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# Yorkshire Green Energy Enablement (GREEN) Project

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## Version History

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# 1. Introduction

## 1.1 Purpose of this report

- 1.1.1 This report has been produced for the purpose of presenting the results of the bat surveys undertaken as part of the Yorkshire Green Energy Enablement (GREEN) Project (“the Project” or “Yorkshire GREEN”).

## 1.2 The Project

- 1.2.1 The Project comprises new electricity infrastructure, such as new overhead lines, substations, cables and equipment to connect overhead lines to buried cables, known as Cable Sealing End Compounds (CSECs), as well as works to existing overhead lines and substations.
- 1.2.2 The Project is a Nationally Significant Infrastructure Project (NSIP) and requires consent from the Secretary of State via a Development Consent Order (DCO).
- 1.2.3 The maximum extent of development for which permission will be sought is indicated by the Order Limits, land within which is hereafter referred to as ‘land within the Order Limits’. These are illustrated on **Figure 1.2, Volume 5, Document 5.4.1**.
- 1.2.4 Where appropriate, reference is also made in this report to the ‘survey area’ encompassing land within the Order Limits plus an additional 50 metres (m) surrounding buffer (which is shown on **Figure 8.5, Volume 5, Document 5.4.8**). This buffer accounts for the potential of ecological features present immediately outside of the Order Limits to be impacted by the Project. The Order Limits and survey area is dominated by arable fields with rough grass field margins and bound by hedgerows. Areas of woodland and scrub are also present.
- 1.2.5 This report details the results of bat surveys undertaken as part of the Ecological Impact Assessment (EclA) to inform the Environmental Statement (ES) for the Project. This report forms a technical appendix to **Chapter 8: Biodiversity, Volume 5, Document 5.2.8**.

## 1.3 Legislative context

- 1.3.1 All British bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). Taken together, this legislation makes it an offence, inter alia, to undertake the following:
- Deliberately capture, injure or kill a bat;
  - Deliberately disturb a bat (this applies anywhere, not just at its roost), in particular in such a way as to be likely to;
    - impair their ability to survive, breed or reproduce, or rear or nurture their young;
    - impair their ability to hibernate or migrate; or
    - affect significantly the local distribution or abundance of that bat species.

- Damage or destroy a breeding site or resting place of any bat;
  - Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection; or
  - Intentionally or recklessly obstruct access to any place that a bat uses for shelter or protection (this is taken to mean all bat roosts whether bats are present or not).
- 1.3.2 The legislation afforded to bats has been considered when designing survey scope to inform the assessment (set out in **Section 2**) ensuring appropriate survey methods and coverage to establish whether the Project could potentially cause an offence under the legislation.
- 1.3.3 **Chapter 8: Biodiversity, Volume 5, Document 5.2.8** outlines all relevant national and local planning policy for biodiversity.



## 2. Methods

### 2.1 Overview

- 2.1.1 A variety of field survey methods (as discussed further below) were used to assess the presence and usage of land by bats within the Order Limits. These have been conducted in line accordance with the following best practice guidelines: Bat Surveys for Professional Ecologists: Good Practice Guidelines, Third Edition (Bat Conservation Trust, 2016) <sup>1</sup>
- Bat Workers' Manual, Third Edition (Mitchell-Jones and McLeish, 2004)<sup>2</sup>
  - Bat Mitigation Guidelines (Natural England, 2004)<sup>3</sup>
  - British Standards (BS) 8596:2015 Surveying for Bats in Trees and Woodland (British Standards Institution, 2016)<sup>4</sup>
  - Bat Tree Habitat Key (Andrews *et al*, 2013)<sup>5</sup>
- 2.1.2 The above best practice guidance has been interpreted using professional experience from suitably qualified and experienced consultants to develop a robust and detailed survey design specific to the survey area and adapted as necessary to account for emerging survey data.

### 2.2 Desk study

- 2.2.1 To inform the survey and assessment process, a desk based data-gathering exercise was undertaken to obtain relevant bat data from the local area for the last ten years (2011-2021). This data was requested from West Yorkshire Joint Services (WYJS) and North and East Yorkshire Ecological Data Centre (NEYEDC) respectively in June 2021. MagicMap<sup>6</sup> was also utilised for licence records.
- 2.2.2 The data gathered included the following:
- information relating to designated sites with bat interest features up to 10km from the Order Limits;
  - records of foraging and commuting bats up to 2km from the Order Limits;

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<sup>1</sup> J. Collins (ed.). (2016) Bat surveys for professional ecologists: Good practice guidelines. 3rd Edition. Bat Conservation Trust; London.

<sup>2</sup> A.J. Mitchell-Jones A.P. McLeish, A.P. (2004). Bat Workers' Manual. 3rd Edition. JNCC; Peterborough.

<sup>3</sup> A.J. Mitchell-Jones (2004). Bat Mitigation Guidelines. Natural England; Peterborough.

<sup>4</sup> British Standards Institution (2015). BS 8596:2015: Surveying for bats in trees and woodland. BSI; London.

<sup>5</sup> H. Andrews (2018). Bat roosts in trees: a guide to identification and assessment for tree-care and ecology professionals. Pelagic Publishing; Exeter

<sup>6</sup> Defra (2022). Magic maps. (online) Available at: <https://magic.defra.gov.uk/magicmap.aspx> (Accessed October 2022).

- records of bat roosts up to 5km from the Order Limits; and
- records of active or recent European Protected Species Mitigation (EPSM) licences covering bats.

## 2.3 Field surveys

### Approach to field survey design

#### Overview

2.3.1 To enable a robust and proportionate assessment, a variety of best practice survey methods were implemented to assess the presence and usage of land by bats within the Order Limits. These methods included the following:

- Habitat assessment;
- Activity survey:
  - Manual transect survey; and
  - Static monitoring survey.
- Roost identification in trees and buildings:
  - Preliminary Ground Level Roost Assessment (GLRA) of trees;
  - Aerial tree-climbing inspections; and
- Acoustic data analysis.

#### Habitat assessment

2.3.2 An extended Phase 1 habitat survey<sup>7</sup> of the survey area (where access was permitted and possible) was undertaken by between May 2021 and July 2022 (**Appendix 8B: Extended Phase 1 habitat report, Document 5.3.8B, Volume 5**). During the survey habitats were assessed for their suitability to support foraging (based on BCT guidelines, 2016<sup>1</sup>), roosting and commuting bats and were assigned a category of suitability, as defined in **Table 2.1**.

**Table 2.1 – Factors considered when assessing the potential suitability of habitats for bats**

Suitability	Features
Negligible	Negligible habitat features that are likely to be used by foraging or commuting bats. Habitat may be brightly lit by artificial lighting.
Low	Habitat that could be used by small numbers of commuting bats such as hedgerows with intermittent gaps or an unvegetated stream, but isolated and not well connected to the surrounding landscape by other suitable habitats.

<sup>7</sup> Joint Nature Conservation Committee (JNCC) (2010). Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit (online) Available at: <https://hub.jncc.gov.uk/assets/9578d07b-e018-4c66-9c1b-47110f14df2a> (Accessed 11 August 2021).

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## Suitability Features

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	Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub. A site/habitat may be well-lit by artificial lighting in some areas.
Moderate	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting, such as lines of trees and scrub.</p> <p>Habitat connected to the wider landscape that could be used by bats for foraging such as woodlands, scrub, grassland or open water.</p> <p>Habitat may be lit by artificial lighting, but this is low-level and/or only affects parts of the habitat within a given site.</p>
High	<p>Continuous, high-quality habitat that is well connected to the wider landscape and likely to be regularly used by commuting bats. Such as river valleys, vegetated streams, intact hedgerows and woodland edge.</p> <p>High quality habitat that is well connected to the wider landscape and likely to be rich in invertebrate prey for foraging bats. Such as broadleaved woodland, tree-lined watercourses, water bodies and grazed parkland. Habitat is typically unlit by artificial lighting.</p>

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## Activity survey

### *Manual transect survey*

- 2.3.3 The extended Phase 1 habitat survey identified the survey area as having Moderate suitability in accordance with BCT guidelines (2016) <sup>1</sup>, to support commuting and foraging bats. In line with Bat Conservation Trust (2016) guidelines the following survey effort was applied with regards to manual transect survey work:
- One survey visit per month (April to October inclusive) in appropriate weather conditions for bats. At least one of the surveys should comprise a dusk and pre-dawn survey (or dusk to dawn survey) within one 24-hour period.
- 2.3.4 Four transect routes: Transects 1, 2, 4 and 5 (the 'Transect Routes' or the 'Transects') (see **Figure 8.22, Volume 5, Document 5.4.8**) were designed to be a similar length, survey suitable bat habitat in areas where impacts were predicted from the Project such as habitat loss which may cause habitat severance. Where possible, the Transect Routes were designed to incorporate a range of different habitat features along their length, this included areas with potentially important bat flight-lines, and areas considered suitable for foraging and/or roosting bats.
- 2.3.5 A fifth Transect Route was initially planned (Transect 3), however this route could not be included in the survey work due to lack of access permission. This area was however included in the static detector surveys (see **Section 2.3.37**).
- 2.3.6 Where access permitted, Transects 1, 2, 4 and 5 were visited once per month (September and October 2021, and April 2022 to September 2022 inclusive) with an additional pre-dawn survey visit undertaken within the same 24-hour period in July 2022. In cases where a Transect had been visited in September 2021 the transect was not visited again in September 2022.

- 2.3.7 Dusk surveys commenced at sunset and finished once the surveyors walked two circuits of the transect route (lasting approximately two to three hours after sunset and therefore in line with BCT Good Practice Guidance (Bat Conservation Trust, 2016)); while pre-dawn surveys commenced two hours prior to sunrise and finished at sunrise. During each survey visit, the surveyor recorded the number of passes of each bat species and, where it could be determined and the type of activity heard (e.g. foraging or social calls).
- 2.3.8 While walking along the transect route, surveyors watched for bat activity (light levels permitting) and monitored bat calls using Elekon Batlogger M detectors, with later analysis of bat calls to aid species identification.
- 2.3.9 For the purpose of this assessment, the term ‘pass’ will be used to discuss the recordings of bat activity, where a pass is defined as the sequence of ultrasonic vocalisations emitted by a bat during foraging or commuting activity. The term ‘call’ will be used to refer to the general sonic parameters of the vocalisations, for example in discussing the difficulty in distinguishing the calls of one species from another,
- 2.3.10 Survey visits started at a different location on each visit to allow for variations in activity along the transect route at different times of the evening. Surveys dates, times and environmental conditions are set out in **Table 2.2**.

**Table 2.2 – Manual transect surveys – dates, times and weather conditions**

<b>Date</b>	<b>Start/End Time</b>	<b>Sunset/Sunrise</b>	<b>Weather Conditions at start of survey</b>
<b>Transect 1</b>			
12 October 2021	18:15/20:35	18:15	Temperature: 15°C; Wind: calm; Rain: none; Cloud Cover: 100%
26 April 2022	20:26/22:44	20:26	Temperature: 8°C; Wind: calm; Rain: none; Cloud Cover: 85%
30 May 2022	21:23/23:44	21:23	Temperature: 10°C; Wind: calm; Rain: none; Cloud Cover: 80%
23 June 2022	21:41/00:03	21:41	Temperature: 17.5°C; Wind: calm; Rain: light; Cloud Cover: 80%
20 July 2022	21:29/00:15	21:22	Temperature: 20°C; Wind: calm; Rain: none; Cloud Cover: 95%
21 July 2022	03:01/05:21	05:01	Temperature: 18°C; Wind: calm; Rain: none; Cloud Cover: 100%
23 August 2022	20:16/22:10	20:16	Temperature: 20°C; Wind: calm; Rain: none; Cloud Cover: 40%
12 September 2022	19:30/21:50	19:30	Temperature: 17°C; Wind: light; Rain: none; Cloud Cover: 40%

<b>Date</b>	<b>Start/End Time</b>	<b>Sunset/Sunrise</b>	<b>Weather Conditions at start of survey</b>
<b>Transect 2</b>			
27 September 2021	18:52/21:17	18:52	Temperature: 12°C; Wind: calm; Rain: none; Cloud Cover: 50%
13 October 2021	18:13/20:40	18:13	Temperature: 16°C; Wind: calm; Rain: none; Cloud Cover: 100%
26 April 2022	20:26/23:12	20:26	Temperature: 8°C; Wind: calm; Rain: none; Cloud Cover: 0%
31 May 2022	21:24/23:45	21:24	Temperature: 10.5°C; Wind: calm; Rain: light; Cloud Cover: 95%
22 June 2022	21:41/00:08	21:41	Temperature: 17.5°C; Wind: light; Rain: none; Cloud Cover: 0%
18 July 2022	21:25/23:46	21:25	Temperature: 22°C; Wind: calm; Rain: none; Cloud Cover: 10%
19 July 2022	02:57/04:59	04:57	Temperature: 16.5°C; Wind: calm; Rain: none; Cloud Cover: 15%
23 August 2022	20:16/22:45	20:16	Temperature: 19°C; Wind: calm; Rain: none; Cloud Cover: 50%
<b>Transect 4</b>			
27 September 2021	18:52/21:00	18:52	Temperature: 14°C; Wind: light; Rain: none; Cloud Cover: 40%
13 October 2021	18:14/20:49	18:14	Temperature: 14°C; Wind: variable from calm to moderate; Rain: none; Cloud Cover: 90%
26 April 2022	20:27/22:34	20:27	Temperature: 7°C; Wind: calm; Rain: none; Cloud Cover: 10%
24 May 2022	21:14/23:32	21:14	Temperature: 8°C; Wind: calm; Rain: none; Cloud Cover: 5%
23 June 2022	21:41/23:42	21:42	Temperature: 19°C; Wind: calm; Rain: none; Cloud Cover: 90%
20 July 2022	21:22/23:33	21:22	Temperature: 19.5°C; Wind: light; Rain: none; Cloud Cover: 100%
21 July 2022	02:59/05:01	05:01	Temperature: 17.5°C; Wind: light; Rain: light; Cloud Cover: 100%
23 August 2022	20:16/22:50	20:16	Temperature: 12°C; Wind: light; Rain: none; Cloud Cover: 0%



Date	Start/End Time	Sunset/Sunrise	Weather Conditions at start of survey
<b>Transect 5</b>			
29 September 2021	18:47/20:47	18:47	Temperature: 10.5°C; Wind: moderate; Rain: none; Cloud Cover: 25%
14 October 2021	18:11/20:05	18:11	Temperature: 14°C; Wind: moderate; Rain: none; Cloud Cover: 80%
31 May 2022	21:23/23:32	21:23	Temperature: 10°C; Wind: calm; Rain: none; Cloud Cover: 75%
23 June 2022	21:47/00:09	21:41	Temperature: 18°C; Wind: calm; Rain: none; Cloud Cover: 0%
20 July 2022	21:22/23:22	21:22	Temperature: 18.5°C; Wind: calm; Rain: none; Cloud Cover: 95%
21 July 2022	03:01/05:01	05:01	Temperature: 17.5°C; Wind: light; Rain: light and sporadic; Cloud Cover: 100%
25 August 2022	20:14/22:08	20:14	Temperature: 19°C; Wind: light; Rain: none; Cloud Cover: 0%

### Static monitoring

- 2.3.11 BCT Good Practice Guidance (Bat Conservation Trust, 2016) states that the following level of static monitoring survey effort should be undertaken at sites that have been assessed as having Moderate suitability to support foraging and commuting bats:
- Static bat detectors (the ‘static detectors’) to be deployed at two locations per transect, with data to be collected on five consecutive nights per month (April to October inclusive) in appropriate weather conditions for bats.
- 2.3.12 Therefore, two static detectors (Wildlife Acoustics Song Meter SM4) labelled as ‘a’ and ‘b’ respectively, were deployed on the four walked Transect Routes giving eight static detector locations overall. These static detector locations are referenced as Static 1a, 1b, 2a, 2b, 4a, 4b, 5a and 5b respectively, and are shown in **Figure 8.22, Volume 5, Document 5.4.8**.
- 2.3.13 In addition, six further static detectors were placed at locations which, while not on Transect Routes, were areas of suitable bat habitat which may be impacted by the Project. As shown on **Figure 8.22, Volume 5, Document 5.4.8**, these further static locations are labelled 3a, 3b, 6a, 6b, 7a and 8a; with a total 14 of static detectors deployed. Descriptions of the static detector locations are shown in **Annex 8H.1**. If a static detector had been deployed in September 2021, the survey was not repeated at this same location in September 2022. Dates of static detector deployment are shown in **Table 2.3**.
- 2.3.14 Static detectors were set to record bat passes continuously from 30 minutes before sunset to 30 minutes after sunrise for a minimum of ten consecutive nights per month (September to October 2021 and April to September 2022). Of these ten nights, a consecutive block of five nights was then chosen for analysis. The five nights were

chosen based on the prevailing weather conditions being suitable on those nights for optimum surveys results. Suitable weather for bats surveys is considered to be as follows:

- No strong wind;
- Sunset temperatures at least 10°C; and
- Little to no rain.

2.3.15 Weather recordings were taken from a weather station adjacent to the Order Limits<sup>8</sup> full details of weather conditions experienced during static detector survey work are provided in **Table E.2, Annex 8H.1**.

