



## UNIVERSAL DESTINATIONS & EXPERIENCES UK PROJECT

Former Kempston Hardwick Brickworks  
and adjoining land, Bedford

### Environmental Statement Volume 3 Appendix 6.18 - Barn Owl Survey Report

Report reference: 4.6.18.0

Revision number: 00

Date: June 2025





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# 1 INTRODUCTION

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## 1.1 PROJECT BACKGROUND

- 1.1.1 WSP was commissioned to undertake a barn owl (*Tyto alba*) survey to support a planning proposal for the construction and operation of an entertainment resort complex and associated development (hereafter referred to as the 'Proposed Development'), on land southwest of Bedford, Bedfordshire (hereafter referred to as the 'Site'). Full details of the Proposed Development are provided in **Chapter 2: Description of the Proposed Development (Volume 1)**. The Site boundary is shown on **Figure 1: Barn Owl Desk Study Area of Annex 2: Figures**.

## 1.2 ECOLOGICAL BACKGROUND

- 1.2.1 A Preliminary Ecological Appraisal (PEA) produced in April 2024 (see **Appendix 6.1: Preliminary Ecological Appraisal Report (Volume 3)**) identified suitable barn owl habitat within the Site, comprising of grasslands, arable field margins, mature trees and buildings/structures. It was therefore recommended to undertake a barn owl survey in 2024/2025 to establish sufficient baseline data to inform the impact assessment.

## 1.3 BRIEF AND OBJECTIVES

- 1.3.1 WSP UK Ltd was commissioned to complete a Stage 1, 2 and 3 survey for barn owl with the following objectives:
- To determine the presence or absence of barn owl within the Site boundary, and assess the importance/significance of the habitats present for this species;
  - To complete field surveys to establish the presence of nesting and/or roosting barn owl;
  - To determine the importance and connectivity of the habitat for foraging barn owl; and
  - Present the findings of the surveys in a baseline report.
- 1.3.2 The target barn owl survey includes Stage 1, 2 and 3 surveys as per best practice guidance detailed within the *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment*<sup>1</sup>. This report details the results of the Stage 1 and 2 surveys only, which is considered a robust data set to inform the Environmental Impact Assessment (EIA).
- 1.3.3 Results have been used to inform the impact assessment and development of mitigation for barn owl across the Proposed Development. Details of the impact assessment are outlined in **Chapter 6: Ecology and Nature Conservation (Volume 1)**.

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<sup>1</sup> Shawyer, C.R. (2012) *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment*. Institute of Ecology and Environmental Management. Available at: <https://cieem.net/wp-content/uploads/2023/01/Barn-Owl-Survey-Methodology-Revised-2012Final.pdf> [Accessed: 15 April 2025].

## 2 RELEVANT LEGISLATION

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### 2.1 LEGAL COMPLIANCE

- 2.1.1 Under the *Wildlife and Countryside Act 1981 (as amended)*<sup>2</sup> it is an offence to intentionally kill, injure or take any wild bird. Additionally, it is an offence to intentionally take, damage or destroy the nest of any wild bird while it is in use or being built, and eggs of any wild bird are protected from being intentionally taken or destroyed.
- 2.1.2 Additional protection is extended to barn owls under Schedule 1 of the *Act*<sup>3</sup>. This means it is also an offence to disturb these species at or near the nest, or whilst they have dependent young.

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<sup>2</sup> Wildlife and Countryside Act 1981 (as amended from time to time)

<sup>3</sup> Wildlife and Countryside Act 1981, Schedule I (as amended from time to time)

## 3 METHODS

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### 3.1 DESK STUDY

- 3.1.1 A desk-based review of existing biological information was undertaken across the study area, comprising the Site and extended up to a 2.5km buffer, as shown in **Figure 1: Barn Owl Desk Study Area** of **Annex 2: Figures**. The desk study included data collected on roosting and nesting barn owl within 2.5km of the Site boundary. Only records up to 10 years old were considered within the assessment, as any records older than 10 years are unlikely to be still representative of barn owl usage of the local area.
- 3.1.2 A desk scoping study was also carried out prior to the field surveys to identify suitable barn owl foraging habitat (primarily rough unmanaged grassland and arable fields with large grass margins, meadows and habitat corridors), and trees or buildings/structures which could be used by roosting and nesting barn owls.
- 3.1.3 Densely wooded areas are not considered suitable foraging or breeding habitats for barn owl<sup>4</sup>, and therefore woodland within the Field Survey Area (defined below) was scoped out of this assessment.
- 3.1.4 This desk-based review utilised the following information sources:
- Multi Agency Geographic Information for the Countryside (MAGIC)<sup>5</sup>;
  - Ordnance Survey mapping and publicly available aerial photography;
  - UK Habitat data from the completed UK Habitat report (**Appendix 6.14: UK Habitat Classification Report (Volume 3)**); and
  - A data search report from The Bedfordshire and Luton Biodiversity Recoding and Monitoring Centre (BLBRMC) that included recent and historic barn owl records within 2.5km.

### 3.1.5 INCIDENTAL SIGHTINGS

- 3.1.6 The desk study comprised of reviewing incidental records from ongoing surveys within the Survey Area and a review of the completed PEA (**Appendix 6.1: Preliminary Ecological Appraisal Report (Volume 3)**) and UKHabitat survey produced in 2024 (**Appendix 6.14: UK Habitat Classification Report (Volume 3)**).

### 3.2 FIELD SURVEY

#### FIELD SURVEY AREA

- 3.2.1 The Field Survey Area consisted of all land where access was possible within the Site boundary, and a 50m buffer from the Site, excluding industrial and residential areas. This 50m buffer was extended to up to 500m where road networks were present, in which Public Right of Way access was used, presented in **Figure 2: Barn Owl Foraging Habitat** and **Figure 3: Potential Nesting**

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<sup>4</sup> Barn Owl Trust (2012) *Barn Owl Conservation Handbook*.

<sup>5</sup> Department for Environment Food and Rural Affairs (n.d.) *Magic Map*. Available at: <https://magic.defra.gov.uk/> [Accessed: 02 April 2025].

**and Roosting Locations of Annex 2: Figures.** Incidental barn owl evidence was also recorded during the completion of other ecological surveys conducted to support the EIA.

