study records within 1km of the scheme boundary

Species/ Species Group	Record Details	Most Recent Record	Biodiversity Context
Butterflies	White-letter hairstreak ( <i>Satyrion w-album</i> )	2015	S41 NERC Act 2006 Lancashire BAP
Bony fish	Two records of European eel ( <i>Anguilla anguilla</i> ).	2001	S41 NERC Act 2006 Lancashire BAP
Reptiles	Nine records of slow worm ( <i>Anguis fragilis</i> )	2015	S41 NERC Act 2006
Beetle	One record of two-tone reed beetle ( <i>Donacia bicolora</i> )	2015	S41 NERC Act 2006
Mammals	Twelve records of hedgehog ( <i>Erinaceus europaeus</i> ).	2015	S41 NERC Act 2006
	Thirty-one records of brown hare ( <i>Lepus europaeus</i> ).	2016	S41 NERC Act 2006 Lancashire BAP
Moths	One record of grey dagger ( <i>Acronicta psi</i> )	2014	S41 NERC Act 2006 Lancashire BAP
	One record of dusky brocade ( <i>Apamea remissa</i> )	1993	S41 NERC Act 2006
	One record of centre-barred sallow ( <i>Atethmia centrago</i> )	2015	S41 NERC Act 2006
	Two records of small square-spot ( <i>Diarsia rubi</i> )	2015	S41 NERC Act 2006
	Three records of small phoenix ( <i>Ecliptopera silaceata</i> )	2017	S41 NERC Act 2006
	One record of crescent ( <i>Helotropha leucostigma</i> )	2014	S41 NERC Act 2006
	One record of rosy rustic ( <i>Hydraecia micacea</i> )	2015	S41 NERC Act 2006
	One record of September thorn ( <i>Ennomos erosaria</i> )	2014	S41 NERC Act 2006
	Two records of dusky thorn ( <i>Ennomos fuscantaria</i> )	2015	S41 NERC Act 2006
	One record of shoulder-striped wainscot ( <i>Leucania comma</i> )	1993	S41 NERC Act 2006
	Three records of white ermine ( <i>Spilosoma lubricipeda</i> )	2017	S41 NERC Act 2006
	Three records of cinnabar ( <i>Tyria jacobaeae</i> )	2014	S41 NERC Act 2006
	Three records of buff ermine ( <i>Spilosoma lutea</i> )	2015	S41 NERC Act 2006
	One record of shaded broad-bar ( <i>Scotopteryx chenopodiata</i> )	2017	S41 NERC Act 2006
	One record of dark-barred twin-spot carpet ( <i>Xanthorhoe ferrugata</i> )	2014	S41 NERC Act 2006
	Two records of dot moth ( <i>Melanchra persicariae</i> )	2014	S41 NERC Act 2006