**Table 2.3 – Dates of static monitoring data collection**

<b>Static</b>	<b>September 2021</b>	<b>October 2021</b>	<b>April 2022</b>	<b>May 2022</b>	<b>June 2022</b>	<b>July 2022</b>	<b>August 2022</b>	<b>September 2022</b>
<b>1a</b>	24 to 28	03 to 07	20 to 24	24 to 28	05 to 10	01 to 05	23 to 27 July	No survey
<b>1b</b>	No survey	21 to 25	No survey	No survey	No survey	08 to 12	01 to 05	No survey
<b>2a</b>	24 to 28	21 to 25	20 to 24	09 to 14	09 to 13	27 June to 01 July	01 to 05	No survey
<b>2b</b>	24 to 28	21 to 25	20 to 24	09 to 13	09 to 13	08 to 12	08 to 12	No survey
<b>3a</b>	No survey	21 to 25	20 to 24	24 to 28	09 to 13	08 to 12	08 to 12	01 to 05
<b>3b</b>	No survey	21 to 25	20 to 24	24 to 28	09 to 13	08 to 12	08 to 12	02 to 06
<b>4a</b>	24 to 28	21 to 25	20 to 24	02 to 06	24 to 28	08 to 12	08 to 12	No survey
<b>4b</b>	24 to 28	03 to 07	20 to 24	24 to 28	09 to 13	08 to 12	08 to 12	No survey
<b>5a</b>	No survey	No survey	No survey	24 to 28	09 to 13	08 to 12	08 to 12	02 to 06
<b>5b</b>	24 to 28	21 to 25	20 to 24	24 to 28	09 to 13	08 to 12	08 to 12	No survey
<b>6a</b>	24 to 28	21 to 25	20 to 24	24 to 28	09 to 13	14 to 18	10 to 14	No survey
<b>6b</b>	No survey	No survey	20 to 24	24 to 28	09 to 13	08 to 12	08 to 12	02 to 06
<b>7a</b>	24 to 28	21 to 25	20 to 24	06 to 10	09 to 13	No survey	08 to 12	No survey
<b>8a</b>	24 to 28	21 to 25	No survey	No survey	No survey	No survey	No survey	No survey

<sup>8</sup> Weather Underground (2022). Weather Forecast (online) (Accessed October 2022)

## Roost identification in trees

### *Preliminary ground level roost assessment (GLRA) of trees*

2.3.16 Trees<sup>9</sup> likely to be subject to direct effects within the Order Limits were assessed by a GLRA in 2022 and categorised according to their level of suitability to support roosting bats in accordance with BCT good practice guidelines (Bat Conservation Trust, 2016). The categories of suitability are summarised in **Table 2.4**. During the inspection, information was collected in respect of the following:

- Tree age;
- Tree species;
- Potential Roosting Features (PRF) suitable for use by bats; and
- Evidence of use of the tree by roosting bats, such as droppings, straining, or actual bats.

2.3.17 Surveys were carried out by a surveyor holding a Natural England (NE) bat survey licence (Level 1 or 2) and utilised close-focussing binoculars and a high-powered torch. Survey dates and environmental conditions are set out in **Table 2.4**.

**Table 2.4 – Criteria for determining potential bat roost suitability of trees (from Collins, 2016)**

Potential roost suitability	Criteria
Low	A tree of sufficient size and age to contain PRFs but with none visible from the ground or features visible but with very limited roosting potential.
Moderate	A tree with one or more PRFs which could be used by bats due to the size, shelter, protection, and conditions of the feature; but with the surrounding habitat unlikely to support a roost of high conservation status.
High	A tree with one or more PRFs that are suitable for use by large numbers of bats on a regular basis, and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

**Table 2.5 – Ground Level Roost Assessment survey visits – dates, times and weather conditions**

Date	Survey type	Weather conditions
10 May to 1 June 2022	GLRA of trees	Temperature ranged between 13-20°C for the duration of the surveys. Rain was light/intermittent except for heavy rain on 31 May. Wind was light to moderate for the majority of the surveys. Cloud Cover varied from 20-80%.

<sup>9</sup> No buildings or structures will be impacted by the Project and as such no surveys have been required to inform the assessment.

### *Aerial tree climbing inspections*

- 2.3.18 Following the GLRA, 58 trees were taken forward for aerial tree climbing inspections using ropes, harness, and where appropriate, ladders. An additional 11 trees were added following a change to Project, bringing the total to be climbed to 69. The purpose of the climbs was to search for bats or evidence of bats such as scratches, smoothing of surfaces, staining, bat droppings, audible squeaking or insect remains. Trees climbed met the following criteria:
- Assessed as having Moderate or High suitability to support roosting bats;
  - Likely to be impacted by the Project;
  - Safe to climb; and
  - Could not be fully inspected from the ground (due to their height and location).
- 2.3.19 The surveys comprised aerial inspections of PRFs using endoscope and high-powered torch and were carried out by experienced and suitably licensed surveyors from RSK on. The surveyors licence numbers were as follows:
- NE licence number 2015-11883-CLS-CLS;
  - 2017-21708-CLS-CLS; and
  - 2015-18157-CLS-CLS.
- 2.3.20 Two aerial inspection surveys were conducted on 43 trees during July and August 2022 and a single climb on 11 trees during September 2022. Fifteen trees could not be climbed safely.
- 2.3.21 Following the aerial tree climbing inspections, the trees were re-categorised (again using the criteria in **Table 2.4**). The fifteen trees which could not be climbed retained their original suitability to support roosting bats as determined during the GLRA.
- 2.3.22 In the absence of defined methodology for tree climbing roost inspections, two climbs were conducted initially to maximise opportunities for roost detection. However, as no confirmed evidence of roost occupation was identified during any climbs during the period July to August, and as there was minimal change in roost suitability categorisation between the first and second climbs (only one tree had increased suitability from moderate to high due to removal of nesting material in cavity between climbs), a single inspection climb was carried out at remaining 11 trees during September in the interests of taking a robust and pragmatic approach.

## **Data processing and analysis**

### *Transect bat pass analysis*

- 2.3.23 Analysis of bat recordings was carried out with reference to published guidance to aid species identification<sup>10,11</sup>. Transect bat passes were analysed using the BatExplorer software program and assigned into species or species groups depending on the quality of the recording and confidence of identification. The following species and species

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<sup>10</sup> J. Russ, J (2012). British Bat Calls a Guide to Species Identification. Pelagic Publishing; Exeter.

<sup>11</sup> N. Middleton, A. Froud and K. French (2014). Social calls of the bats of Britain and Ireland. Pelagic Publishing; Exeter.

groups were used. Note the following assessment uses English names only; with the Latin names for bat species are contained in **Annex 8H.2**:

- Common pipistrelle;
- Soprano pipistrelle;
- Nathusius' pipistrelle;
- Soprano/Common pipistrelle;
- Common pipistrelle/Nathusius' pipistrelle;
- Noctule;
- Serotine;
- Leisler's bat;
- NSL (noctule/serotine Leisler's bat);
- *Nyctalus* sp. (noctule or Leisler's bat);
- *Myotis* sp. (bat species in the genus *Myotis*);
- Long-eared bat;
- *Myotis* sp. or long-eared bat; and
- Bat sp. (bat passes that could not be ascribed to a species group).

### *Static detector survey analysis*

2.3.24 Due to the large volume of static data, the manual identification of records returned from the static detector surveys was not considered practicable. Instead, the British Trust for Ornithology's (BTO) Acoustic Pipeline auto-identification software was used with additional manual quality auditing applied.

2.3.25 After Acoustic Pipeline was supplied with the data, results were returned with a suggested species identification for each bat pass together with probability rating (0-1) describing the confidence of that species identification. Following this, data was split into species folders and manual auditing was undertaken to determine the error rates of the Acoustic Pipeline process. This was completed as follows:

- Recordings with probabilities greater than 0.5 (>50%) were checked until an error-rate asymptote was reached, and the auditors had confidence that auditing more files would not affect the rate;
- A sample of recordings with confidence lower than 0.5 (<50%) was checked and an error rate calculated; and
- A random sample of noise/no ID files was checked, and an error rate calculated.

2.3.26 Certain species and species groups are known to be difficult to identify with confidence. Some common sound analysis issues include the following:

- Calls of all *Myotis* species are extremely similar in many cases and can be difficult if not impossible to tell apart in many instances;
- Calls of noctule and Leisler's bat can often overlap, and depending on the quality of the call, both can be confused with serotine;



- Calls of long-eared species overlap and are often hard to capture due the low output and difficult to analyse as a result;
- Nathusius' pipistrelle calls can overlap with the calls of the far more ubiquitous common pipistrelle.

2.3.27 When the Acoustic Pipeline passes were checked, the error rate for *Myotis* sp. passes when those passes were assigned to species at greater than 50% confidence were found to be extremely low (0.13%). In cases where they were assigned at less than 50% confidence the error rates were still extremely low (1.44%).

2.3.28 For *Nyctalus* sp., the error rate for passes assigned to species level at greater than 50% confidence was extremely low for *Nyctalus* sp. (0.63%). The error rate for the passes with less than 50% confidence is much higher (14.4%), with a small proportion of the non-*Nyctalus* sp. passes appearing to be small mammals, brown long-eared bats, or common pipistrelle social calls.

2.3.29 Based on the above, it was necessary to set an internal confidence threshold based on the probability assigned by Acoustic Pipeline. The thresholds chosen are detailed in **Table 2.6**.

**Table 2.6 – Thresholds for assigning species to species of species groups**

Species label assigned to passes through Acoustic Pipeline	If Probability level	Then assigned as
Common pipistrelle	>50%	Common pipistrelle
	<50%	Common pipistrelle/Soprano pipistrelle
Soprano pipistrelle	>50%	Soprano pipistrelle
	<50%	Common pipistrelle/Soprano pipistrelle
Nathusius pipistrelle	>80%	Nathusius' pipistrelle
	<80%	Common pipistrelle/Nathusius' pipistrelle
Noctule	>75%	Noctule
	<75%	<i>Nyctalus</i> sp.
Serotine	>75%	Serotine
	<75%	Noctule/Serotine/Leisler's
Leisler's	>75%	Leisler's
	<75%	<i>Nyctalus</i> sp.
Natterer's bat	N/A	<i>Myotis</i> sp.
Daubenton's bat		
Whiskered bat		

Species label assigned to passes through Acoustic Pipeline	If Probability level	Then assigned as
Brandt's bat		
Bechstein's		
Brown long-eared bat	>75%	Brown long-eared bat
	<75%	<i>Myotis</i> sp./Long-eared bat

- 2.3.30 A single identification of an Alcaethoe bat with a probability of less than 0.2 was made by the BTO pipeline; however, this could not be confirmed and due to the location and habitats present within Order Limits there is a low probability of this species being present.
- 2.3.31 Where records from the detector surveys were not identified to species level during the sound analysis process due to the overlapping call parameters of some species, records were identified to genus/species group.
- 2.3.32 Whilst it is very difficult to distinguish between the two British species of long-eared bat through flight observations and sound recordings alone; grey long-eared bat have not been recorded in this region of England, therefore all long-eared records were confirmed to species level are considered to relate to brown long-eared bat.

#### *Ecobat*

- 2.3.33 Ecobat is an online software tool which allows comparison of bat of relative bat activity levels. It facilitates the interpretation of the 'raw numbers' to allow a more contextual analysis of the data and a more accurate assessment of what constitutes 'High' and Low levels of bat activity. The online tool was down for maintenance at the time this report was being prepared. Therefore the levels of bat activity were based on professional judgement.

#### *First and last recorded bat*

- 2.3.34 The first bat of each species or species group was specifically noted on dusk surveys, while the last bat was noted on dawn surveys. On dusk surveys, the closer in time to sunset a bat is recorded, the greater the chance that the bat has emerged from a nearby roost. On dawn surveys, the closer in time to sunrise a bat is recorded, the greater the chance it is already near its roost.
- 2.3.35 Based on Bat Conservation Trust, 2016 guidance the first/last bat was considered a potential roost record for:
- *Pipistrellus*, *Nyctalus* and serotine bats where they were recorded within half an hour after sunset or before sunrise; and
  - *Myotis*, barbastelle and long-eared species where they were recorded within one hour after sunset or before sunrise.
- 2.3.36 These periods encompass the typical emergence time for the species and, thus where bats are recorded in this period, it may indicate a roost situated in the locality.

## Limitations and Constraints

### *Roost identification in trees*

2.3.37 Following the completion of the bat survey work, additional areas of vegetation that could potentially be affected by the Project were identified and as such have not been surveyed and included within this report. Any trees in these areas that have the potential to support roosts (of a size and age which could support PRF's) will be subject to a GLRA following the same methods detailed within this report for roost identification in trees (**Section 2.3.38**). Any trees assessed to have moderate or high suitability to support roosting bats will be subject to a single aerial inspection over winter 2022/2023, and where considered necessary, further tree climbs and/or emergence/re-entry surveys in 2023 would be undertaken. The results of the surveys will be provided during the DCO examination phase in order to confirm the suitability of the proposed embedded environmental measures and whether the conclusions in the ES remain unchanged.

### *Climbed Tree Inspections*

2.3.38 Thirty-two trees could not be surveyed fully or at all as a result of climber safety, access restrictions, or complex cavities where it was not possible to fully inspect the feature due to endoscope length and manipulation limits. Ash dieback was noted as a particularly prevalent issue throughout the Order Limits, thereby restricting the number of trees that could be safely climbed. Full details on these constraints are detailed in **Annex 8H.3 Aerial tree climbing inspection limitations**.

### *Transect Surveys*

2.3.39 No access was permitted to Transect 1 in September 2021, the September survey for this transect was therefore deferred until September 2022. Although the results are not directly comparable with the results of Transects 2, 4 and 5 for September 2021, this is not considered to be a significant constraint as a complete season of data has been collected for all transects. The April 2022 survey for Transect 5 could not be completed due to lack of access.

2.3.40 A fifth Transect Route was planned (Transect 3), however this route could not be included in the survey work due to lack of access permission. This area was however included in the static detector surveys (static detectors 3a and 3b).

### *Static detector surveys*

2.3.41 Land access was not available for the following surveys:

- Static 1b: September 2021;
- Static 3a: September 2021;
- Static 3b: September 2021;
- Static 5a: September/October 2021 and April 2022;
- Static 6b: September/October 2021;
- Static 7a: July 2022; and
- Static 8a: April to August 2022.

2.3.42 Where access limited static detector data collation at 3a (September 2021), 3b (September 2021), 5a (September 2021), and 6b (September 2021); surveys were instead completed in September 2022 at these locations. The lack of data from September 2021 at these locations is therefore not a major constraint. Survey data is missing from Static 1b in April, May, June and September 2022 due to theft of the detector or lack of access. The missing data from 1b and 5a (October and April 2022), 6b (October 2021), 7a (July 2022) and 8a (April to August) presents a data gap, however, in terms of the overall assessment, it is concluded that sufficient data has been gathered from other survey months across the Order Limits to allow robust conclusions to be made to inform an impact assessment.

## **Personnel**

2.3.43 The programme of surveys was led by National Grid Electricity Transmission plc's ("National Grid") appointed consultant Principal Ecologist (Natural England (NE) Bat Class 1 Licence registration no. 2017-32182-CLS-CLS), who has over seven years' experience in ecological consultancy and bat surveys. The survey lead was assisted by suitably qualified and experienced ecologists.

## 3. Results

### 3.1 Desk study

#### Designated sites

- 3.1.1 There are no internationally/nationally important sites that are designated for bat conservation within the Order Limits or within 10km (internationally designated sites) or 5km (nationally designated sites) of it.

#### Species records

- 3.1.2 Eight species of bats were recorded within 5km of the Order Limits: Brandt's bat, brown long-eared, common pipistrelle, soprano pipistrelle, Daubenton's bat, Leisler's bat, noctule and whiskered bat. The most frequently returned were for soprano pipistrelle, followed by brown long-eared and common pipistrelle, and all except whiskered bat were closer than 2km from the Order Limits.
- 3.1.3 Seventeen bat roosts were recorded 2-5km from Order Limits comprising those from soprano pipistrelle, brown long-eared bat, common pipistrelle, whiskered bat and unidentified bat species. Existing and expired European Protected Species (EPS) mitigation licences were also recorded within 5km of the Order Limits indicating the presence of roosts for common pipistrelle, soprano pipistrelle, brown long-eared bats, Natterer's bat, Daubenton's bat, and whiskered bat. Details of local bat records are provided in **Table 3.1**. Records of recent EPSM are shown in **Table 3.2**.