- 3.2.2 The survey followed best practice guidance detailed within the *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment*<sup>1</sup>. The guidance states “for most commercial or land development schemes, the most significant impacts are those that result in the permanent loss of breeding barn owls from a site. Displacement can also arise from the destruction or disconnection of key habitat features including nesting, roosting and foraging sites. For schemes such as these, the survey area is normally defined as that which falls within the development footprint. However, where a site offers potential foraging habitat and where barn owls do not breed within the site boundary, but may do so just outside, the survey area may need to be extended to ensure that a full assessment can be made of the site’s value”<sup>1</sup>.

## OVERVIEW OF APPROACH

- 3.2.3 Following best practice guidance<sup>1</sup>, the field surveys were undertaken as per the following two-stage approach:
- Stage 1: Site scoping survey – to identify and record habitat features within the Field Survey Area described above, which may support foraging, roosting and/or nesting barn owls; and
  - Stage 2 – investigative field survey – an investigation of the features identified during Stage 1 to record potential nest sites (PNS), active roost sites (ARS), temporary rest sites (TRS), and potential foraging habitat (PFH) or commuting habitat.

## STAGE 1 – SITE SCOPING SURVEY

- 3.2.4 The Stage 1 survey involved a walkover of the Survey Area on 19 November 2024 to 21 November 2024 during daylight hours to broadly record and assess suitability of features of potential value to barn owl, such as built structures, mature trees and other habitats that could offer potential roosting or nesting sites for barn owl.

## STAGE 2 – INVESTIGATIVE FIELD SURVEY

- 3.2.5 A Stage 2 field survey was carried out on the same dates (19 November 2024 to 21 November 2024) and focussed on the features suitable for barn owl identified during Stage 1. The survey was undertaken by an appropriately licenced ecologist, holding a CL29 Barn Owl class licence.
- 3.2.6 Field surveys identified if features have characteristics that could potentially support breeding (PNS) or were instead used for resting/roosting (TRS/ARS). PNS typically include:
- Agricultural or old industrial buildings with suitable access and possessing an upper floor, loft, roof void, blocked chimney, wide wall plate, bale-stack, empty water tank, ducting or large nestbox;
  - Disused or derelict cottages or industrial buildings such as aircraft hangers, which possess an open joist, broken ceiling panels, water tanks, disused chimney or large nestbox;
  - Mature trees, isolated or in clusters in open fields, hedgerow or on the woodland edge, containing a hole >70mm backed by a large, dark cavity, including those which have rotted-out to ground level but which offer no obvious access to ground predators through an open root structure;
  - Outdoor nestboxes on poles, trees, buildings or owl towers, which offer a dark chamber;
  - Outdoor bale-ricks;
  - Waterway, rail or road bridges containing suitable cavities within their structure; and



- Churches, mainly rural, and the chimneys of intermittently used holiday homes<sup>1</sup>.

- 3.2.7 The locations of features were mapped and their descriptions recorded. Field signs of barn owl indicating occupation, or potential occupation, typically include:
- Presence of adult barn owls;
  - Nests, eggs, or young (during the breeding season);
  - Pellets;
  - White ‘splashing’ caused by droppings;
  - Feathers;
  - Small mammal remains; and
  - Presence of blow flies (*Calliphoridae*).
- 3.2.8 Mature trees in open fields, hedgerows and woodland edges that may support barn owls were inspected externally from the ground. Trees of sufficient age and diameter to contain a cavity, along with trees that showed signs of damage or decay from wind or lightning strike were recorded. During the survey trees with holes of a sufficient size to allow access to a barn owl (minimum 70mm diameter hole), were identified and recorded.
- 3.2.9 All non-grassland habitat, including scrub, mature woodlands and arable fields, are not considered to be suitable as foraging habitat, and are therefore not considered in this assessment.
- 3.2.10 Agricultural buildings, bale stacks, barn owl boxes and other structures that could support roosting or nesting barn owls were recorded and inspected from the ground, with the use of binoculars, to note any field signs of barn owl presence.
- 3.2.11 Buildings and trees were inspected closely from the ground to assess if there were suitable cavities to enable a barn owl to enter, and the ground was searched for evidence of barn owl, in particular barn owl pellets or droppings. The locations of the buildings and structures with cavities large enough for barn owls to enter were recorded.
- 3.2.12 Potential Foraging Habitat (PFH) included grassland habitat within the Field Survey Area. The PFH on-Site was assessed according to its ability to support populations of small mammals, in particular Field Vole (*Microtus agrestis*), the principal food source for barn owl. Grassland was recorded as either Type 1, Type 2 or Type 3 barn owl habitat, each of which are explained in **Table 3-1** below<sup>1</sup>.

**Table 3-1 – Barn Owl Foraging Habitats Explained**

Classification	Description
Type 1	Type 1 habitat is ideal foraging habitat and comprises rough grassland characterised by tall tussocky grass with a thick (70-100mm) litter-layer within which small mammals can burrow.
Type 2	Type 2 habitat is sub-optimal for foraging but suitable to support feeding barn owls and is typically occasionally managed or grazed and supports a smaller litter layer.
Type 3	Type 3 habitat offers poor habitat barn owl, often classified as ‘improved grasslands’ characterised by having a homogenous sward, often kept short, no tussock structure and are devoid of any litter layer/thatch.

### 3.3 ASSUMPTIONS AND LIMITATIONS

- 3.3.1 Densely wooded areas are not considered suitable foraging or breeding habitats for barn owl<sup>4</sup>, and therefore woodland within the Field Survey Area was scoped out of this assessment following visual confirmation to be unsuitable habitat for barn owl. Individual trees in dense woodlands were therefore not assessed.
- 3.3.2 At the time of undertaking the Stage 1 and 2 surveys, due to the confidentiality of the project, local barn owl group records could not be requested and added to the report. WSP is aware of 50 barn owl boxes belonging to the Bedfordshire Barn Owl Group, mainly in the Ivel Valley on private land located approximately 14.5km east from the Site, checked yearly for nesting and roosting evidence. The lack of these records is not considered to be a significant limitation as a thorough Stage 1 and Stage 2 survey was undertaken of the Site.
- 3.3.3 A 2.5km buffer instead of the recommended 5km buffer<sup>1</sup> was employed during the Desk Study, with BLBRMC data returned for data within 2.5km of the Site. This is not considered a significant limitation due to the Site being surrounded by linear infrastructure and therefore the lack of suitable surrounding habitat for barn owl. Furthermore, the Stage 1 and 2 survey confirmed limited foraging habitat within the Site itself.