**Table 3.1 –Bat activity and roost records within 5km of the Site from past 10 years**

Species	No. of records	Closest record	Protection*	Other* conservation criteria
Brandt's bat	1	~1.60km west	HR, WCA	Species in Local Biodiversity Action Plan (LBAP)
Brown long-eared bat	18	~0.60m north-west	HR, WCA	LBAP
Common pipistrelle	17	~0.27km south-west	HR, WCA	LBAP
Daubenton's bat	2	~0.64km south-east	HR, WCA	LBAP
Leisler's bat ( <i>Nyctalus leisleri</i> )	1	~1.60km west	HR, WCA	LBAP
Noctule bat ( <i>Nyctalus noctula</i> )	12	~60m north-west	HR, WCA	LBAP



<b>Species</b>	<b>No. of records</b>	<b>Closest record</b>	<b>Protection*</b>	<b>Other* conservation criteria</b>
Pipistrelle species	17	~60m north-west	HR, WCA	LBAP
Soprano pipistrelle ( <i>Pipistrellus pygmaeus</i> )	25	~60m north-west	HR, WCA	LBAP
Unidentified bat	11	~0.30km south	HR, WCA	LBAP
Additional bat roost records 2-5km from Order Limits (soprano pipistrelle, brown long-eared bat, common pipistrelle, whiskered bat and unidentified bat species)	17	~2.39km west	HR, WCA	N/A

\*HR= Conservation of Habitats and Species Regulations 2017, WCA= Wildlife and Countryside Act 1981, LBAP=Local Biodiversity Action Plan

**Table 3.2 – EPSL licence returns records from past ten years**

<b>Year</b>	<b>Grid reference</b>	<b>Distance and direction from the Order Limits</b>	<b>Notes</b>
2010-2012	SE 4730 4649	~0.55km south-west	EPSM2010-2017; brown long-eared bat; destruction of a resting place
2017-2018	SE 5771 5871	~0.98km east	2017-31243-EPS-MIT; Brandt's, brown long-eared bat, common pipistrelle, soprano pipistrelle, whiskered bat impact on breeding site; damage of breeding site; destruction of resting place
2012-2014	SE 4751 2812	~1.21km south-west	EPSM2012-5102; common pipistrelle; destruction of a resting place
2012-2014 (covers two licences)	SE 4240 4211	~1.41km west	EPSM2013-6199; EPSM2012-4628; soprano pipistrelle; destruction of resting place
2017	SE 5080 5012	~1.55km east	2017-29761-EPS-MIT; common and soprano pipistrelle; impact on breeding site; damage of breeding site; damage of resting place; destruction of breeding site; destruction of a resting place

<b>Year</b>	<b>Grid reference</b>	<b>Distance and direction from the Order Limits</b>	<b>Notes</b>
2013-2015	SE 4710 2781	~1.60km south-west	EPSM2013-6358; common and soprano pipistrelle and brown long-eared bat; destruction of a resting place
2014-2021 (covers three licences)	SE 4480 4493	~2.54km north-west	2014-1487-EPS-MIT; 2014-1487-EPS-MIT-1; 2014-1487-EPS-MIT-2; brown long-eared, common pipistrelle, Natterer's bat, soprano pipistrelle and Daubenton's bat; destruction of resting place
2013-2015	SE 4500 3087	~1.99km west	EPSM2012-5319; soprano pipistrelle and brown long-eared bat; destruction of a resting place
2015-2020	SE 4510 4611	~2.34km north-west	2014-5878-EPS-MIT; common pipistrelle; destruction of a resting place
2016-2021	SE 4487 4630	~2.59km north-west	2016-24939-EPS-MIT; 2016-24939-EPS-MIT-1; common and soprano pipistrelle; damage of resting place; destruction of resting place
2015-2019	SE 5059 3670	~3.43km east	2014-4918-EPS-MIT; common pipistrelle; destruction of a resting place
2013-2014	SE 4471 2800	~3.43km south-west	EPSM2011-2852; common pipistrelle, brown long-eared bat and Daubenton's bat; destruction of a resting place
2013-2014	SE 6039 5220	~3.48km west	EPSM2013-6327; common pipistrelle; destruction of a resting place
2017-2030	SE 6001 5190	~3.94km west	2017-31011-EPS-MIT; common pipistrelle; impact on breeding site; damage of breeding site; destruction of a resting place
2014-2016	SE 4618 5532	~4.02km north-west	2014-164-EPS-MIT; brown long-eared bat, common pipistrelle and Natterer's bat; destruction of a resting place
2012-2014	SE 6230 5892	~4.08km east	EPSM2012-4802; common pipistrelle and brown long-eared bat; destruction of a resting place
2014-2020	SE 4350 2891	~4.08km south-west	2014-4418-EPS-MIT; brown long-eared bat, common pipistrelle, Natterer's bat and soprano pipistrelle; impact on a breeding site; damage of a breeding site; damage of a resting place; destruction of a resting place
2013-2014	SE 6150 5550	~4.20km north-west	EPSM2013-5983; brown long-eared bat; destruction of a resting place

Year	Grid reference	Distance and direction from the Order Limits	Notes
2010-2011	SE 5288 2668	~4.20km south-east	EPSM2009-1563; brown long-eared bat; impact on a breeding site; destruction of a breeding site; destruction of a resting place
2012	SE 5150 4173	~4.41km south-east	EPSM2011-3498; common pipistrelle and Natterer's bat; destruction of a resting place
2014-2015	SE 5371 4801	~4.44km east	2014-901-EPS-MIT; common pipistrelle; Natterer's bat and soprano pipistrelle; destruction of a resting place
2010-2012	SE 6098 5612	~4.45km east	EPSM2010-1693; common pipistrelle; destruction of a resting place
2017	SE 5379 4778	~4.51km east	2016-27078-EPS-MIT; common pipistrelle and Natterer's bat; 2027-2017; destruction of a resting place
2016	SE 5849 6472	~4.59km north	2016-26617-EPS-MIT; common pipistrelle and Natterer's bat; impact on breeding site; damage of breeding site; destruction of resting place
2013-2018	SE 5409 4852	~4.85km east	EPSM2013-6433; common pipistrelle, soprano pipistrelle, brown long-eared bat, whiskered bat and Natterer's bat; destruction of breeding site; destruction of a resting place

## 3.2 Field survey

### Habitat assessment

3.2.1 For a full description of habitats within the survey area see **Appendix 8B - Extended Phase 1 habitat report, Volume 5, Document 5.3.8B.**

#### *Habitat features of Low suitability*

3.2.2 The dominant habitat type throughout the survey area is arable land. It is in various states of management and supports a variety of crops including corn and potato. Localised patches of amenity grassland and improved grassland are present associated with pasture fields and field margins. The land parcel east of the field that pylon YN002 is located within contains coniferous plantation woodland managed commercially as Christmas tree farms. Another area of coniferous plantation is present south-east of XC455 with pines planted in lines. Scattered elder shrub is present throughout the woodland with ground flora dominated by ramsons and common nettle. Dense and scattered scrub is frequent around the perimeter of agricultural/grassland field boundaries. There are also relatively extensive areas of dense scrub interspersed throughout the survey area, particularly in association with disturbed habitats.

- 3.2.3 Arable land, amenity and improved grasslands, and scattered scrub are of negligible suitability to support roosting bats. These habitats are also of low value in terms of the foraging and commuting opportunities they provide due to the lack of floristic diversity and subsequent paucity of invertebrates on offer; and their open and exposed nature, respectively. Coniferous plantations are also usually poor in terms of roosting and foraging opportunities though may facilitate commuting.

#### *Habitat features of Moderate suitability*

- 3.2.4 Parcels of land with immature and semi-mature broadleaved plantation woodland are present and scattered throughout land within the survey area. The majority of plantation woodlands are considered to be small to moderate sized woodlands. Trees have been planted in obvious rows in the majority of the plantations and planting tubes are present within a few of the woodlands. Mixed woodland is present at several other locations. Scattered broadleaved trees are present commonly associated with field boundaries. Poor semi-improved grassland fields occur throughout, as well as areas of neutral semi-improved grassland with a moderate to high diversity of grasses and wildflowers.
- 3.2.5 Broadleaved woodland is of value to roosting, foraging and commuting bats; though the fact that much of this woodland is planted will likely reduce its value. Trees, even if scattered, are important to bats for the cover they provide during commuting/foraging and to link areas of adjoining habitat meaning bats do not have to fly in the open. Semi improved grassland and more so the neutral semi-improved grassland is likely to offer foraging resources to bats due to the abundance of invertebrates present in such habitat.

#### *Habitat features of High suitability*

- 3.2.6 There are parcels of semi-natural broadleaved woodland dominated by semi-mature and mature trees throughout the survey area. Hedgerows are common, typically bounding fields. There is a mix of species-rich and species-poor hedgerows, intact and defunct hedgerows, and some hedgerows have trees, all with varying levels of management. Where hedgerows are classed as species-poor they are typically dominated by one or two native woody species. Ponds are present on within the survey area, with the vast majority being less than a hectare in extent. Fifteen watercourses are present, principally the River Ouse, the River Wharfe and Cock Beck.
- 3.2.7 Broadleaved woodland can provide roosting, foraging and commuting opportunities for bats, while hedgerows are often extremely important as both a foraging and commuting resources. Waterbodies are frequently used by bats both for navigational purposes (using the dense and dark riparian habitat to link to other foraging/roosting areas) and as a foraging resource in of itself due to the frequently high levels of invertebrates present.

#### *Summary*

- 3.2.8 Large areas of open arable land are of limited suitability and at times unsuitable for most species of bats as they provide little in the way of foraging habitat, or linear features/cover for commuting. However, hedgerows along field boundaries, watercourses, and parcels of grassland, woodland and scrub throughout the Survey Area are likely to be used by foraging and commuting bats although these are not unique habitats locally. Areas of habitat which are most suitable for bats occur in places where a range of habitat types coincide to provide a variety of ecotones for commuting and foraging capable of supporting a variety of bat species. For example, habitats

around Healaugh Priory Marsh SINC and Field at Healaugh Manor Farm deleted SINC, and along watercourses such as the River Ouse and The Foss, which include a mix of habitats such as scrub, grassland, hedgerows, treelines, woodland and watercourses/ditches/ponds. Habitat in these locations is considered to have high suitability for commuting and foraging bats, though the majority of habitat within the Order Limits and 50m buffer is considered to have moderate suitability.

### 3.3 Activity surveys

3.3.1 The following sections detail the results of the manual transect surveys and the static detector surveys. With respect to the definition of a 'bat pass', it should be noted that a single bat may forage near the surveyor many times during a survey, with each pass counted separately. Another bat may produce only a single call (and therefore register as a single bat pass) or may make no call at all. As such, figures pertaining to numbers of bat passes do not necessarily represent actual numbers of bats. They are instead a gauge of activity intended to give an indication of relative levels of bat activity on each transect and between months to allow comparisons to be made.

#### Manual transect survey

##### Overview

3.3.2 The following species were confirmed to be using habitats within the Order Limits during the manual transect survey work:

- Common pipistrelle
- Soprano pipistrelle;
- Noctule;
- Serotine;
- *Myotis* species; and
- Brown long eared bat.

3.3.3 Additional species may also have been recorded, where some ambiguous passes were allocated to group rather than species level.

3.3.4 The full results of the transect surveys are listed in **Annex 8H.4**, while **Table 3.3** provides a breakdown of the number of bat passes by each species recorded on each transect. In order to provide a means of comparison, an average number of passes per hour of each species has also been calculated.

3.3.5 Four graphs are then provided in in this document in order to provide a visual breakdown of the transect data. These figures are as follows:

- **Graph 3.1:** Total number of bat passes of each species recorded at each transect;
- **Graph 3.2:** Total bat passes per month (all Transects summed)
- **Graph 3.3:** Total bat passes per month (all Transects summed) of *Pipistrelle* species only; and
- **Graph 3.4:** Total bat passes per month (all Transects summed) of non-pipistrelle species.



3.3.6 In addition, the following figures as contained in **Volume 5, Document 5.4.8** should be consulted in order to assist with the visualisation of the results:

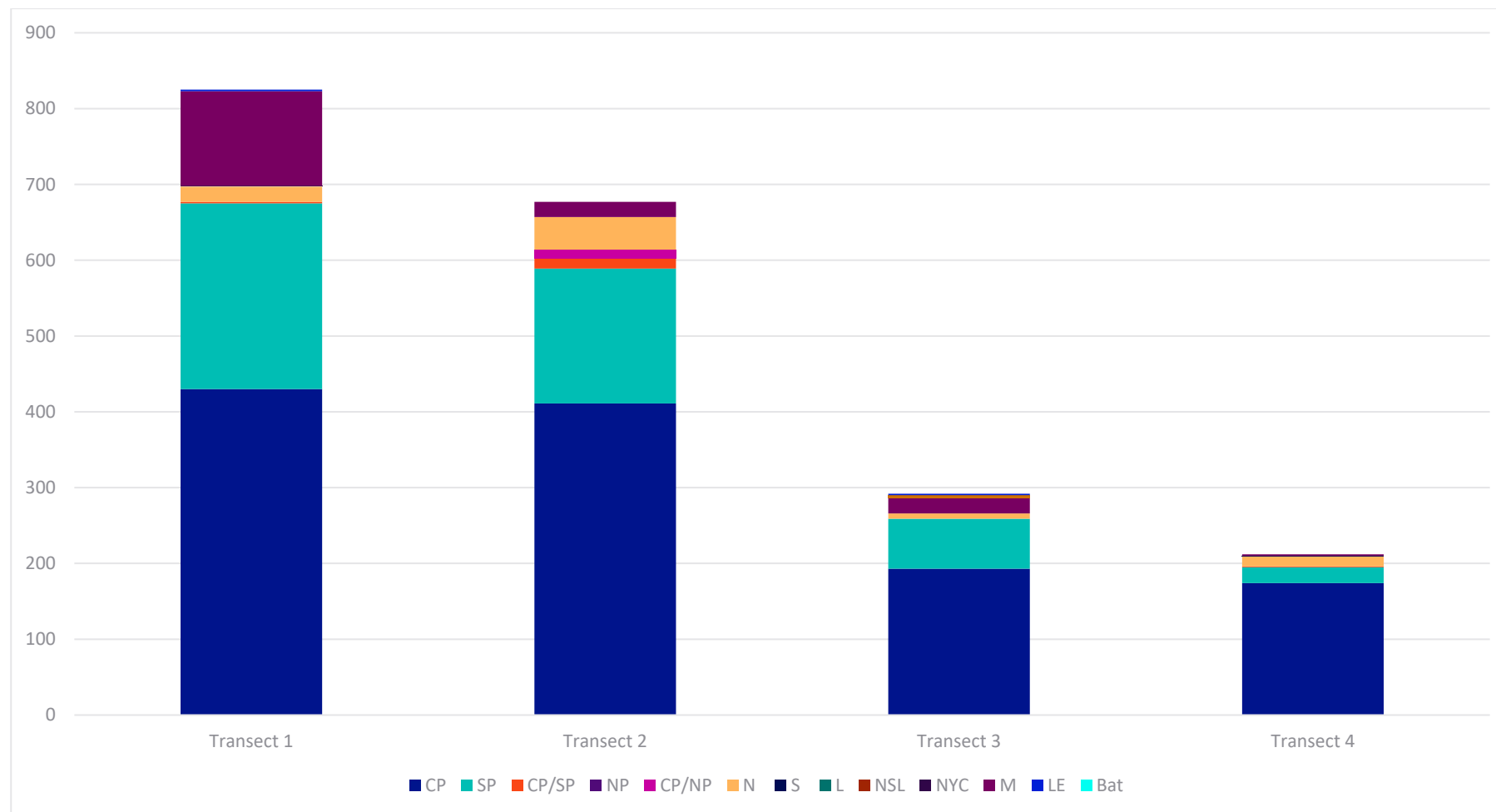
- **Figure 8.23:** Results of Transect Survey: Heat maps
- **Figure 8.24:** Kernel Density (Transects); and
- **Figure 8.25:** Pie Chart (Transects).

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**Table 3.3 – Manual transect survey results – Total number of bat passes for all transects (including average number of passes per hour) for each species per month**

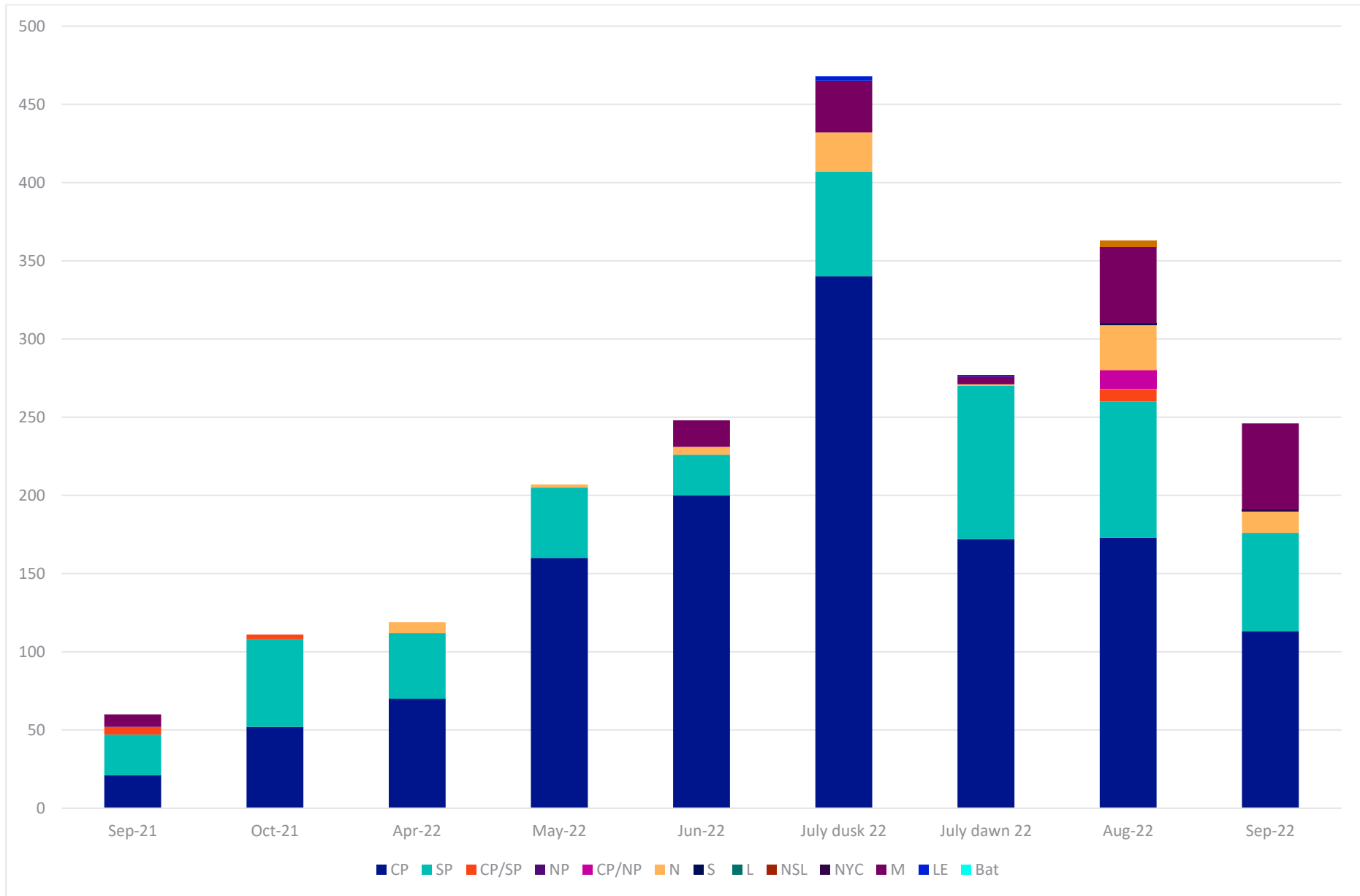
	September 2021	October 2021	April 2022	May 2022	June 2022	July dusk 2022	July dawn 2022	August 2022	September 2022	Total
<b>Species</b>										
Common pipistrelle (CP)	21 (3.5)	52 (8.7)	70 (11.7)	160 (26.7)	200 (33.3)	340 (56.7)	172 (28.7)	173 (28.8)	113 (18.8)	1,301 (27.1)
Soprano pipistrelle (SP)	26 (4.3)	56 (9.3)	42 (7)	45 (7.5)	26 (4.3)	67 (11.2)	98 (16.3)	87 (14.5)	63 (10.5)	510 (85)
CP/SP	5 (0.8)	3 (0.5)	0	0	0	0	0	8 (1.3)	0	16 (2.7)
Noctule	0	0	7 (1.2)	2 (0.3)	5 (0.8)	25 (4.2)	1 (0.2)	29 (4.8)	14 (2.3)	83 (13.8)
Serotine	0	0	0	0	0	0	0	1	0	1 (0.0)
<i>Nyctalus</i> sp.	0	0	0	0	0	0	0	0	1	1 (0.17)
<i>Myotis</i>	8 (1.3)	0	0	0	17 (2.8)	33 (5.5)	5 (0.8)	49 (8.2)	55 (9.2)	167 (22.8)
Brown long-eared	0	0	0	0	0	3	1	0	0	4 (0.7)
<b>Total</b>	60 (10)	111 (18.5)	119 (19.8)	207 (34.5)	248 (41.3)	468 (78)	277 (46.2)	363 (60.5)	246 (41)	<b>2,099</b>

**Graph 3.1 - Total number of bat passes of each species<sup>12</sup> recorded at each transect**

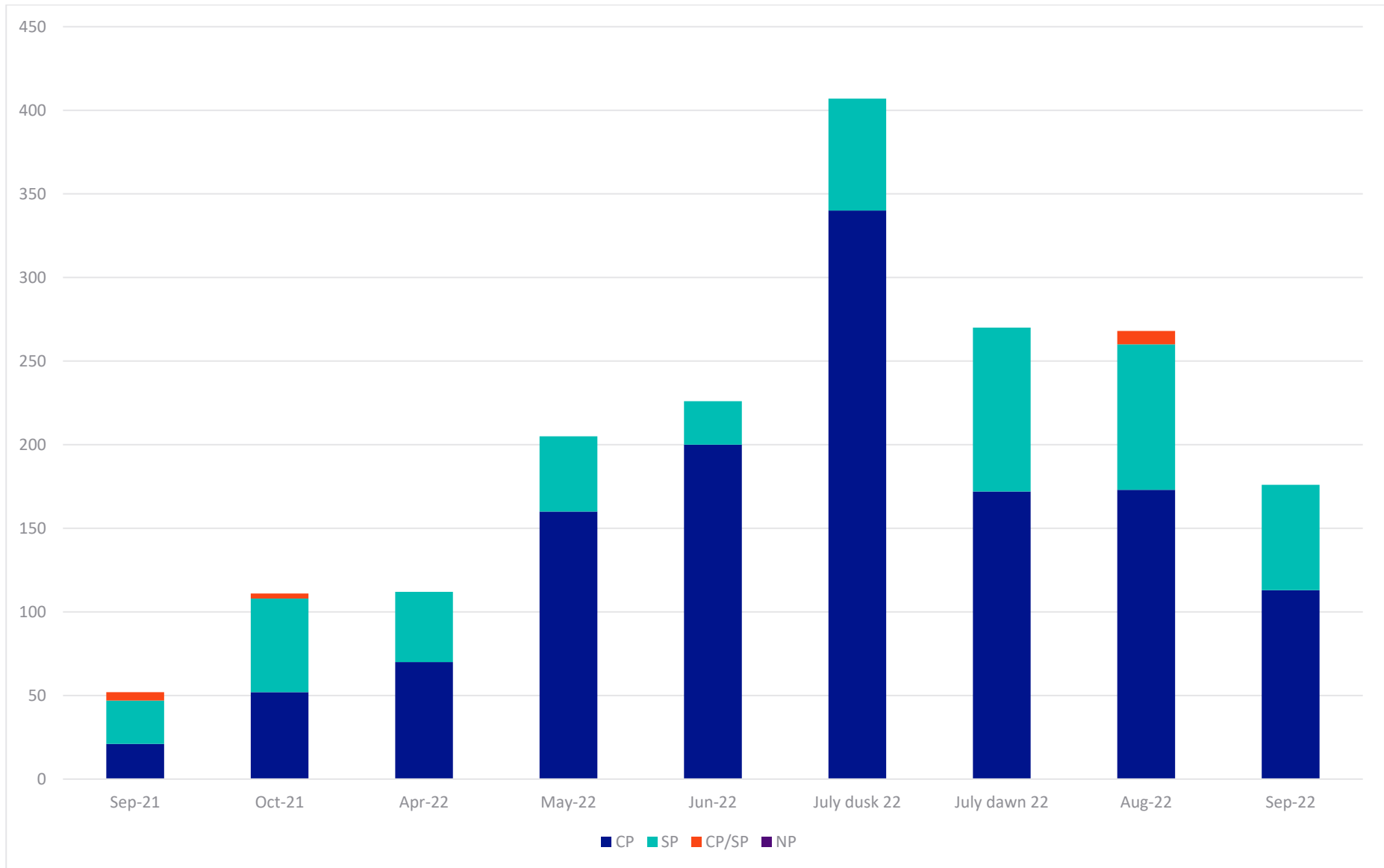


<sup>12</sup>**Species codes:** Species codes: CP = common pipistrelle; SP = soprano pipistrelle; CP/SP = common/soprano pipistrelle; CP/NP = common/Nathusius' pipistrelle; NP=Nathusius pipistrelle, N = noctule, S= serotine, L=Leisler's bat, NSL = noctule/serotine/Leisler's bat; NYC. = noctule/Leisler's bat; M = Myotis sp.; LE = Plecotus sp, Bat. = calls not assigned to a species or species group.

**Graph 3.2 – Total bat passes per month (all Transects summed)**

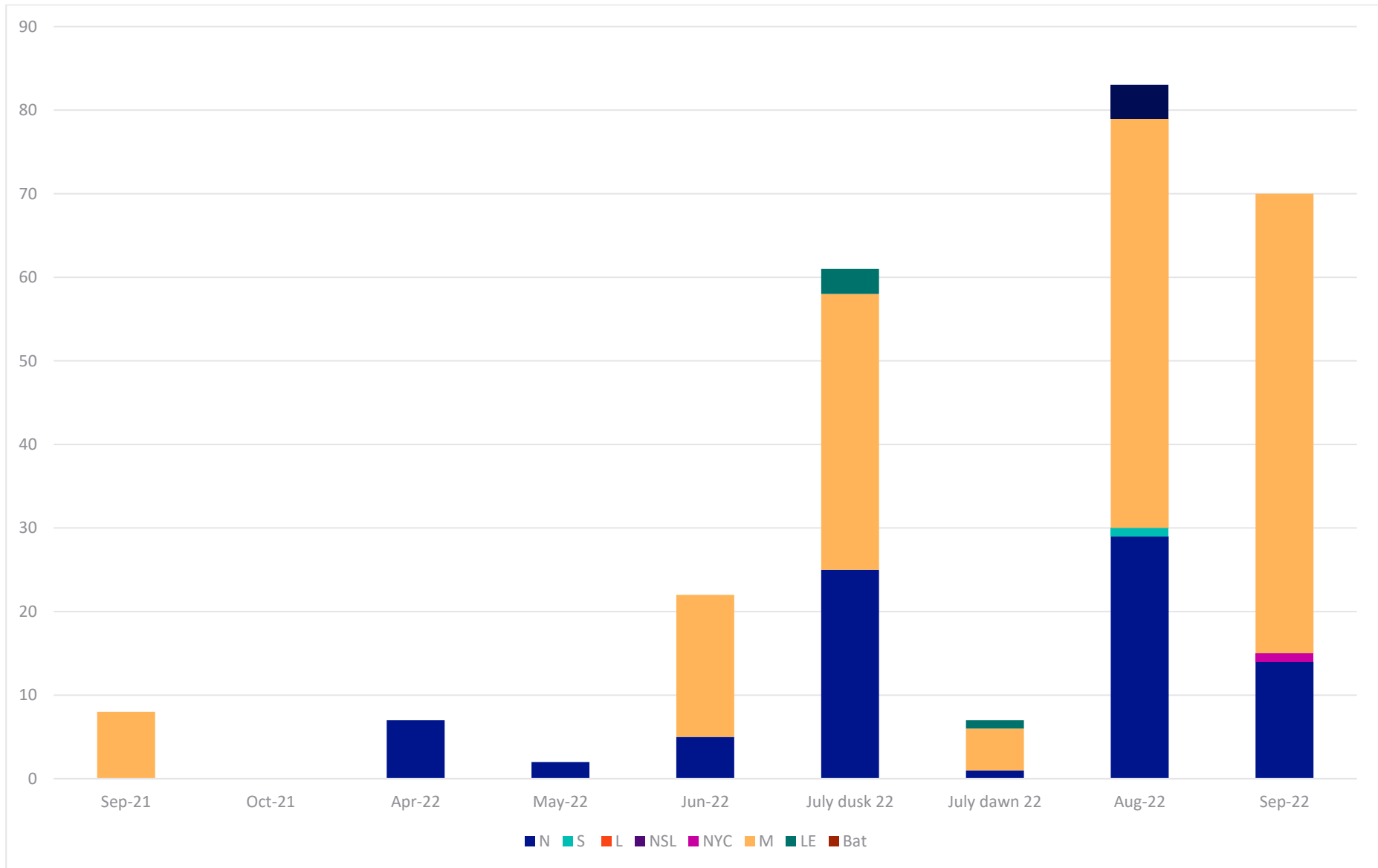


**Graph 3.3 – Total bat passes per month (all Transects combined) of *Pipistrelle* species only**





**Graph 3.4 – Total bat passes per month (all Transects combined) of non-pipistrelle species**



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## General summary of passes

- 3.3.7 There were a total 2,099 bat passes recorded during manual transect surveys (September-October 2021 and April-September 2022).
- 3.3.8 As seen in **Graph 3.1**, the highest number of bat passes were recorded at Transect 1 (825). Transect 2 was the next highest (677), then Transect 4 (292), while Transect 5 (212) had the lowest levels of recorded activity.
- 3.3.9 Bat activity was highest in the summer, increasing between April to June 2022 before peaking in July before decreasing again towards September 2022 (**Graph 3.2**).
- 3.3.10 Number of passes were much lower in September 2021 (when Transects 2,4 and 5 were completed) as compared with September 2022 (when only Transect 1 was surveyed). This suggests therefore that the September 2021 results were artificially low as a result of Transect 1 being excluded. Combining September 2021 and 2022 it can be seen that the results would be comparable to August 2022.
- 3.3.11 Areas where greater levels of bat activity were recorded are summarised below and illustrated on **Figure 8.23, Volume 5, Document 5.4.8**:
- **Transect 1:**
    - Approximately 150m north of the location of proposed Pylon YN006 where the hedgerow/tree line running north-west intersects with Hurns Gutter ditch; and;
    - At the location of proposed Pylon YN004 halfway up Shipton Lane adjacent to the treeline.
  - **Transect 2:**
    - Approximately 350m north of the location of proposed Gantry XCP005T where the river Foss loops back on itself and heads in a south-easterly direction; and
    - South of existing Pylon XCP008 adjacent to the River Ouse.
  - **Transect 4:**
    - Approximately 350m west of existing Pylon XC498 by parcel of woodland directly east of Lead Hall Farm.
  - **Transect 5:**
    - Where the hedgerow meets Rawfield Lane, approximately 20m to the west of the location of proposed Pylon XC526; 50m to the west of the location of proposed Gentries XC527 and XC528 and 100m to the east of the location of proposed Pylon XC525.

### *Common pipistrelle/Soprano pipistrelle*

- 3.3.12 Common and soprano pipistrelle were recorded during all four transects in all months and were the most commonly recorded species in each transect and were therefore the most commonly recorded species overall (**Graph 3.3**). Totals of common and soprano pipistrelle were 1,301 and 510 passes, respectively. A further 16 passes were either common or soprano pipistrelle but could not be determined to species. Taken together, this accounts for over 87% of all bat passes recorded.
- 3.3.13 Common and soprano pipistrelle were recorded within 30 minutes of sunset or sunrise in the following months:

- Transect 1: October 2021; and May, June, July (dusk and dawn), August and September 2022 respectively;
- Transect 2: August 2022;
- Transect 4: October 2021; and July (dawn) and August 2022 respectively; and
- Transect 5: July (dusk) 2022.

3.3.14 Based on the emergence times of this species it is considered there may be a pipistrelle roost within close proximity to Transect 1.

#### *Common pipistrelle/Nathusius' pipistrelle*

3.3.15 There were 12 records of common/Nathusius' pipistrelle recorded in August 2022 at Transect 2. Given the overlap of the calls of both of these closely related species. It could not be determined with confidence which species they were.

#### *Myotis sp.*

3.3.16 Bats of the genus *Myotis* were the third most recorded species. They were recorded in September 2021 and from June to September 2022 (**Graph 3.4**) and in all four transects. Total passes from this species were 167, representing just under 8% of all passes recorded over the entire survey period. The majority of passes were recorded during August and September 2022 at Transect 1.

3.3.17 The results of the surveys do not suggest there is a *Myotis sp.* roost in the immediate vicinity.

#### *Noctule*

3.3.18 Noctule were recorded during most survey months (except September/October 2021) and totalled 82 passes overall (just under 4% of the total passes recorded). Noctule were recorded on all four transects though the majority of their activity was recorded at Transects 1 and 2.

3.3.19 As per the results in **Annex 8H.4**, noctule were recorded within 30 minutes of sunset at Transect 5 in July and August 2022. Is considered likely therefore that there is a noctule roost within close proximity to Transect 5.

#### *Serotine*

3.3.20 A single serotine was recorded in August 2022 at Transect 5.

#### *Brown long-eared bat*

3.3.21 Four passes by brown long-eared were recorded during the transect surveys. Two passes were recorded during the July 2022 at Transect 1 while two more were recorded in July 2022 at Transect 4.

## Static monitoring

### *Overview*

3.3.22 At least seven species were confirmed within the Order Limits during the static monitoring:

- Common pipistrelle;
- Soprano pipistrelle;
- Nathusius' pipistrelle;
- Noctule;
- Leisler's bat;
- *Myotis* species;
- Brown long-eared.

3.3.23 Results of the static monitoring are summarised in **Table 3.4** and presented in the following graph:

- **Graph 3.5:** Total numbers of passes from each species at each static detector location;
- **Graph 3.6:** Total number of passes (all species) in each month; and
- **Graph 3.7:** Average numbers of passes of each species at each static detector location.