## 4 RESULTS

### 4.1 DESK STUDY

- 4.1.1 BLBRMC returned 91 records of barn owl from the last 10 years within 2.5km from the search point located within the Site boundary, as can be seen on **Figure 1: Barn Owl Desk Study Area of Annex 2: Figures** and detailed within **Annex 4**. The most recent record of barn owl returned by the BLBRMC was a singular count on 8 November 2022, recorded on a Bird Tracking Survey, this record was located approximately 1.14km west of the boundary. The closest record is located approximately 70m west of the Site, all data returned from the data search can be found in **Annex 4**.
- 4.1.2 The desk study identified suitable barn owl habitat within the Desk Study Survey Area, including a review of UKHab data identifying areas of modified grassland, built structures and mature trees.

### 4.2 INCIDENTAL RECORDS

**Table 4-1 – Barn Owl Incidental Records**

ID	Location	Date/Time	Incidental Type	Details
IR1	Lake Zone	28 February 2024	Sighting	One barn owl has been sighted by WSP surveyors on the Site, during a walkover survey on 28 February 2024. The barn owl was flushed by surveyors walking on either side of the scrub/line of trees located to the west of the top lake within the Lake Zone. The barn owl flew from the eastern side of the scrub towards the west, continuing to circle the lake and returning to the same location within the line of trees (see 'IR1' on <b>Figure 1: Barn Owl Desk Study Area of Annex 2: Figures</b> for the location of this sighting).
IR2	Lake Zone	23 October 2023, 2024 – 01:19 25 October 2024 – 18:11 26 October 2024 – 06:12	Camera trap recording	A barn owl has been captured on a camera trap on three separate occasions. This camera was located within the Lake Zone, on the eastern bank of the Rivere Great Ouse, which runs along the western boundary of the Site (see 'IR2' on <b>Figure 1: Barn Owl Desk Study Area of Annex 2: Figures</b> ). The recordings were captured on 23 October 2024 at 01:19, 25 October 2024 at 18:11, and 26 October 2024 at 06:12. All three recordings show the barn owl landing on the ground in front of the camera.
IR3	Lake Zone	9 September 2024 – 03:41	Camera trap recording	Barn owl was also captured on a camera trap situated within the Lake Zone of the Site, located along the fence

ID	Location	Date/Time	Incidental Type	Details
		13 October 2024 – 21:21		line and hedgerow along the northern boundary of the Site (see 'IR3' on <b>Figure 1: Barn Owl Desk Study Area of Annex 2: Figures</b> ). The first recording was captured 9 September 2024 at 03:41, and the second recording on 13 October 2024 at 21:21, both showing the barn owl landing in front of the camera.
IR4	Lake Zone	21 October 2024 – 20:32	Camera trap recording	A barn owl has been recorded in front of a camera trap located outside of badger sett 20, however the file containing recording this incidental sighting has since been corrupted and is not available to view. An additional recording of a barn owl was captured at this location 21 October 2024, at 20:32. Sett 20 is located within the Lake Zone, located on a bank of vegetated mound situated within the centre of the area, with a wet ditch running alongside (see 'IR4' on <b>Figure 1: Barn Owl Desk Study Area of Annex 2: Figures</b> ).
IR5	West Gateway Zone	10 October 2024 – 04:48	Camera trap recording	Barn owl activity has been further recorded at another camera trap deployed at badger sett 24 (see 'IR5' on <b>Figure 1: Barn Owl Desk Study Area of Annex 2: Figures</b> within the West Gateway Zone), with a barn owl recorded briefly entering a badger sett entrance hole and perching in front of it. This recording was taken on 10 October 2024, at 04:48.

- 4.2.1 The location of all incidental sightings detailed in **Table 4-1** are shown on **Figure 1: Barn Owl Desk Study Area of Annex 2: Figures** and recordings captured on camera traps can be viewed in **Annex 3** of this report.

## 4.3 FIELD SURVEY

### STAGE 1 – SITE IDENTIFICATION

- 4.3.1 The Field Survey Area comprises large areas of arable land, as well as woodland and grassland. The Stage 1 assessment identified there to be suitable foraging habitat and potential nest and roost sites within the Field Survey Area, which were further surveyed during the Stage 2 survey.

### STAGE 2 – FIELD SURVEYS

#### Foraging habitat

- 4.3.2 Areas of Type 2 grasslands are present in various locations across the different zones within the Survey Areas. Type 1 grassland was found to be significantly less common, with only one parcel of

land identified in this category, all parcels classified are listed in **Table 4-2**. Type 3 (poor) foraging habitat comprised managed, improved grassland habitats (as defined in **Table 3-1**).

- 4.3.3 As discussed in Section 3.2, all non-grassland habitat, including scrub, mature woodlands and arable fields, were not surveyed during Stage 2 field surveys due to being unsuitable for barn owl.
- 4.3.4 The Stage 2 surveys have shown that there are areas of suitable barn owl foraging habitat present within the Site.
- 4.3.5 The total area of foraging habitat recorded is outlined in **Table 4-2** and is shown as mapped areas in **Figure 2: Barn Owl Foraging Habitat of Annex 2: Figures**.

**Table 4-2 – Barn Owl Foraging Habitat on-Site**

Habitat Type	Location of Habitat	Area within 2km of Proposed Development	Area within Proposed Development
Type 1	1 parcel – Lake Zone, immediately adjacent to Site boundary (eastern boundary) within 50m study area Buffer	3.52ha	
Type 2	1 parcel – clearing within woodland at southern boundary of the West Gateway Zone, outside of the Site boundary  1 parcel – within central area of Lake Zone, continuing up grass track to north of parcel.		11.62ha
Type 3	1 parcel – northeast of boundary  1 parcel – within East Gateway Zone  1 parcel – east Core Zone  1 parcel – north of boundary at West Gateway Zone	6.26ha	0.52ha

#### Identification of Potential Roosting, Nesting or Resting Sites

- 4.3.6 During the Stage 2 surveys, three trees were identified and found to have roosting potential for barn owls within the Field Survey Area. One of these trees contained bird droppings within and down the external surface of the tree, of which demonstrated the features and characteristics of barn owl splashing, however no definitive evidence of barn owl was identified and therefore it could not be determined as an ARS. This tree was also considered to have nesting potential for barn owls (PNS), although no evidence of barn owl was recorded to suggest that this tree was in use or had been recently.