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**Table 3.4 – Summary of static monitoring results – total number of bat passes (average number of passes per night) for each species at each monitoring location for all months**

Ref	Month	CP	SP	NP	C/N	N	L	NSL	Nyct sp	M	LE	M/LE	Bat sp.	Total
<b>Static 1a</b>	Sept 21	4,125 (825)	1,019 (203.8)	12 (2.4)	0	8 (1.6)	0	0	0	3,305 (661)	20 (4)	0	0	<b>8,489</b>
	Oct 21	2,105 (421)	913 (182.6)	1 (0.2)	1 (0.2)	3 (0.6)	0	0	0	926 (185.2)	14 (2.8)	0	0	<b>3,963</b>
	Apr 22	966 (193.2)	91 (18.2)	0	0	0	0	0	0	30 (6)	0	0	0	<b>1,087</b>
	May 22	1,286 (257.2)	225 (45)	2 (0.4)	4 (0.8)	1 (0.2)	0	0	0	588 (117.6)	4 (0.8)	0	0	<b>2,110</b>
	Jun 22	2,909 (581.8)	636 (127.2)	0	10 (2)	2 (0.4)	0	0	0	663 (132.6)	9 (1.8)	0	0	<b>4,252</b>
	Jul 22	3,268 (653.6)	265 (53)	0	16 (3.2)	10 (2)	0	0	0	1,759 (351.8)	1 (0.2)	0	0	<b>5,319</b>
	Aug 22	5,558 (1,111.6 )	652 (130.4)	2 (0.4)	0	41 (8.2)	0	0	1 (0.2)	1,075 (215)	6 (1.2)	1 (0.2)	0	<b>7,336</b>
	<b>Total</b>	<b>20,217</b>	<b>3,801</b>	<b>17</b>	<b>31</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>8,346</b>	<b>54</b>	<b>1</b>	<b>0</b>	<b>32,556</b>
<b>Static 1b</b>	Oct 21	273 (54.6)	419 (83.8)	0	0	0	0	0	0	12 92.4)	3 (0.6)	0	0	<b>707 (141.4)</b>

Ref	Month	CP	SP	NP	C/N	N	L	NSL	Nyct sp	M	LE	M/LE	Bat sp.	Total
	July 22	1,511 (302.2)	462 (92.4)	6 (1.2)	6 (1.2)	9 (1.8)	0	0	1 (0.2)	1,097 (219.4)	11 (2.2)	1 (0.2)	0	<b>3,104 (620.8)</b>
	Aug 22	1,821 (364.2)	1,497 (299.5)	2 (0.4)		9 (1.8)	0	0	7 (1.4)	1,259 (251.8)	17 (3.4)	2 (0.4)	0	<b>4,614 (922.8)</b>
	<b>Total</b>	<b>3,695</b>	<b>2,378</b>	<b>8</b>	<b>6</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>2,368</b>	<b>28</b>	<b>3</b>	<b>0</b>	<b>8,425</b>
<b>Static 2a</b>	Sept 21	9 (1.8)	12 (2.4)	0	1 (0.2)	7 (1.4)	0	0	0	16 (3.2)	2 (0.4)	0	0	<b>47 (9.4)</b>
	Oct 21	1 (0.2)	1 (0.2)	0	0	2 (0.4)	0	0	0	15 (3)	0	0	0	<b>19 (3.8)</b>
	Apr 22	48 (9.6)	321 (64.2)	3 (0.6)	0	5 (1)	0	0	0	5 (1)	0	0	0	<b>382 (76.4)</b>
	May 22	466 (93.2)	272 (54.4)	0	20 (4)	5 (1)	0	0	4 (0.8)	13 (2.6)	0	0	0	<b>780 (156)</b>
	Jun 22	351 (70.2)	703 (140.6)		66 (13.2)	1 (0.2)	0	0	0	69 (13.8)	0	0	0	<b>1,190 (238)</b>
	Jul 22	348 (69.6)	802 (160.4)	4 (0.8)	30 (6)	0	0	0	2 (0.4)	13 (2.6)	0	0	0	<b>1,119 (239.8)</b>
	Aug 22	524 (104.8)	549 (109.8)	0	6 (1.2)	5 (1)	0	0	12 (2.4)	14 (2.8)	0	0	0	1,110 (222)
	<b>Total</b>	<b>1,747</b>	<b>2,660</b>	<b>7</b>	<b>123</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>145</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>4,727</b>

Ref	Month	CP	SP	NP	C/N	N	L	NSL	Nyct sp	M	LE	M/LE	Bat sp.	Total
<b>Static 2b</b>	Sept 21	3,539 (707.8)	652 (130.4)	42 (8.4)	15 (3)	6 (1.2)	0	0	3 (0.6)	944 (188.8)	13 (2.6)	2 (0.4)	0	<b>5,216 (1,043.2)</b>
	Oct 21	427 (85.4)	146 (29.2)	0	0	0	0	0	0	34 (6.8)	2 (0.4)	0	0	<b>609 (121.8)</b>
	Apr 22	192 (38.4)	53 (10.6)	0	0	1 (0.4)	0	0	0	45 (9)	0	0	0	<b>291 (58.2)</b>
	May 22	2,278 (455.6)	174 (34.8)	0	62 (12.4)	9 (1.8)	0	0	0	96 (19.2)	5 (1)	0	0	<b>2,624 (524.8)</b>
	Jun 22	785 (157)	76 (15.2)	0	28 (5.6)	10 (2)	0	0	0	163 (32.6)	8 (1.6)	0	0	<b>1,070 (214)</b>
	Jul 22	712 (142.4)	112 (22.4)	1 (0.2)	1 (0.2)	15 (3)	0	0	7 (1.4)	41 (8.2)	6 (1.2)	3 (0.6)	0	<b>898 (179.6)</b>
	Aug 22	706 (141.2)	475 (95)	3 (0.6)	0	34 (6.8)	1	0	6 (1.2)	221 (44.2)	22 (4.4)	1 (0.2)	0	<b>1,469</b>
	<b>Total</b>	<b>8,639</b>	<b>1,688</b>	<b>46</b>	<b>106</b>	<b>75</b>	<b>1</b>	<b>0</b>	<b>16</b>	<b>1,544</b>	<b>56</b>	<b>6</b>		<b>12,177</b>
<b>Static 3a</b>	Oct 21	65 (13)	9 (1.8)	0	0	3 (0.6)	0	0	0	7 (1.4)	15 (3)	0	0	<b>99 (19.8)</b>
	Apr 22	21 (4.2)	1 (0.2)	0	0	0	0	0	0	0	0	0	0	<b>22 (4.4)</b>
	May 22	25 (5)	5 (1)	0	0	1 (0.2)	0	0	0	1 (0.2)	2 (0.4)	0	0	<b>34 (6.8)</b>

Ref	Month	CP	SP	NP	C/N	N	L	NSL	Nyct sp	M	LE	M/LE	Bat sp.	Total
	Jun 22	8 (1.6)	5 (1)	0	0	0	0	0	0	1 (0.2)	0	0	0	14 (2.8)
	Jul 22	78 (15.6)	47 (9.4)	1 (0.2)	0	32 (6.4)	2 (0.4)	0	8 (1.6)	11 (2.2)	2	0	0	181 (36.2)
	Aug 22	164 (32.8)	55 (11)	0	0	64 (12.8)	0	0	6 (1.2)	15 (3)	10 (2)	0	0	314 (62.8)
	Sept 22	103 (20.6)	26 (5.2)	0	0	252 (50.4)	0	0	19 (3.8)	7 (1.4)	30 (6)	5 (1)	0	442 (88.4)
	<b>Total</b>	<b>464</b>	<b>148</b>	<b>1</b>	<b>0</b>	<b>352</b>	<b>2</b>	<b>0</b>	<b>33</b>	<b>42</b>	<b>59</b>	<b>0</b>	<b>0</b>	<b>1,106</b>
<b>Static 3b</b>	Oct 21	14 (2.8)	1 (0.2)	0	0	0	0	0	0	1 (0.2)	5 (1)	0	0	21 (4.2)
	Apr 22	17 (3.4)	1 (0.2)	0	0	4 (0.8)	1 (0.2)	0	0	2 (0.4)	6 (1.2)	0	0	31 (6.2)
	May 22	28 (5.6)	2 (0.4)	0	0	0	0	0	0	0	0	0	0	30 (6)
	Jun 22	20 (4)	1 (0.2)	0	0	0	0	0	0	3 (0.6)	0	0	0	24 (4.8)
	Jul 22	53 (10.6)	29 (5.8)	0	0	99 (19.8)	1 (0.2)	0	14 (2.8)	2 (0.4)	22 (4.4)	9 (1.8)	0	229 (45.8)
	Aug 22	149 (29.8)	27 (5.4)	0	0	230 (46)	0	0	22 (4.4)	29 (5.8)	42 (8.4)	5 (1)	0	504 (100.8)
	Sept 22	85 (17)	17 (3.4)	0	0	87 (17.4)	1 (0.2)	0	12 (2.4)	5 (1)	22 (4.4)	1 (0.2)	0	230 (46)
	<b>Total</b>	<b>366</b>	<b>78</b>	<b>0</b>	<b>0</b>	<b>420</b>	<b>3</b>	<b>0</b>	<b>48</b>	<b>42</b>	<b>97</b>	<b>15</b>	<b>0</b>	<b>1,069</b>

Ref	Month	CP	SP	NP	C/N	N	L	NSL	Nyct sp	M	LE	M/LE	Bat sp.	Total	
<b>Static 4a</b>	Sept 21	594 (118.8)	54 (10.8)	0	0	1 (0.2)	0	0	0	40 (8)	5 (1)	0	0	<b>694 (138.8)</b>	
	Oct 21	248 (49.6)	131 (29.2)	0	33 (6.6)	0	0	0	0	7 (1.4)	0	0	0	<b>419 (83.8)</b>	
	Apr 22	23 (4.6)	3 (0.6)	0	1 (0.2)	6 (1.2)	0	0	12 (2.4)	9 (1.8)	0	0	0	<b>54 (10.8)</b>	
	May 22	57 (11.4)	4 (0.8)	0	0	2 (0.4)	0	0	0	11 (2.2)	0	0	0	<b>74 (14.8)</b>	
	Jun 22	31 (6.2)	13 (2.6)	0	0	0	0	0	0	5 (1)	0	0	0	<b>49 (9.8)</b>	
	Jul 22	94 (18.8)	28 (5.6)	0	1 (0.2)	14 (2.8)	0	0	3 (0.6)	29 (5.8)	0	0	0	<b>169 (33.8)</b>	
	Aug 22	117 (23.4)	43 (8.6)	0	0	8 (1.6)	0	0	2 (0.4)	37 (7.4)	5 (1)	0	0	<b>212 (42.4)</b>	
	<b>Total</b>	<b>1,164</b>	<b>276</b>	<b>0</b>	<b>35</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>138</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>1,671</b>
	<b>Static 4b</b>	Sept 21	8,258 (1,651.6 )	613 (122.6 )	0	1 (0.2)	51 (10.2)	2 (0.4)	0	0	2,757 (551.4)	39 (7.8)	0	0	<b>11,721 (2,334.2 )</b>
Oct 21		7,167 (1,433.4 )	517 (103.4 )	2 (0.4)	0	12 (2.4)	39 (7.8)	0	14 (2.8)	1,246 (249.2)	31 (6.2)	0	0	<b>9,028 (1,805.6 )</b>	

Ref	Month	CP	SP	NP	C/N	N	L	NSL	Nyct sp	M	LE	M/LE	Bat sp.	Total
	Apr 22	277 (55.4)	9 (1.8)	0	0	0	0	0	0	28 (5.6)	0	0	0	<b>314 (62.8)</b>
	May 22	158 (31.6)	9 (1.8)	0	0	0	0	0	0	15 (3)	1 (0.2)	0	0	<b>183 (36.6)</b>
	Jun 22	1,249 (249.8)	34 (6.8)	0	4 (0.8)	1 (0.2)	0	0	0	37 (7.4)	0	0	0	<b>1,325 (265)</b>
	Jul 22	185 (37)	5 (1)	0	1 (0.2)	33 (6.6)	0	0	8 (1.6)	16 (3.2)	0	0	0	<b>248 (49.6)</b>
	Aug 22	151 (30.2)	196 (39.2)	0	0	14 (2.8)	0	0	8 (1.6)	13 (2.6)	0	0	0	<b>382 (76.4)</b>
	<b>Total</b>	<b>17,445</b>	<b>1,383</b>	<b>2</b>	<b>6</b>	<b>111</b>	<b>41</b>	<b>0</b>	<b>30</b>	<b>4,112</b>	<b>71</b>	<b>0</b>	<b>0</b>	<b>23,201</b>
<b>Static 5a</b>	May 22	49 (9.8)	9 (1.8)	0	2 (0.4)	17 (3.4)	0	0	9 (1.8)	1 (0.2)	0	0	0	<b>87 (17.4)</b>
	Jun 22	39 (7.8)	23 (4.6)	0	5 (1)	37 (7.4)	0	0	0	3 (0.6)	0	0	0	<b>107 (21.4)</b>
	Jul 22	48 (9.6)	56 (11.2)	1 (0.2)	0	26 (5.2)	0	0	7 (1.4)	0	0	0	0	<b>138 (27.6)</b>
	Aug 22	292 (58.4)	135 (27)	1 (0.2)	0	124 (24.8)	0	0	8 (1.6)	45 (9)	9 (1.8)	0	0	<b>614 (122.8)</b>
	Sept 22	85 (17)	46 (9.2)	0	1 (0.2)	70 (14)	0	0	11 (2.2)	13 (2.6)	3 (0.6)	1 (0.2)	0	<b>230 (46)</b>



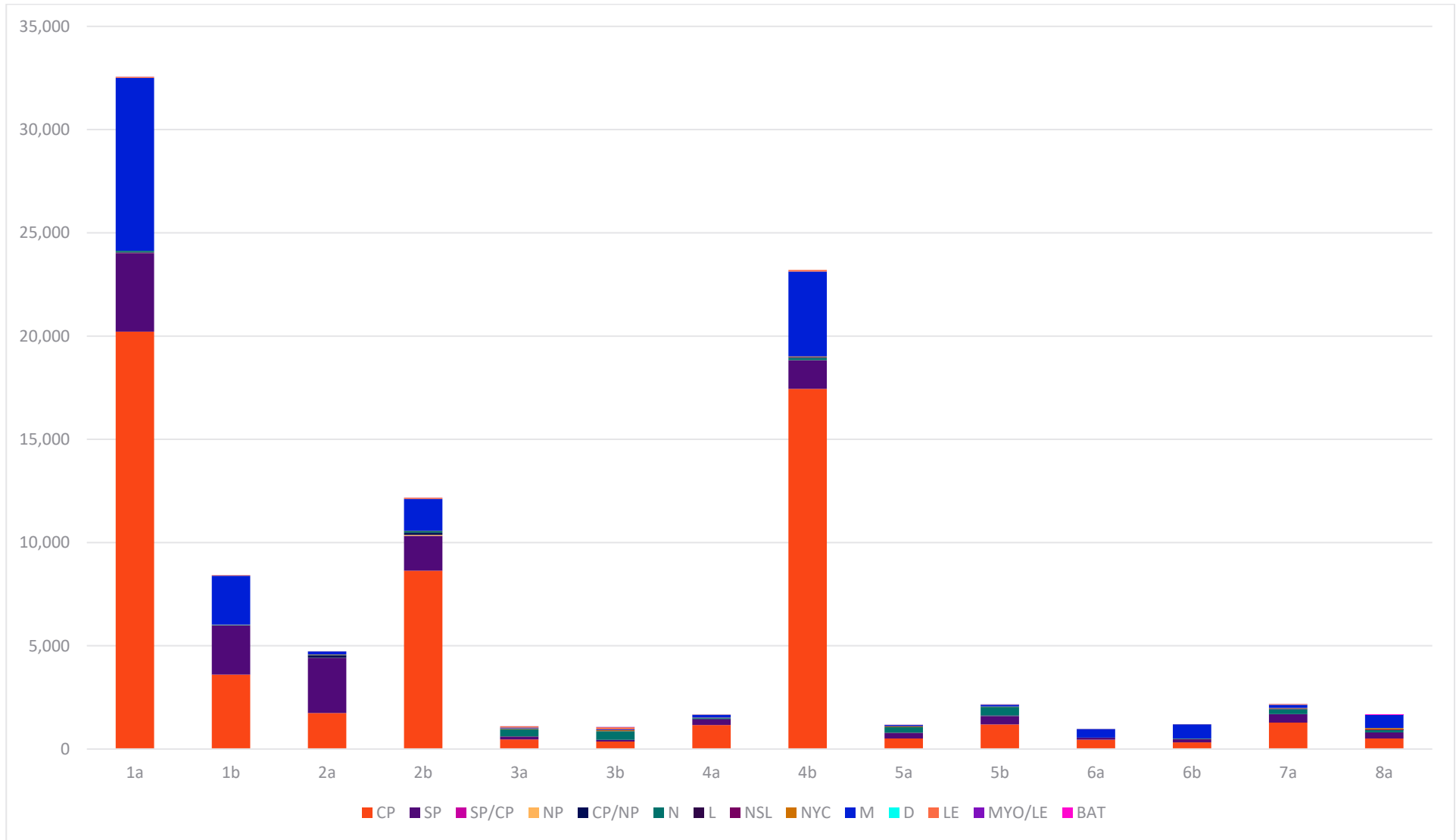
Ref	Month	CP	SP	NP	C/N	N	L	NSL	Nyct sp	M	LE	M/LE	Bat sp.	Total
	<b>Total</b>	<b>513</b>	<b>269</b>	<b>2</b>	<b>8</b>	<b>274</b>	<b>0</b>	<b>0</b>	<b>35</b>	<b>62</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>1,176</b>
<b>Static 5b</b>	Sept 21	145 (29)	69 (13.8)	1 (0.2)	1 (0.2)	82 (16.4)	0	0	0	30 (6)	3 (0.6)	0	0	<b>331 (66.2)</b>
	Oct 21	37 (7.4)	6 (1.2)	0	0	0	0	0	0	0	0	0	0	<b>43 (8.6)</b>
	Apr 22	39 (7.8)	14 (2.8)	0	1 (0.2)	32 (6.4)	0	0	1 (0.2)	1 (0.2)	0	0	0	<b>88 (17.6)</b>
	May 22	144 (28.8)	19 (3.8)	0	22 (4.4)	21 (4.2)	0	0	0	1 (0.2)	0	0	0	<b>207 (41.4)</b>
	Jun 22	220 (44)	29 (5.8)	0	16 (3.2)	36 (7.2)	0	0	0	5 (1)	0	0	0	<b>306 (61.2)</b>
	Jul 22	314 (62.8)	121 (24.2)	7 (1.4)	1 (0.2)	117 (23.4)	0	0	5 (1)	5 (1)	0	0	0	<b>570 (114)</b>
	Aug 22	292 (58.4)	135 (27)	1 (0.2)	0	121 (24.2)	0	0	12 (2.4)	46 (9.2)	8 (1.6)	2 (0.4)	0	<b>617 (123.4)</b>
	<b>Total</b>	<b>1,191</b>	<b>393</b>	<b>9</b>	<b>41</b>	<b>409</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>88</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>2,162</b>
	<b>Static 6a</b>	Sept 21	180 (36)	46 (9.2)	1 (0.2)	0	0	0	0	0	145 (29)	2 (0.4)	0	0
Oct 21		154 (30.8)	25 (5)	0	0	0	0	0	0	250 (50)	0	0	0	<b>429 (85.8)</b>