- 4.3.7 During the Stage 2 surveys, one barn owl box was identified within the Field Survey Area, located approximately 35m south of the southern boundary of the Core Zone at Broadmead Farm. The barn owl box has been erected on a dilapidated brick barn, at approximately 3m above ground level. At the time of survey, the barn owl box appeared disused due to the presence of cobwebs, and absence of feathers and pellets outside of the box.
- 4.3.8 Two further barn owl nesting locations were identified in close proximity to this barn owl box, both being trailers located on the Farm to the south of the Site boundary. Due to the condition of the trailers, the trailers have not been used as a mode of transportation for an extended period and should be considered stable structures for PNS as they are unlikely to move.
- 4.3.9 Of the buildings assessed during Stage 2 surveys, three buildings were identified as having PNS for barn owls, all located within the Field Survey Area in the 50m buffer outside of the Site boundary, although no evidence of barn owl was recorded to suggest that these buildings were in use or had been in use.
- 4.3.10 The above results have been presented in **Table 4-3** below and locations shown on **Figure 3: Potential Nesting and Temporary Resting Locations of Annex 2: Figures**.

**Table 4-3 – Barn Owl Nesting and Resting Sites Identified on-Site**

ID	Feature Description	Nest Suitability
1	Potential nesting site located in old trailer containing hay bales, with a hole in the sidings of the trailer at the eastern end displaying splashing evidence. As seen in <b>Annex 1</b> – photograph 3 and 4.	PNS
2	Trailer with large split in fabric siding at front (southern) end displaying some splashing evidence. Landowner has confirmed that there have been multiple sightings of barn owls entering and exiting the trailer. As seen in <b>Annex 1</b> – photograph 5.	PNS
3	Barn owl box on dilapidated brick barn, no evidence of barn owl presence or use at time of Stage 1 and 2 survey. As seen in <b>Annex 1</b> – photograph 1 and 2.	PNS
4	Ancient crack willow tree with heartwood completely rotted internally creating a cavity. Deemed to have negligible nesting suitability during stage 1 and 2 surveys. As seen in <b>Annex 1</b> – photograph 8.	TRS
5	Large cavity in tree that leads to a chamber, some splashing on bark of tree but no clear evidence. As seen in <b>Annex 1</b> – photograph 6 and 7.	PNS
6	Mature willow with potential for cavities, surrounded by dense scrub. The tree is likely to be unsuitable for barn owl due to density of scrub.	TRS
7	Barn with potential to support barn owl. Hole of suitable size for barn owl above door and large open pipes leading to internal space of barn/warehouse building. As seen in <b>Annex 1</b> – photographs 9 and 10.	PNS

ID	Feature Description	Nest Suitability
8	Old abandoned barn with potential to support barn owls, multiple large holes in wooden panelling. As seen in <b>Annex 1</b> – photograph 11.	PNS
9	Hole in corrugated metal roof of barn suitable size for barn owl. No further entrances identified. As seen in <b>Annex 1</b> – photograph 12.	PNS

## 5 SUMMARY

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- 5.1.1 This report has found that Barn Owls are present across the Survey Area and within the surrounding local area, with evidence of the species produced across the Site throughout ongoing surveys and data captured on trail cameras left on the Site. Several barn owls have been recorded on trail cameras, mainly in October due to when cameras were deployed on the Site.
- 5.1.2 During Stage 2 surveys on-Site, seven PNS sites were identified. Of the seven PNS, two of the recorded features were farm trailers, one barn owl box, three buildings and one tree.
- 5.1.3 Two Temporary Resting Sites were identified on-Site, both being trees with negligible nesting potential.
- 5.1.4 Surveys completed at the time of this report have shown that there are areas of suitable barn owl foraging habitat present within the Survey Area of the Proposed Development.



# Annex 1

## PHOTOGRAPHS





Photograph 1 – PNS barn owl box located on dilapidated brick barn within O&H land to the south of Core Zone (ID3, Figure 3).



Photograph 2 – PNS barn owl box located on dilapidated brick barn within O&H land to the south of Core Zone (ID3, Figure 3).



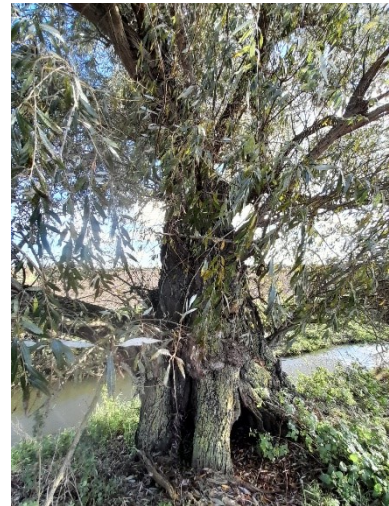
Photograph 3 – PNS hole in siding of trailer containing hay bales, some evidence of splashing can be seen (ID1, Figure 3).



Photograph 4 – PNS hole in siding of trailer containing hay bales, some evidence of splashing can be seen (ID1, Figure 3).



Photograph 5 – PNS in old trailer with hay bales and hole in end of trailer with some splashing (ID2, Figure 3).



Photograph 6 – PNS in ancient crack willow, cavity that leads to a chamber with some splashing (ID5, Figure 3).



Photograph 7 – PNS in ancient crack willow, cavity that leads to a chamber with some splashing (ID5, Figure 3).



Photograph 8 – PNS ancient crack willow with large amount of rot within heartwood (ID4, Figure 3).





Photograph 9 – PNS boarded up barn/warehouse creating PNS for barn owl. Hole above door (ID7, Figure 3).



Photograph 10 – PNS boarded up barn/warehouse creating PNS for barn owl. Large open pipes leading inside (ID7, Figure 3).



Photograph 11 – PNS old, abandoned barn with high suitability for PNS and Type 1 foraging suitability site nearby (ID8, Figure 3).