Ref	Month	CP	SP	NP	C/N	N	L	NSL	Nyct sp	M	LE	M/LE	Bat sp.	Total
	Apr 22	5 (1)	9 (1.8)	0	0	0	0	0	0	16 (3.2)	0	0	0	<b>30 (6)</b>
	May 22	26 (5.2)	9 (1.8)	0	0	0	0	0	0	4 (0.8)	0	0	0	<b>39 (7.8)</b>
	Jun 22	69 (13.8)	4 (0.8)	2 (0.4)	0	0	0	0	0	0	0	0	0	<b>75 (15)</b>
	Jul 22	18 (3.6)	0	0	0	3 (0.6)	0	0	0	2 (0.4)	0	0	0	<b>23 (4.6)</b>
	Aug 22	0	0	0	0	0	0	0	0	0	0	0	0	<b>0</b>
	<b>Total</b>	<b>452</b>	<b>93</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>417</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>970</b>
<b>Static 6b</b>	Apr 22	6	8	0	0	0	0	0	0	3	0	0	0	<b>17</b>
	May 22	124	64	0	2	1	0	0	0	468	0	0	0	<b>659</b>
	Jun 22	74	34	0	4	0	0	0	0	64	0	0	0	<b>1765</b>
	Jul 22	54	14	0	0	0	0	0	0	94	1	0	0	<b>163</b>
	Aug 22	42	20	0	0	19	0	0	5	55	3	0	0	<b>144</b>
	Sept 22	25	13	0	0	1	0	0	0	4	0	0	0	<b>43</b>
	<b>Total</b>	<b>325</b>	<b>153</b>	<b>0</b>	<b>6</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>688</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>1,202</b>
<b>Static 7a</b>	Sept 21	615 (123)	103 (20.6)	2 (0.4)	2 (0.4)	104 (20.8)	28 (5.6)	0	0	50 (10)	14 (2.8)	0	0	<b>918 (183.6)</b>

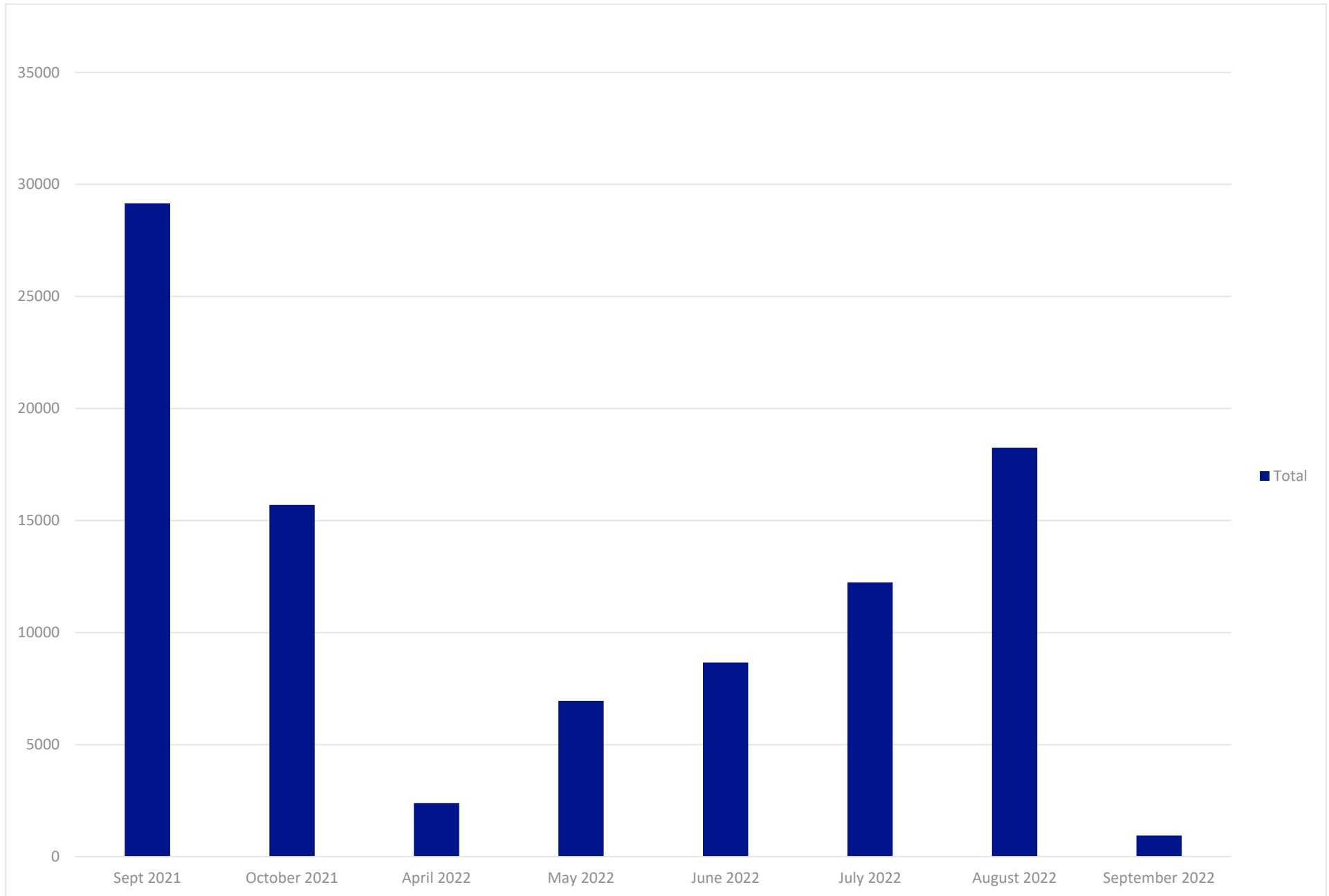
Ref	Month	CP	SP	NP	C/N	N	L	NSL	Nyct sp	M	LE	M/LE	Bat sp.	Total
	Oct 21	15 (3)	29 (5.8)	0	0	5 (1)	0	0	3 (0.6)	0	0	0	0	<b>52</b> <b>(10.4)</b>
	Apr 22	58 (11.6)	9 (1.8)	0	1 (0.2)	4 (0.8)	0	0	0	0	1 (0.2)	0	0	<b>73</b> <b>(14.6)</b>
	May 22	54 (10.8)	38 (7.6)	0	0	20 (4)	0	0	3 (0.6)	10 (2)	2 (0.4)	0	0	<b>127</b> <b>(25.4)</b>
	Jun 22	36 (7.2)	17 (3.4)	0	2 (0.4)	9 (1.8)	0	0	0	3 (0.6)	10 (2)	0	0	<b>77</b> <b>(15.4)</b>
	Aug 22	501 (100.2)	212 (42.4)	0	0	93 (18.6)	2 (0.4)	0	23 (4.6)	92 (18.4)	11 (2.2)	2 (0.4)	0	<b>936</b>
	<b>Total</b>	<b>1,279</b>	<b>408</b>	<b>2</b>	<b>5</b>	<b>235</b>	<b>30</b>	<b>0</b>	<b>29</b>	<b>155</b>	<b>38</b>	<b>2</b>	<b>0</b>	<b>2,183</b>
<b>Static 8a</b>	Sept 21	365	150	0	0	120	0	3	74	645	1	2	2	<b>1,362</b>
	Oct 21	145	146	0	0	13	0	0	3	0	1	0	0	<b>308</b>
	<b>Total</b>	<b>510</b>	<b>296</b>	<b>0</b>	<b>0</b>	<b>133</b>	<b>0</b>	<b>3</b>	<b>77</b>	<b>645</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1,670</b>

Species codes: Species codes: CP = common pipistrelle; SP = soprano pipistrelle; CP/SP = common/soprano pipistrelle; CP/NP = common/Nathusius' pipistrelle; NSL = noctule/serotine/Leisler's bat; Nyct sp. = noctule/Leisler's bat; N = noctule; LE = Plecotus sp.; M = Myotis sp.; Bat sp. = calls not assigned to a species or species group; GH = greater horseshoe bat and LH = lesser horseshoe bat.

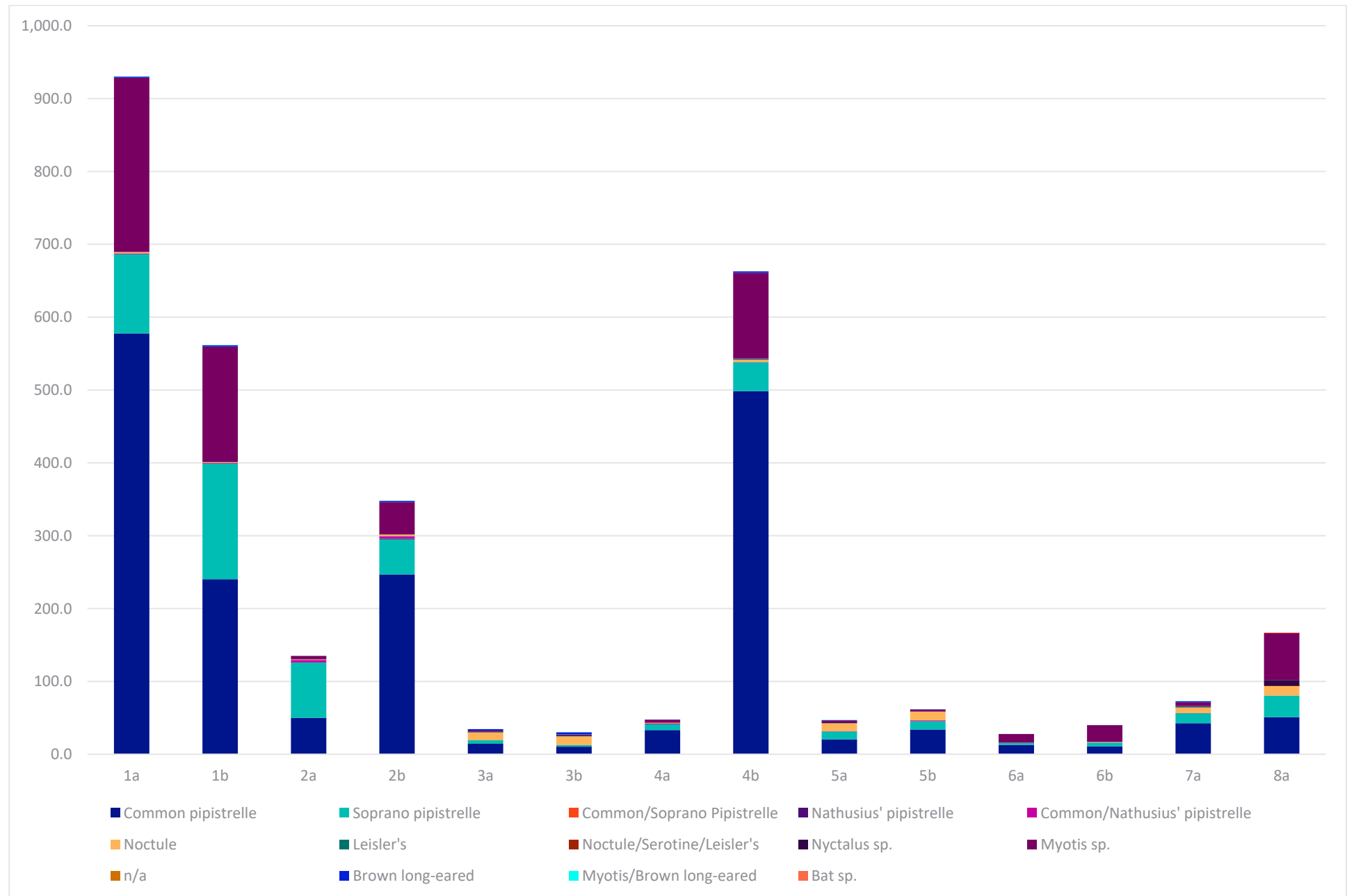
**Graph 3.5 – Total numbers of passes from each species at each static detector location**



**Graph 3.6 – Total number of passes (all species) in each month**



**Graph 3.7 – Average number of passes per night of each species at each static detector location**





## General Summary

- 3.3.24 There were a total of 94,295 bat passes recorded over all static detector locations during the entire survey period (September-October 2021 and April-September 2022).
- 3.3.25 As shown on **Graph 3.4**, static location 1a recorded the highest number of bat passes out of all static detector locations. This location had 32,556 passes, which accounted for 34.5% of all passes recorded during the survey period. The location with the next highest number of passes was static location 4b with 23,201, which is 25% of all passes.
- 3.3.26 The next highest number of passes were recorded at static location 2a (12,177 passes) and then 1b (8,425 passes). Locations 2a, 3a, 3b, 4a, 5a, 5b, 6a, 6b, 7a, and 8a all had relatively low numbers by comparison with, on average, 1,793 passes at each of these locations over the course of the survey period.
- 3.3.27 The greatest numbers of passes recorded in any month were in September 2021 (as seen in **Graph 3.6**). During this month 29,152, or 31%, of all passes for the entire survey period were recorded. Numbers of passes then declined in October 2021 and again into April 2022 before rising steadily throughout the course of the summer and peaking in August. Passes during August 2022 were substantially lower than the peak during September 2021, with 18,252 in August 2022 and 29,152 in September 2021.
- 3.3.28 Levels of activity in September 2022 (945 in total) were extremely low by comparison to those in September 2021 (29,152 in total). When the average passes per night are considered: 47.25 in September 2022 and 647 per night in September 2021 it is clear there is still a large disparity though not as high as when only totals are considered. The large discrepancy was due to the static location 1a and 1b being included in the September 2021 surveys and excluded from the September 2022 surveys.

## Common pipistrelle

- 3.3.29 Common pipistrelle was by far the most recorded species during the static detector surveys. In total, 57,917 passes from this species were returned which accounted for 61.5% of all passes recorded over the survey period. Common pipistrelle was recorded during every survey month, at every static detector location (see **Graph 3.5**). Out of all static locations, 1a had the most passes by common pipistrelle with 20,217 in total and an average of 577 per night (see Figure 3.7). This represents 35% of all common pipistrelle passes recorded over the entire survey period.
- 3.3.30 The location and month with the highest levels of common pipistrelle passes was location 4b during September 2021. At this time and location, 8,258 or 14% of all common pipistrelle passes for the entire survey period were recorded.

## Myotis sp.

- 3.3.31 Species of the *Myotis* genus were the second most recorded species recorded. In total, 18,815 records of myotis species were returned, which accounts for just under 20% of all bat records returned over the survey period. *Myotis* species were recorded at every static location during the majority of months, though there were several months when this species was absent. Out of all static locations, 1a had the most passes by *Myotis* species with a total of 8,369 in total and an average of 239 per night (see **Graph 3.7**). This represents 45% of all records for this species group recorded over the entire survey period (see **Graph 3.5**).

3.3.32 The location and month with the majority of *Myotis sp.* passes was location 1a during September 2021. At this time and location, 3,305 or 17.5% of all *Myotis sp.* passes for the entire survey period were recorded.

### *Soprano pipistrelle*

3.3.33 Soprano pipistrelle was the third most recorded species during the static detector surveys. In total, 14,024 passes from this species were returned which accounted for just under 15% of all passes over the survey (see **Graph 3.5**). Soprano pipistrelle was recorded at every static detector location, and during every month except August 2022 at Location 6a. Out of all static locations, 1a had the most passes by soprano pipistrelle with 3,801 in total and an average of 108 per night (see **Graph 3.7**). This represents 27% of all soprano pipistrelle passes recorded over the entire survey period. Location 1b during August 2022 recorded 1,497 passes by this species which comprises just over 10% of all soprano pipistrelle passes for the entire survey period.

### *Noctule/Serotine/Leisler's bat*

3.3.34 Taken together, this group was the fourth most recorded with a total of 2,587 passes, of which 2,172 were noctule, 77 were Leisler's bat, three were noctule/serotine/Leisler's bat (NSL) and 335 were *Nyctalus sp.* (either noctule or Leisler's bat). A single serotine pass was recorded and it is likely that the three records assigned as NSL were from *Nyctalus sp.* *Nyctalus* species therefore comprised 2.74% of all passes recorded during the survey.

3.3.35 The location with the highest amount of *Nyctalus* species activity was location 3b with 420 passes recorded over the entire survey period (just over 16% of all *Nyctalus* passes recorded) with an average of 13.4 passes per night.

### *Brown long-eared (BLE)*

3.3.36 During the entire survey period 449 records of brown long-eared (BLE) were recorded. This accounts for just under 0.5% of all bat passes. BLE were noted at each static location at some point during the entire survey period however there were months where no passes were recorded at certain locations. The majority of BLE passes were noted at location 3b in August 2022 with a peak count of 42 (just over 9% of all BLE passes recorded).

### *Nathusius' pipistrelle or Common pipistrelle/Nathusius' pipistrelle*

3.3.37 A total of 464 passes were recorded as either Nathusius' pipistrelle or common pipistrelle/Nathusius' pipistrelle. Due to the overlapping nature of the calls of these species it is difficult to determine the number of passes which can reliably be attributed to Nathusius' pipistrelle. However, taking only those passes assigned a high level of confidence gives a total of 97 passes likely to be from Nathusius' pipistrelle. This would account for 0.1% of all passes recorded during the survey. The majority of these passes were noted in just two locations: 1a and 2b and in September 2021.

## **Roost identification in trees**

### *Preliminary ground level roost assessment - trees*

3.3.38 Trees likely to be subject to direct effects within the Order Limits were subject to a GLRA to determine their suitability to support roosting bats. The full results of the GLRA

are set out in **Annex 8H.5 – Preliminary ground level roost assessment results**. The results are summarised below:

- Four trees were assessed as having High suitability to support roosting bats;
- 69 trees were considered to have Moderate suitability; and
- 93 trees were considered to have Low suitability.

#### *Aerial tree climbing inspection survey*

3.3.39 Where access and safety allowed, and where those trees were considered to be potentially impacted as a result of the Project; trees assessed during the GLRA as having either Moderate or High suitability to support roosting bats were subject to an aerial tree climbing inspection. The trees, 69 in total, assessed during the aerial tree climbing inspection and their corresponding suitability to support roosting bats, are shown in **Table 3.5**.

3.3.40 Tree nomenclature follows that as established by for the purpose of survey. It should be noted that this is not the same nomenclature as used in the **Arboricultural Impact Assessment (Appendix 3I, Volume 5, Document 5.3.3I)**. The tree locations along with their suitability to support roosting bats following the climbed inspections can be seen in **Figure 8.26, Volume 5, Document 5.4.8**.