Photograph 12 – PNS old barn with hole in roof creating PNS, low suitability (ID9, Figure 3).

# Annex 2

## FIGURES



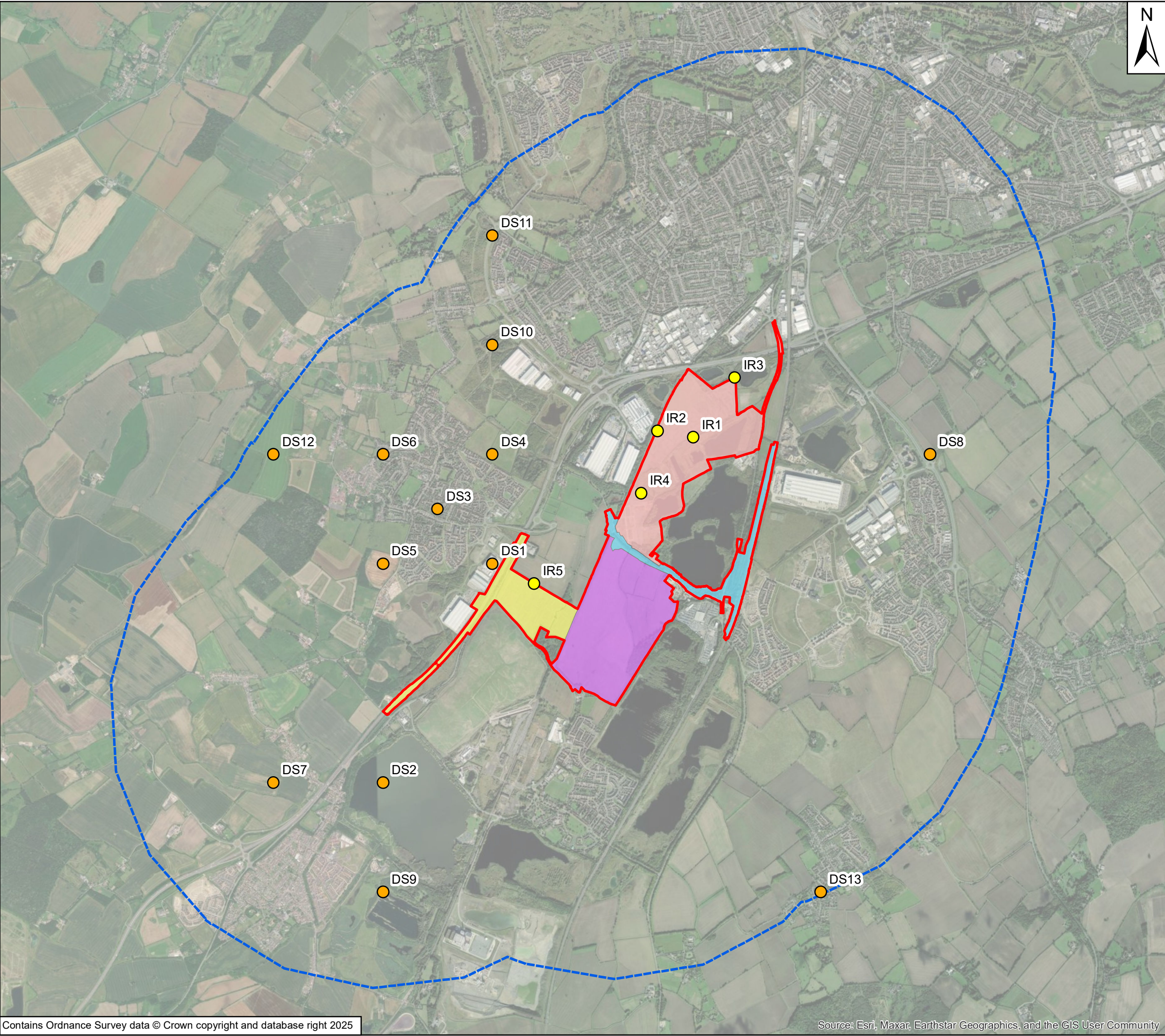


**Figure 1: Barn Owl Desk Study Area**

**Figure 2: Barn Owl Foraging Habitat**

**Figure 3: Barn Owl Survey – Potential Nesting and Temporary Resting Locations**





N

Key

Site boundary

Core Zone

East Gateway Zone

Lake Zone

West Gateway Zone

2.5km Desk Study Buffer

Incidental records

Desk study results

05001,000

Meters

wsp

Client:

Universal Destinations & Experiences

Project:

Universal Destinations & Experiences  
UK Project

Title

Barn Owl Desk Study Area

Drawing No: Figure 1

Date: 22/05/2025

Scale: 33,607 @ A3

Drawn: AP

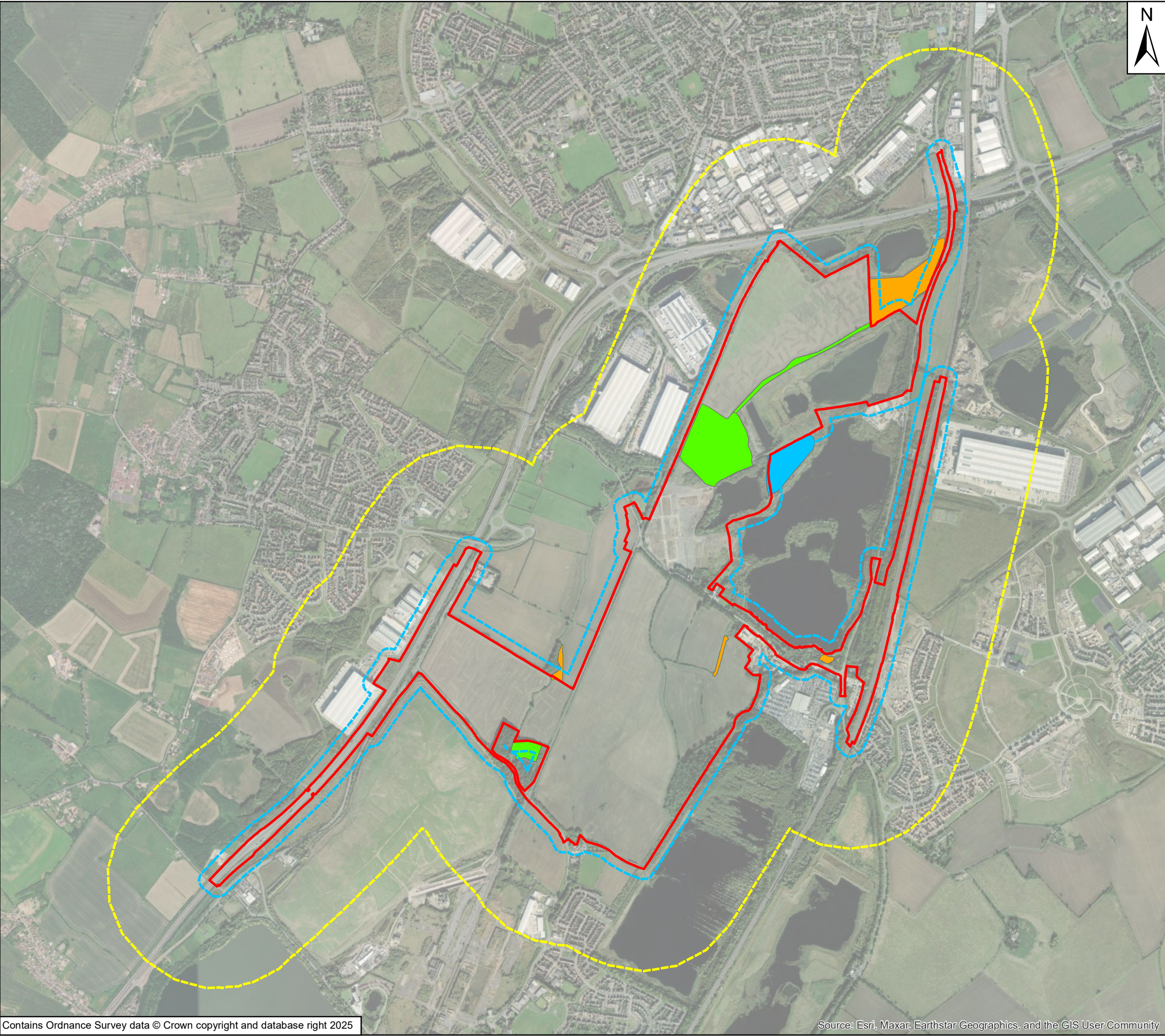
Checked: CM

Approved: SB

Contains Ordnance Survey data © Crown copyright and database right 2025

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community





N

Key

Site boundary

50m Field Study Buffer

500m Field Study Buffer

Type 1 Grassland - Optimum

Type 2 Grassland - Sub-optimum

Type 3 Grassland - Poor

05001,000

Meters

wsp

Client:

Universal Destinations & Experiences

Project:

Universal Destinations & Experiences  
UK Project

Title

Barn Owl Foraging Habitat

Drawing No: Figure 2

Date: 22/05/2025

Scale: 18,000 @ A3

Drawn: AP

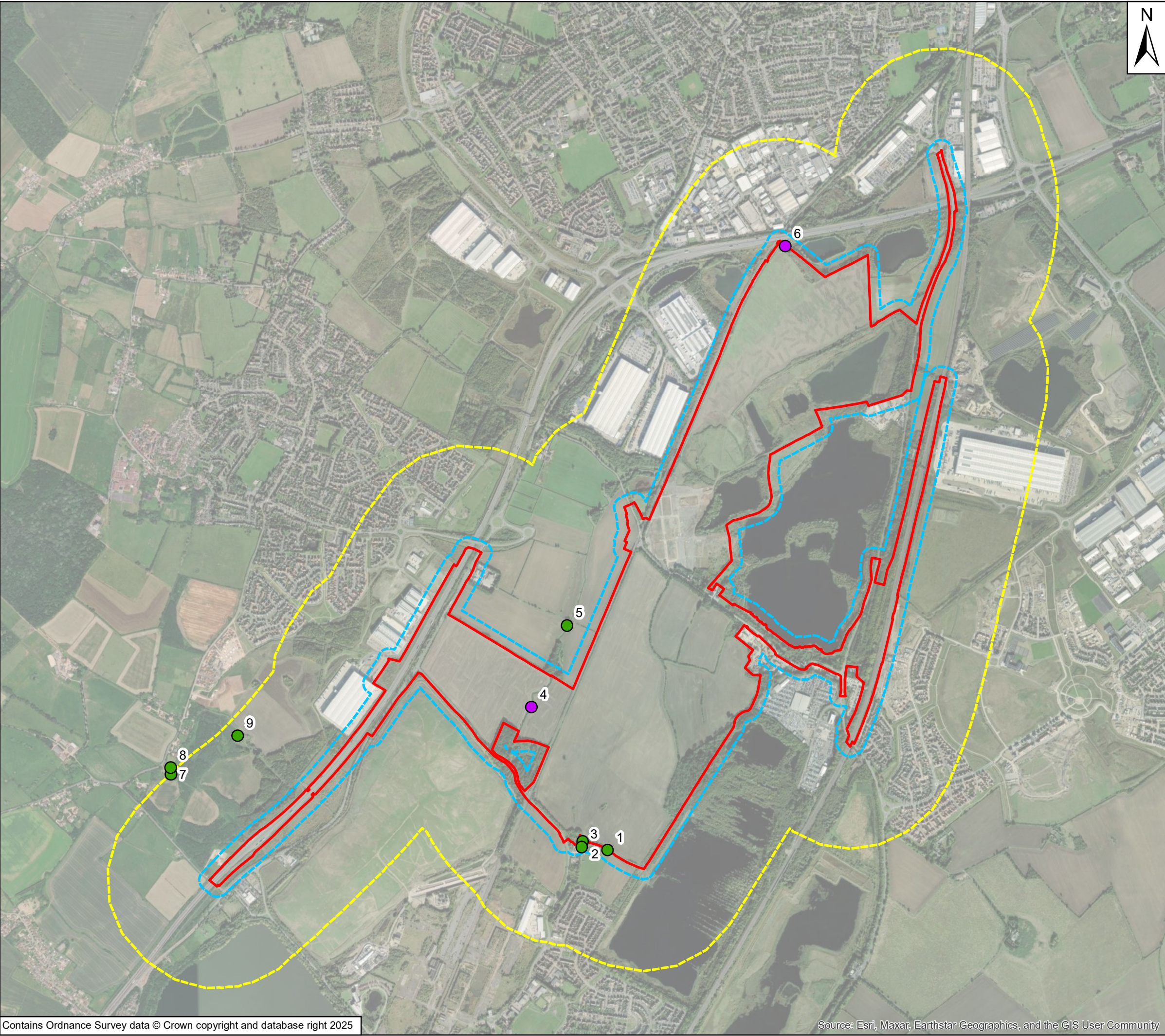
Checked: CM

Approved: SB

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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



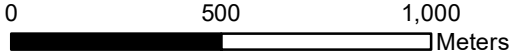


**Key**

- Site boundary
- 50m Field Study Buffer
- 500m Field Study Buffer

**Roosting or Nesting Sites**

- Potential Nesting Site
- Temporary Rest Site




Client:	Universal Destinations & Experiences		
Project:	Universal Destinations & Experiences UK Project		
Title	Barn Owl Survey - Potential Nesting and Temporary Resting Locations		
Drawing No:	Figure 3	Drawn:	AP
Date:	22/05/2025	Checked:	CM
Scale:	18,000 @ A3	Approved:	SB





# Annex 3

## INCIDENTAL RECORDINGS



Incidental record ID	Date of recording	Images/video stills
IR2	<p>23 October 2024 – 01:19</p> <p>25 October 2024 – 18:11</p> <p>26 October 2024 – 06:13</p>	
IR3	<p>9 September 2024 – 03:41</p> <p>13 October 2024 – 21:21</p>	

Incidental record ID	Date of recording	Images/video stills
IR4	21 October 2024 – 20:32	 <p>Bushnell 45°F 7°C 10-21-2024 20:32:22</p>
IR5	10 October 2024 – 04:48	 <p>Bushnell TROPHY CAM 44°F 6°C 10-10-2024 04:48:18</p>

# Annex 4

## DESK STUDY DATA



ID	Scientific name	Common name	Date	Grid reference	Site	Comment	Distance from Site (m)
DS01	<i>Tyto Alba</i>	Barn Owl	27 December 2019	TL0150044500	Wootton	Location: CP Farm; Dead on the old A421	72m west
DS02	<i>Tyto Alba</i>	Barn Owl	8 March 2015	TL0050042500	Lower Shelton	Location: Lower Shelton near marston Moretaine	625m south
DS02	<i>Tyto Alba</i>	Barn Owl	4 November 2016	TL0050042500	Lower Shelton	Location: Lower Shelton near marston Moretaine	625m south
DS02	<i>Tyto Alba</i>	Barn Owl	10 November 2017	TL0050042500	Lower Shelton	Location: Lower Shelton near marston Moretaine	625m south
DS02	<i>Tyto Alba</i>	Barn Owl	2 January 2020	TL0050042500	Lower Shelton	Seen at 17:30 along the Lower Shelton access track.	625m south
DS03	<i>Tyto Alba</i>	Barn Owl	22 March 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	26 March 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	28 April 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	29 April 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	30 April 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west

ID	Scientific name	Common name	Date	Grid reference	Site	Comment	Distance from Site (m)
DS03	<i>Tyto Alba</i>	Barn Owl	31 May 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	31 May 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	10 June 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	12 June 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	14 June 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	17 June 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	19 June 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	6 July 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	18 July 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	1 August 2018	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	14 May 2019	TL0100045000	Wootton	Location: Wootton Bedford Rd	758m west
DS03	<i>Tyto Alba</i>	Barn Owl	17 February 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	20 February 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	21 February 2020	TL0100045000	Wootton		758m west

ID	Scientific name	Common name	Date	Grid reference	Site	Comment	Distance from Site (m)
DS03	<i>Tyto Alba</i>	Barn Owl	23 February 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	27 February 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	2 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	8 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	9 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	13 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	14 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	15 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	18 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	19 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	22 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	23 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	25 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	26 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	30 March 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	1 April 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	5 April 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	14 April 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	18 April 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	29 April 2020	TL0100045000	Wootton		758m west



ID	Scientific name	Common name	Date	Grid reference	Site	Comment	Distance from Site (m)
DS03	<i>Tyto Alba</i>	Barn Owl	25 May 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	1 July 2020	TL0100045000	Wootton		758m west
DS03	<i>Tyto Alba</i>	Barn Owl	10 July 2020	TL0100045000	Wootton		758m west
DS04	<i>Tyto Alba</i>	Barn Owl	17 May 2014	TL0150045500	Wootton	Location: Potters Cross Wootton;	767m west
DS04	<i>Tyto Alba</i>	Barn Owl	18 January 2016	TL0150045500	Wootton	and 19 January Location: Bedford Road, Wootton	767m west
DS04	<i>Tyto Alba</i>	Barn Owl	19 April 2016	TL0150045500	Wootton	Location: Bedford Road, Wootton	767m west
DS04	<i>Tyto Alba</i>	Barn Owl	08 June 2016	TL0150045500	Wootton	and 14 June, 15 June and 19 June too Location: Bedford Road, Wootton	767m west
DS04	<i>Tyto Alba</i>	Barn Owl	21 June 2016	TL0150045500	Wootton	Caught small mammal and carried it away. Location: Bedford Road, Wootton	767m west
DS05	<i>Tyto Alba</i>	Barn Owl	25 March 2015	TL0050044500	Wootton	Location: Wootton Village	888m west
DS05	<i>Tyto Alba</i>	Barn Owl	31 March 2015	TL0050044500	Wootton	Location: Wootton Village	888m west
DS05	<i>Tyto Alba</i>	Barn Owl	09 April 2015	TL0050044500	Wootton	Location: Wootton Village	888m west
DS05	<i>Tyto Alba</i>	Barn Owl	29 April 2015	TL0050044500	Wootton	Location: Wootton Village	888m west