**Table 3.5 – Suitability of trees to support roosting bats following climbed aerial inspection**

<b>Suitability</b>	<b>No. of Trees</b>	<b>Tree reference (TR)</b>
<b>Confirmed Roost</b>	0	
<b>High</b>	34	4, 12, 14, 18, 30, 31, 35, 36, 37, 40, 43, 44, 47, 69, 72, 73, 75, 76, 78, 80, 85, 89, 98, 100, 102, 104, 108, 118, 119, 123, 127, 130, 140 and 151.
<b>Moderate</b>	26	5, 8, 10, 17, 19, 23, 26, 39, 46, 48, 86, 88, 97, 99, 101, 103, 107, 109, 116, 122, 128, 149, 150, 152, 162 and 163.
<b>Low</b>	4	24, 68, 79, and 115.
<b>Negligible</b>	5	13, 62, 92, 111 and 121.

3.3.41 Tree 31 and 151 showed inconclusive signs of bat roosting, a dropping was recorded within a PRF in Tree 31 however DNA testing of the dropping was inconclusive, no other signs of bat roosting was recorded. A distinctive odour which may correspond to a bat roost was recorded within a PRF in Tree 151 but no other signs of bat roosting was recorded. It is not considered this evidence alone is sufficient to establish roosting and these trees were assigned as High suitability to support roosting bats.

*Final tree summary*

3.3.42 The final roosting suitability status of all trees subject to an initial GLRA and/or surveyed via aerial inspection are shown in **Table 3.6**.

**Table 3.6 – Final summary of roost suitability of all trees surveyed**

<b>Suitability</b>	<b>No. of Trees</b>	<b>Tree reference (TR)</b>
<b>Confirmed Roost</b>	0	
<b>High</b>	34	4, 12, 14, 18, 30, 31, 35, 36, 37, 40, 43, 44, 47, 69, 72, 73, 75, 76, 78, 80, 85, 89, 98, 100, 102, 104, 108, 118, 119, 123, 127, 130, 140 and 151.
<b>Moderate</b>	26	5, 8, 10, 17, 19, 23, 26, 39, 46, 48, 86, 88, 97, 99, 101, 103, 107, 109, 116, 122, 128, 149, 150, 152, 162 and 163.
<b>Low</b>	101	1, 2, 3, 6, 7, 9, 11, 15, 16, 20, 21, 22, 24, 25, 27, 28, 29, 32, 33, 34, 38, 41, 42, 45, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 66, 67, 68, 70, 71, 74, 77, 79, 81, 82, 83, 84, 87, 90, 91, 93, 94, 95, 96, 105, 106, 110, 112, 113, 114, 115, 117, 120, 124, 125, 126, 129, 131, 132, 133, 134, 135, 136, 137, 138, 139, 141, 142, 143, 144, 145, 146, 147, 148, 153, 154, 155, 156, 157, 158, 159, 160, 161, 164, 165, and 166.
<b>Negligible</b>	5	13, 62, 92, 111 and 121.

# 4. Summary

## 4.1 Overview

4.1.1 A desk study was carried out in 2021, which provided the following information:

- No nationally or internationally important sites that are designated for bat conservation with 10km;
- The presence of roosts for at least seven species of bat with 5km including common pipistrelle, soprano pipistrelle, Brandt's bat, natterer's bat, Daubenton's bat whiskered bat, brown long-eared; and
- Records of bat activity for at least eight species within 2km including common pipistrelle, soprano pipistrelle, Brandt's bat, Daubenton's bat, whiskered bat, brown long-eared, noctule and Leisler's bat.

4.1.2 In total, at least eight species of bat were confirmed within the survey area during all surveys: common pipistrelle, soprano pipistrelle, *Myotis* species, noctule, Leisler's bat, brown long-eared bat, serotine and Nathusius pipistrelle. **Table 3.3** and **Table 3.4** provides a summary of the bat species recorded within, or potentially occurring within the survey area, and a summary of the data that supports this assessment.

### Roost identification

4.1.3 No confirmed bat roosts were identified during all survey work, however common pipistrelle, soprano pipistrelle and noctule were recorded within 30 minutes of sunset/sunrise during activity surveys suggesting roosts for these species may be present within close proximity to the Order Limits. Following aerial tree inspections 34 trees were assessed as having High suitability to support roosting bats while 26 were assessed as having Moderate suitability to support roosting bats. No buildings will be impacted by the Project.

### Bat activity

4.1.4 The habitats within the Order Limits provide moderate suitability for foraging and commuting bats. The greatest levels of bat activity recorded during the static detector surveys were recorded at Static detector locations 1a, while Transect 1 had the most activity during the manual transect surveys.

4.1.5 Static 1a, set within Transect 1, was installed in a treeline along an access track and bordered by a grassy ruderal strip. The surrounding habitat is predominantly arable fields, hedgerows and treelines. There was little to no light pollution in this area and it is clear that this treeline provides a commuting corridor and foraging resource for bats in an area dominated by otherwise open arable fields.

### *Common and Soprano Pipistrelle*

4.1.6 The vast majority of the bat passes recorded by surveys comprised common and soprano pipistrelles (76.5% of all static detector recordings), both a common and widespread species. Both species were noted in the desk study as being present in the local area and previous EPSM licences for both species were recorded within 5km of

the Order Limits highlighting the presence of roosts for these species in the wider area. Given the occasions where these species were recorded within 30 minutes of sunrise and sunset, it is considered that both species may be roosting in close proximity to the Order Limits.

### *Myotis species*

- 4.1.7 A high number of passes from *Myotis* species were recorded across the Order Limits (20% of all static detector recordings). Though it is not always possible to assess calls of this genus to species level, analysed recordings indicate that they are likely to be from mainly Daubenton's bat or Natterer's bat with smaller numbers from whiskered bat and Brandt's bat. Daubenton's bat, Brandt's bat and whiskered bat were all recorded in the desk study to be present as foraging/commuting the local area. Natterer's bat was not noted in the general activity desk study, though as mentioned a confirmed roost for this species is known to be present in the vicinity. Alcaethoe are less common in Yorkshire and were not recorded in the desk study, whilst they may be present it is considered unlikely.

### *Nyctalus species*

- 4.1.8 Passes from *Nyctalus* species accounted for 2.74% of all static detector passes during the entire survey period. Of the *Nyctalus* species recorded during, noctule was present in far higher numbers than Leisler's bat. Both species were noted in the desk study as present in the local area.

### *Nathusius pipistrelle, brown long-eared bat and serotine*

- 4.1.9 Small numbers of passes *Nathusius' pipistrelle* and brown long-eared recordings were noted. *Nathusius' pipistrelle* is rare in Yorkshire, while brown long-eared bats species are fairly uncommon though likely to be very under recorded due to the quiet nature of its calls. One serotine pass was recorded only during all survey work on a transect survey 5 in August 2022.

**Table 4.1 – Summary of survey results**

<b>Species</b>	<b>Contextual and desk study information</b>	<b>Activity summary</b>	<b>Roosting status</b>
Common pipistrelle	<p>Common and widespread nationally and common within Yorkshire.</p> <p>Desk study identified records within a 5km radius of the Order Limits.</p>	<p>Common pipistrelle bats were by far the most frequently recorded species during both activity transect and static monitoring surveys and were recorded at high levels of activity. They were frequently recorded during both the transect and static surveys commuting and foraging across multiple parts of the transect route. The majority of passes were recorded at static location 1 (principally location 1a) and 4.</p>	<p>No roosts were identified.</p>
<i>Myotis</i> species	<p>Depending on the species, they can range from uncommon (whiskered bat) to fairly common (Daubenton's) to very rare (Brandt's' bat throughout Yorkshire.</p>	<p>Moderate levels off foraging and commuting activity by <i>Myotis</i> species were recorded during the transect and static surveys and all locations. The majority of <i>Myotis</i> passes were recorded at static location 1a.</p>	<p>No roosts were identified.</p>
Soprano pipistrelle	<p>Common and widespread nationally and fairly common within Yorkshire</p> <p>Desk study identified records within a 5km radius of the Order limits.</p>	<p>Soprano pipistrelle bats were frequently recorded during both activity transect and static monitoring surveys commuting and foraging, across multiple parts of the transect routes. The majority of passes were recorded at static location 1b but were common at all static locations.</p>	<p>No roosts were identified.</p>
Noctule	<p>Common and widespread nationally and fairly uncommon but widespread in Yorkshire.</p>	<p>Comparatively low levels of commuting and foraging activity were recorded during the transect surveys, though substantially more passes were returned during the static surveys, particularly at static location 3b. Activity levels were much lower than common pipistrelle, however noctule is a rarer species and the level of activity from this species can therefore be classed as moderate.</p>	<p>No roosts were identified.</p>



<b>Species</b>	<b>Contextual and desk study information</b>	<b>Activity summary</b>	<b>Roosting status</b>
Leisler's bat	Fairly uncommon though widespread in the UK. Uncommon in Yorkshire.  Desk study identified records within 5km of the Order limits.	Very low levels of activity for this species were recorded during surveys. Recorded primarily at static locations 4b and 7a.	No roosts were identified.
Brown long-eared	Relatively common and widespread nationally; locally distributed in Yorkshire.  Desk study identified records within a 5km radius of the Order limits.	Low levels of brown long-eared bat activity were recorded during the transect surveys and at slightly higher levels during the static survey where this species was recorded intermittently throughout the survey period. The highest levels of activity were recorded at static location 3.	No roosts were identified.
Nathusius pipistrelle	Rare nationally and rare in Yorkshire.  No records present within desk study.	Very low levels of activity from this species were noted during the static surveys and of those that were almost all were noted at static location 1a and 2b and in September 2021.	No roosts were identified.
Serotine	Widely distributed in England though uncommon. Extremely rare in Yorkshire.  No records present within desk study.	Only a single pass of this species was recorded during all survey work during an activity transect.	No roosts were identified.



## Annex 8H.1 – Static detector survey information

Table H.1 – Static detector survey location

Static detector reference/location	Grid reference	Description of deployment location
Static 1a	SE 56609 58898	<p>1a was deployed at the base of an oak tree, forming part of a treeline bordering an access track to a farm. This treeline is predominantly mature oak and ash. The surrounding habitat is predominantly arable fields, hedgerows and treelines. The tree in which the detector was fixed was bordered by a grassy ruderal strip which appeared to be regularly maintained. To the south-west of the detector is the private access road, followed by a hawthorn hedgerow and subsequent arable field. To the north-east lies another arable field. There was little to no light pollution in this area. It was therefore considered that this treeline could provide a suitable corridor for bats in an area dominated by arable farming and therefore unfavourable for bats. The deployment location was situated at the eastern edge of the proposed working area for new build pylon YN004 within the Order Limits. An access route will also be created through the treeline at this point, to allow access to new build pylon YN003 and further works.</p>
Static 1b	SE 55933 58079	<p>1b was deployed in an area of tall ruderal vegetation at the western edge of an arable field. To the east is Hurns Gutter, which was bordered by a tall hawthorn hedgerow on its western bank. To the south is an area of woodland with mature trees, which could potentially provide favourable habitat for use by bats for commuting, foraging or roosting. The areas were considered to be subject to minimal light pollution due to the remoteness, though there is some potential for light to spill from the nearby settlement of Shipton by Beningbrough, located to the north-west of the detector. The surrounding trees and hedgerows would likely act as a buffer to this light pollution. Overall, the area in which the detector is positioned would likely provide a relatively dark corridor in which the bats could travel, in an area which is otherwise largely unsuitable.</p> <p>The deployment location is situated within the planned located of a new bridge crossing over Hurns Gutter. An access trackway will follow the field boundary and associated treeline southwest until reaching this location, and continue south to the location of new build pylon YN007 and further works.</p>

Static detector reference/location	Grid reference	Description of deployment location
Static 2a	SE 53890 56157	<p>2a was deployed on an elder tree within an area of woodland bordering The Foss. The habitat is predominantly a corridor of deciduous woodland and scrub, with species such as hawthorn, elder, willow and oak. To the north and south, the land is farmed for arable crop. To the east is an area of semi-improved grassland. It was considered during assessment that there was potential for light pollution to originate from the poultry farm situated to the north on the opposite side of the river. However, the treelines on either side of the river were considered as providing a light screen. This corridor of woodland follows the river until it joins with the river Ouse, providing a relatively dark, favourable commuting corridor for bats.</p> <p>This deployment location is situated within the Order Limits for the proposed works, within the proposed scaffold location for overhead line works between span XC420 - XC421.</p>
Static 2b	SE 53153 56214	<p>2b was deployed in a break within a hawthorn hedgerow. This hedgerow extends into a treeline further north and south, and the east of the is bordered by a ruderal strip and arable field. The hedgerow and treeline is bordered by the Hurns Gutter to the west. Habitats in the surrounding area include arable fields, hedgerows, treelines, ruderal, and semi-improved grassland. The hedgerow in which the detector sat forms part of a larger treeline of willow, ash and oak, which extends further north and south. To the east, an area of scrub comprised of grass species, nettle and previous crop plants sits directly adjacent to the detector location. This is bordered by an arable field. To the west the treeline borders an area of semi-improved grassland which then extends on to another arable field. It was considered that there was some potential for low levels of light pollution from the poultry farm located to the north-west, although this was predicted to be minimal due to the treeline acting as a buffer between this and the static detector. The surrounding area was considered likely to form a relatively dark corridor which may be favourable for use by bats in an area of predominantly arable land which is largely unsuitable for bats.</p> <p>This deployment location is situated within ~30m of working area for the dismantling of pylon XCP005, and new build pylon XC424 will be constructed ~90m to the east.</p>
Static 3a	SE 46219 41513	<p>3a was deployed on an elder tree within a disused area of Darrington Quarry. This area was previously used as an access track for site vehicles. The surrounding habitats include hardstanding, neutral semi-improved grassland, scattered/continuous scrub, broadleaved</p>

Static detector reference/location	Grid reference	Description of deployment location
Static 3b	SE 46730 41577	<p>woodland, arable fields, and an active quarry. To the north and west of the static detector, there is an area of broadleaved woodland, followed by neutral semi-improved grassland. This is bordered to the north by the A64. To the south of the deployment location, an area of both continuous and scattered scrub of predominantly hawthorn and bramble acts as a buffer between this and the quarry which sits further south. These southern habitats were considered to receive considerable light pollution from the quarry as there is limited tall vegetation to act as a buffer, however the detector was deployed in a disused area which receives little direct light. To the north, there was expected to be moderate light pollution from the A64, though this was expected to be reduced due to the presence of the woodland which would act as a buffer. The broad-leaved woodland could offer a suitable dark corridor of habitat through the quarry and grassland.</p> <p>This deployment location is situated within the Order Limits approximately 70m northeast of pylon XC482 and is situated at the southern border of the scaffold location for the overhead line works over the A64, between span XC481 - XC482.</p>
Static 3b	SE 46730 41577	<p>3b was deployed on an elder tree in scrub within the disused area of the quarry. This area was previously quarried but has since been allowed to recolonise with habitats such as scrub, broad-leaved woodland, tall ruderal in addition to areas of open ground. Light pollution was expected to be minimal in this area because this section of the quarry is cut off from the active quarry via a large land mass. Due to the relatively remote and undisturbed nature of this location, it was considered likely that this area could provide a favourable, dark habitat suitable for bats.</p> <p>This deployment location was situated approximately 390m east of the Order Limits.</p>
Static 4a	SE 46730 41577	<p>4a was deployed at the base of a a hawthorn hedgerow which runs east to west, dividing two arable fields. The surrounding habitat is predominantly arable fields, with a strip of semi-improved neutral grassland running adjacent to the hedgerow in which the detector is located. Tower XC497 is located ~10m to the east of the detector. A treeline borders the arable field to the east, which runs alongside the Cock Beck, and develops into woodland further north. Light pollution the deployment location was expected to be minimal due to the trees acting as a buffer to this light. It is likely that the hawthorn hedgerow may provide a suitable habitat for the</p>

Static detector reference/location	Grid reference	Description of deployment location
Static 4b	SE 46747 37110	<p>bats to use for commuting if moving between more favourable habitats or has some potential to be used for foraging.</p> <p>This deployment location was situated at the western border of the working area for pylon XC497 which will be modified as part of the works. A section of the hedgerow in which the static sits may need to be removed to enable works to take place. An access track for pylon XC496 is also located ~40m northeast of the static location.</p>
Static 5a	SE 47794 29397	<p>4b was deployed at the base of a treeline located at the eastern boundary of an arable field. The treeline is mainly composed of species such as willow, oak and ash, and borders the Cock Beck as it flows along the eastern edge of the field. To the west, a strip of semi-improved grassland separates the treeline from the arable field. To the north, there is a larger area of semi-improved neutral grassland, which has a tall sward height and numerous grass species within. Light pollution was considered likely at this location due to the proximity to the B1217 and other settlements, however the treeline would form a buffer to much of this light. This treeline could provide favourable habitat for bats in terms of foraging, potential roosting and commuting in an area that is otherwise relatively unsuitable.</p> <p>This deployment location was situated within the Order Limits in an area of habitat which may require removal due to its location within the working area of the reconductoring works between span XC497 – XC498.</p> <p>5a was deployed on a tree at the south-western edge of a woodland, bordering an arable field to the south. The surrounding habitats mainly comprise arable land, mixed plantation woodland, semi-improved grassland, and hedgerow. The woodland is surrounded on all sides by arable land. The A1 borders the western edge of the field in which the detector was located, and to the east lies the farmhouse, semi-improved grassland, and further arable fields. Light pollution at this location was considered to originate mainly from the A1. The hedgerow was considered to act as a buffer against further light pollution originating from the farmhouse and yard located to the north-east. The woodland provides a relatively unlit dark corridor of suitable bat habitat within the wider area which is largely unsuitable.</p>