ID	Scientific name	Common name	Date	Grid reference	Site	Comment	Distance from Site (m)
DS05	<i>Tyto Alba</i>	Barn Owl	17 May 2015	TL0050044500	Wootton	Location: Wootton Village; pair. one the next day. one 25 May	888m west
DS05	<i>Tyto Alba</i>	Barn Owl	02 June 2015	TL0050044500	Wootton	Location: Wootton Village; and 3 June and 4 June	888m west
DS05	<i>Tyto Alba</i>	Barn Owl	14 June 2015	TL0050044500	Wootton	Location: Wootton Village; and 25th June	888m west
DS05	<i>Tyto Alba</i>	Barn Owl	13 September 2015	TL0050044500	Wootton	Location: Wootton Village	888m west
DS05	<i>Tyto Alba</i>	Barn Owl	20 March 2017	TL0050044500	Wootton	Location: Wootton Village	888m west
DS05	<i>Tyto Alba</i>	Barn Owl	27 February 2020	TL0050044500	Wootton		888m west
DS05	<i>Tyto Alba</i>	Barn Owl	31 December 2017	TL0050044500	Wootton	Location: Wootton Village	888m west
DS06	<i>Tyto Alba</i>	Barn Owl	08 November 2022	TL0050045500	Wootton		1148m west
DS07	<i>Tyto Alba</i>	Barn Owl	19 October 2015	SP9950042500	Lower Shelton	Location: Lower Shelton near marston Moretaine; Hunting along the lower Shelton access track	1191m southwest

ID	Scientific name	Common name	Date	Grid reference	Site	Comment	Distance from Site (m)
DS07	<i>Tyto Alba</i>	Barn Owl	26 June 2017	SP9950042500	Lower Shelton	Location: Lower Shelton near marston Moretaine	1191m southwest
DS07	<i>Tyto Alba</i>	Barn Owl	10 August 2017	SP9950042500	Lower Shelton	Location: Lower Shelton near marston Moretaine	1191m southwest
DS07	<i>Tyto Alba</i>	Barn Owl	18 December 2017	SP9950042500	Lower Shelton	Location: Lower Shelton near marston Moretaine	1191m southwest
DS07	<i>Tyto Alba</i>	Barn Owl	19 March 2020	SP9950042500	Lower Shelton	Seen along access track.	1191m southwest
DS07	<i>Tyto Alba</i>	Barn Owl	7 February 2022	SP9950042500	Marston Moretaine	Sitting in silver birch sheltered from wind	1191m southwest
DS08	<i>Tyto Alba</i>	Barn Owl	3 June 2014	TL0550045500	Wixams	Location: BD A6 near Elstow; Between mill and river	1400m east
DS09	<i>Tyto Alba</i>	Barn Owl	3 January 2015	TL0050041500	Marston Vale Millennium Country Park	Location: Millennium Country Park - Wetlands Nature Reserve	1621m south
DS09	<i>Tyto Alba</i>	Barn Owl	18 January 2015	TL0050041500	Marston Vale Millennium Country Park	Location: Millennium Country Park - Wetlands Nature Reserve	1621m south

ID	Scientific name	Common name	Date	Grid reference	Site	Comment	Distance from Site (m)
DS09	<i>Tyto Alba</i>	Barn Owl	9 February 2015	TL0050041500	Marston Vale Millennium Country Park	Location: Millennium Country Park - Wetlands Nature Reserve; At wetland box	1621m south
DS09	<i>Tyto Alba</i>	Barn Owl	12 March 2015	TL0050041500	Marston Vale Millennium Country Park	Location: Marston Vale Millenium Park Wetlands Reserve	1621m south
DS09	<i>Tyto Alba</i>	Barn Owl	22 May 2015	TL0050041500	Marston Vale Millennium Country Park	Location: Marston Vale CP; Breeding Status: NY	1621m south
DS09	<i>Tyto Alba</i>	Barn Owl	3 January 2016	TL0050041500	Marston Vale Millennium Country Park	Location: Millennium Country Park - Wetlands Nature Reserve	1621m south
DS09	<i>Tyto Alba</i>	Barn Owl	26 February 2016	TL0050041500	Marston Vale Millennium Country Park	Location: Millennium Country Park - Wetlands Nature Reserve	1621m south
DS09	<i>Tyto Alba</i>	Barn Owl	27 May 2016	TL0050041500	Marston Vale Millennium Country Park	Snoring heard from nest box Breeding Status: ON Location: Marston Vale CP (TL04 A)	1621m south

ID	Scientific name	Common name	Date	Grid reference	Site	Comment	Distance from Site (m)
DS09	<i>Tyto Alba</i>	Barn Owl	16 June 2020	TL0050041500	Marston Vale Millennium Country Park		1621m south
DS09	<i>Tyto Alba</i>	Barn Owl	6 April 2022	TL0050041500	Marston Vale Millennium Country Park		1621m south
DS10	<i>Tyto Alba</i>	Barn Owl	20 March 2018	TL0150046500	Ridgeway Wood	Location: Ridgeway Wood, Wootton	1717m west
DS10	<i>Tyto Alba</i>	Barn Owl	10 February 2020	TL0150046500	Wiles Wood		1717m west
DS10	<i>Tyto Alba</i>	Barn Owl	11 February 2020	TL0150046500	Wiles Wood		1717m west
DS10	<i>Tyto Alba</i>	Barn Owl	15 May 2020	TL0150046500	Wiles Wood		1717m west
DS10	<i>Tyto Alba</i>	Barn Owl	30 May 2020	TL0150046500	Wiles Wood		1717m west
DS11	<i>Tyto Alba</i>	Barn Owl	8 July 2019	TL0150047500	Kempston Rural	Location name: Kempston Mill Meadows	2166m west northwest
DS12	<i>Tyto Alba</i>	Barn Owl	4 May 2018	SP9950045500	Wootton Wood CWS	Location: Wootton Wood	2367m west
DS12	<i>Tyto Alba</i>	Barn Owl	10 June 2018	SP9950045500	Wootton Wood CWS	Location: Wootton Wood Caught a small mammal.	2367m west

ID	Scientific name	Common name	Date	Grid reference	Site	Comment	Distance from Site (m)
DS13	<i>Tyto Alba</i>	Barn Owl	14 October 2014	TL0450041500	Houghton Conquest	Location: Houghton Conquest; Source: Beds Birds Yahoo Group	2463m south southeast
DS13	<i>Tyto Alba</i>	Barn Owl	4 February 2020	TL0450041500	Houghton Conquest		2463m south southeast



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