Static detector reference/location	Grid reference	Description of deployment location
Static 5b	SE 48626 28987	<p>This deployment location was positioned within the Order Limits, approximately ~20m north of the access track which will connect pylons XC523 and XC524. The working area for new build pylon XC523 is located ~60m to the west of the detector.</p> <p>The static detector was situated at the base of a defunct hawthorn hedgerow which forms the southern boundary of an improved grassland field, in which, Monk Fryston substation is located. The surrounding habitats include: improved grassland, broken scrub, complete and defunct hedgerow, broadleaved plantation woodland, arable land, and hard standing. There is an area of broadleaved plantation woodland located to the east and south of the detector position. The woodland to the south forms a corridor which extends from just south of the substation east towards the A162. The substation will currently emit a significant amount of light pollution, this may be shielded to a certain extent by a soil bund that surrounds the substation although there is still expected to be considerable light pollution which may reduce the potential for bats in the surrounding area. The plantation woodland to the south and east may provide suitable dark corridor in an otherwise largely unsuitable area. The detector was situated within the Order Limits, approximately 10m southwest of the working area for the new build FLT Gantries, 4YS031 and 4YS030. The existing substation is located ~90m to the west.</p>
Static 6a	SE 56169 56103	<p>The static detector was located on a willow tree within a broadleaved plantation woodland. This strip of woodland runs adjacent to a railway line located to its west. The surrounding habitats include: arable fields, broadleaved plantation woodland, railway embankment, species-rich hedgerow, and dense/continuous scrub. Trees within the woodland include oak, willow, hazel, and hawthorn. Light pollution is expected to be minimal, due to the distance of the detector from surrounding settlements, and the trees within the woodland are likely to act as a buffer for any surrounding light. This woodland is expected to offer a suitable habitat for bats which may extend further south via other areas of nearby woodland, for example, associated with the golf course or bordering the river Ouse. The static detector is situated within the working area for works between span SP007 - XCP013.</p>
Static 6b	SE 56109 56066	<p>The static detector was situated within broadleaved plantation woodland, on a willow tree. This area is the opposite side of the railway to detector 6a, and is bordered by the railway on its eastern side. To the west, the land is predominantly arable land, with some intact species rich</p>

Static detector reference/location	Grid reference	Description of deployment location
Static 7a	SE 47080 33183	<p>hedgerows, and an multiple waterbodies within the woodland to the south. A golf course, located to the south Again, light pollution is expected to be minimal, with the woodland acting as a buffer against any light pollution that may occur. This area is likely to provide a corridor of suitable bat habitat within the surrounding largely arable environment and may provide connection links to areas of woodland further south and east.</p>
Static 8a	SE 47064 32141	<p>The static detector was located on a fence at the south-western corner of a semi-improved grassland field which is grazed by cows. Surrounding habitats include railway embankment, semi-improved grassland, arable fields, broadleaved plantation woodland, intact species rich hedgerow, and parkland with scattered trees. Located just west of the detector is a large area of broadleaved plantation woodland with species including ash and sycamore. This forms a thin corridor along the south edge of the field, bordering the railway line. The woodland also extends further west, forming a large expanse amidst the largely agricultural surroundings. The intact hedgerow is located to the north of the detector and divides the grassland and arable fields. Some low level light spill from the farmyard located to the north, and potentially from the railway from the south may be present in this area. Overall, the broadleaved woodland is expected to provide a largely unlit dark area of habitat favourable and suitable for bats which extends further west, in an area of predominantly unsuitable arable land. The detector is located within the Order Limits, within the working area for OVERHEAD LINE reconductoring between span XC510 - XC511. An access track will border the western edge of the field, and come within approximately 10m of the static location. Trees nearby to the detector may require removal to allow works to take place.</p>

**Table H.2 – Weather data during static detector recording**

Date	Sunrise	Sunset	Moon phase	Max Temperature (°C) am	Minimum Temperature (°C) am	Max Temperature (°C) pm	Minimum Temperature (°C) pm	Humidity % am	Humidity % pm	Max wind speed (km/h) am	Max wind speed (km/h) pm	Weather Observations am	Weather Observations pm
24/09/2021	06:54	18:58	Waning gibbous	14	13	18	17	89	92	20	25	Passing clouds	Passing clouds
25/09/2021	06:56	18:55	Waning gibbous	17	15	18	16	93	90	14	6	Passing clouds	Passing clouds
26/09/2021	06:58	18:53	Waning gibbous	16	13	17	15	89	79	8	17	Passing clouds	Passing clouds
27/09/2021	06:59	18:50	Last quarter	16	15	12	9	85	76	21	12	Passing clouds	Passing clouds
28/09/2021	07:01	18:48	Last quarter	10	9	11	9	86	94	13	12	Clear	Passing clouds
03/10/2021	07:13	6:40	Waning crescent	8	4	11	8	87	86	24	21	Fair	Partly cloudy
04/10/2021	07:15	6:38	Waning crescent	9	7	10	7	92	92	23	13	Partly cloudy	Fair
05/10/2021	07:16	6:35	Waning crescent	10	9	10	6	97	85	19	47	Light rain	Light Rain/Windy
06/10/2021	07:18	6:33	New Moon	10	4	12	8	79	82	47	13	Mostly Cloudy / Windy	Mostly cloudy
07/10/2021	7:20	6:30	Waxing crescent	13	10	17	14	95	90	13	21	Mostly cloudy	Partly cloudy
21/10/2021	7:46	5:58	Waning gibbous	7	0	7	2	85	80	29	27	Fair	Fair
22/10/2021	7:48	5:55	Waning gibbous	9	3	9	7	80	90	32	19	Partly cloudy	Partly cloudy
23/10/2021	7:50	5:53	Waning gibbous	9	7	11	4	94	71	14	32	Mostly cloudy	Mostly cloudy
24/10/2021	7:52	5:51	Waning gibbous	10	5	12	9	78	89	16	21	Mostly cloudy	Fair
25/10/2021	7:54	5:49	Waning gibbous	11	8	9	6	91	87	24	14	Fair	Fair
20/04/2022	05:53	20:15	Waning Gibbous	7	5	12	6	84	72	12	13	Clear	Clear
21/04/2022	05:50	20:17	Waning Gibbous	5	4	13	5	87	71	11	18	Clear	Passing clouds



Date	Sunrise	Sunset	Moon phase	Max Temperature (°C) am	Minimum Temperature (°C) am	Max Temperature (°C) pm	Minimum Temperature (°C) pm	Humidity % am	Humidity % pm	Max wind speed (km/h) am	Max wind speed (km/h) pm	Weather Observations am	Weather Observations pm
22/04/2022	05:48	20:19	Last Quarter	6	6	11	5	99	83	21	22	Passing clouds	Passing clouds
23/04/2022	05:46	20:21	Last Quarter	7	5	11	6	93	84	22	22	Passing clouds	Passing clouds
24/04/2022	05:44	20:23	Last Quarter	6	5	10	5	96	84	21	22	Passing clouds	Scattered clouds
02/05/2022	05:30	8:39	Waxing crescent	10	9	9	6	94	92	10	16	Mostly cloudy	Light rain
03/05/2022	05:28	8:41	Waxing crescent	8	6	11	8	96	88	10	10	Mostly cloudy	Partly cloudy
04/05/2022	05:26	8:43	Waxing crescent	10	8	10	6	93	87	14	26	Fair	Fair
05/05/2022	05:24	8:45	Waxing crescent	8	5	13	8	91	85	23	21	Fair	Fair
06/05/2022	5:22	8:46	Waxing crescent	10	8	11	10	92	99	19	13	Fair	Light Rain
07/05/2022	5:20	8:48	Waxing crescent	10	6	9	5	93	86	19	11	Fair	Fair
08/05/2022	5:18	8:50	Waxing crescent	6	4	13	7	98	78	8	16	Fair	Fair
09/05/2022	05:13	20:50	Waxing Gibbous	9	7	16	13	90	66	11	30	Passing clouds	Passing clouds
10/05/2022	05:11	20:52	Waxing Gibbous	14	11	16	11	76	56	28	27	Passing clouds	Passing clouds
11/05/2022	05:09	20:54	Waxing Gibbous	11	10	13	8	78	72	25	20	Clear	Passing clouds
12/05/2022	05:08	20:55	Waxing Gibbous	9	8	13	9	89	71	13	21	Passing clouds	Passing clouds
13/05/2022	05:06	20:57	Waxing Gibbous	10	10	14	11	83	72	28	24	Passing clouds	Passing clouds
14/05/2022	05:07	09:00	Waxing Gibbous	11	7	15	6	88	60	16	11	Fair	Fair
24/05/2022	04:49	21:15	Waning Crescent	10	8	13	9	88	73	22	18	Clear	Passing clouds
25/05/2022	04:48	21:16	Waning Crescent	10	9	14	10	80	75	14	19	Passing clouds	Scattered clouds



Date	Sunrise	Sunset	Moon phase	Max Temperature (°C) am	Minimum Temperature (°C) am	Max Temperature (°C) pm	Minimum Temperature (°C) pm	Humidity % am	Humidity % pm	Max wind speed (km/h) am	Max wind speed (km/h) pm	Weather Observations am	Weather Observations pm
26/05/2022	04:47	21:18	Waning Crescent	11	10	15	10	85	69	17	28	Passing clouds	Passing clouds
27/05/2022	04:45	21:19	Waning Crescent	10	7	13	8	74	68	22	28	Clear	Passing clouds
28/05/2022	04:44	21:20	New Moon	8	6	14	8	81	66	18	12	Clear	Passing clouds
05/06/2022	04:40	9:32	Waning Crescent	8	6	10	9	87	98	16	16	Mostly cloudy	Mostly cloudy
06/06/2022	04:39	09:33	Waning Crescent	9	8	12	8	97	87	16	10	Mostly cloudy	Fair
07/06/2022	04:36	21:32	First Quarter	10	8	17	12	87	79	11	13	Passing clouds	Sunny
08/06/2022	04:35	21:32	Waxing Gibbous	12	11	16	12	99	76	12	24	Light rain, fog	Passing clouds
09/06/2022	04:35	21:33	Waxing Gibbous	12	10	16	15	86	81	16	16	Passing clouds	Partly sunny
10/06/2022	04:34	21:34	Waxing Gibbous	14	12	18	13	81	54	22	26	Passing clouds	Passing clouds
11/06/2022	04:34	21:34	Waxing Gibbous	13	11	17	12	81	74	24	19	Clear	Scattered clouds
12/06/2022	04:34	21:35	Full Moon	12	11	14	10	86	77	19	25	Passing clouds	Scattered clouds
13/06/2022	04:33	21:36	Full Moon	10	9	14	9	90	70	14	15	Passing clouds	Scattered clouds
24/06/2022	04:36	09:43	Waning Crescent	15	11	17	10	89	72	8	26	Fair	Fair
25/06/2022	04:37	09:43	Waning Crescent	15	8	12	6	78	76	24	11	Fair	Fair
26/06/2022	04:37	09:43	Waning Crescent	10	6	15	7	81	65	14	19	Fair	Fair
27/06/2022	04:38	09:43	Waning Crescent	13	7	12	5	76	69	23	11	Fair	Fair
28/06/2022	04:38	09:43	Waning Crescent	11	5	15	10	75	82	16	21	Fair	Light rain
29/06/2022	04:39	09:43	New Moon	13	11	15	11	94	83	16	5	Light Rain	Partly cloudy

Date	Sunrise	Sunset	Moon phase	Max Temperature (°C) am	Minimum Temperature (°C) am	Max Temperature (°C) pm	Minimum Temperature (°C) pm	Humidity % am	Humidity % pm	Max wind speed (km/h) am	Max wind speed (km/h) pm	Weather Observations am	Weather Observations pm
30/06/2022	04:40	09:42	Waning Crescent	14	10	12	10	87	96	13	23	Fair	Light Rain Shower
01/07/2022	04:40	09:42	Waning Crescent	12	11	13	10	96	84	21	16	Partly cloudy	Light Rain Showe
02/07/2022	04:41	09:42	Waning Crescent	13	9	13	8	82	78	26	19	Partly cloudy	Fair
03/07/2022	04:42	09:41	Waning Crescent	11	9	13	9	90	81	16	21	Fair	Fair
04/07/2022	04:43	09:41	Waning Crescent	13	9	13	9	82	81	26	24	Fair	Mostly cloudy
05/07/2022	04:44	09:40	Waning Crescent	12	8	13	9	86	80	34	21	Fair	Partly cloudy
08/07/2022	04:47	09:38	Waxing gibbous	15	12	16	13	93	88	26	23	Fair	Partly cloudy
09/07/2022	04:48	09:37	Waxing gibbous	15	12	16	11	90	83	32	26	Partly cloudy	Fair
10/07/2022	04:49	09:36	Waxing gibbous	13	11	18	11	96	77	23	19	Fair	Fair
11/07/2022	04:50	09:35	Waxing gibbous	16	11	21	12	89	65	8	13	Fair	Fair
12/07/2022	04:51	09:35	Waxing gibbous	20	13	21	11	67	66	14	16	Fair	Fair
14/07/2022	04:54	09:32	Waxing gibbous	13	9	12	9	83	84	26	21	Fair	Fair
15/07/2022	04:55	09:31	Waxing gibbous	13	10	13	10	90		24	83	Fair	Fair
16/07/2022	04:56	09:30	Waxing gibbous	12	9	17	10	91	69	21	19	Fair	Fair
17/07/2022	04:58	09:29	Waxing gibbous	15	10	23	10	78	51	11	10	Fair	Fair
18/07/2022	04:59	09:28	Waxing gibbous	21	11	26	9	56	40	16	8	Fair	Fair
23/07/2022	05:06	09:21	Waning crescent	13	11	18	11	94	86	11	21	Mostly cloudy	Mostly cloudy
24/07/2022	05:08	09:20	Waning crescent	18	15	17	14	89	89	34	27	Mostly cloudy	Partly cloudy

Date	Sunrise	Sunset	Moon phase	Max Temperature (°C) am	Minimum Temperature (°C) am	Max Temperature (°C) pm	Minimum Temperature (°C) pm	Humidity % am	Humidity % pm	Max wind speed (km/h) am	Max wind speed (km/h) pm	Weather Observations am	Weather Observations pm
25/07/2022	05:10	09:18	Waning crescent	16	13	16	10	91	92	23	21	Light rain shower	Mostly cloudy
26/07/2022	05:11	09:17	Waning crescent	12	9	13	10	88	93	10	8	Mostly cloudy	Mostly cloudy
27/07/2022	05:13	09:15	Waning crescent	12	10	17	10	100	75	11	13	Fog	Fair
01/08/2022	05:21	09:06	Waxing crescent	14	9	17	11	87	87	16	26	Mostly cloudy	Mostly cloudy
02/08/2022	05:23	09:05	Waxing crescent	18	15	20	15	90	86	26	27	Mostly cloudy	Light rain
03/08/2022	05:24	09:03	Waxing crescent	19	14	19	12	88	82	24	27	Light rain	Fair
04/08/2022	05:26	09:01	Waxing crescent	15	12	15	7	81	74	14	29	Fair	Fair
05/08/2022	05:28	08:59	Waxing gibbous	11	7	12	7	81	79	23	26	Fair	Fair
08/08/2022	05:33	08:53	Waxing gibbous	14	12	16	10	92	78	16	23	Fair	Fair
09/08/2022	05:35	08:51	Waxing gibbous	13	8	19	50	86	68	16	11	Fair	Fair
10/08/2022	05:37	08:49	Waxing gibbous	16	11	21	8	77	61	3	5	Fair	Fair
11/08/2022	05:38	08:47	Full Moon	19	9	22	9	69	52	5	8	Fair	Fair
12/08/2022	05:40	08:45	Waning gibbous	18	11	20	10	72	59	5	10	Fair	Fair
13/08/2022	05:42	08:43	Waning gibbous	16	10	20	10	75	73	10	10	Fair	Fair
14/08/2022	05:44	08:41	Waning gibbous	17	12	21	13	91	68	13	11	Fair	Fair
01/09/2022	06:16	08:00	Waxing crescent	14	11	16	11	90	82	16	14	Mostly cloudy	Partly cloudy
02/09/2022	06:17	07:57	Waxing crescent	13	11	17	10	92	79	8	16	Mostly cloudy	Fair
03/09/2022	06:19	07:55	Waxing gibbous	15	14	19	13	94	77	10	10	Fog	Fair

Date	Sunrise	Sunset	Moon phase	Max Temperature (°C) am	Minimum Temperature (°C) am	Max Temperature (°C) pm	Minimum Temperature (°C) pm	Humidity % am	Humidity % pm	Max wind speed (km/h) am	Max wind speed (km/h) pm	Weather Observations am	Weather Observations pm
04/09/2022	06:21	07:53	Waxing gibbous	17	11	19	13	79	81	11	10	Fair	Fair
05/09/2022	06:23	07:50	Waxing gibbous	18	14	18	13	90	82	19	14	Light rain	Light rain
06/09/2022	06:24	07:48	Waxing gibbous	14	13	16	12	95	88	8	8	Mostly cloudy	Partly cloudy

## Annex 8H.2 – Scientific names

Common name	Scientific name
Common pipistrelle	<i>Pipistrellus pipistrellus</i>
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
Nathusius pipistrelle	<i>Pipistrellus nathusii</i>
Noctule	<i>Nyctalus noctula</i>
Serotine	<i>Eptesicus serotinus</i>
Leisler's bat	<i>Nyctalus leisleri</i>
<i>Myotis</i> sp.	<i>Myotis species</i>
Daubenton's bat	<i>Myotis daubentonii</i>
Brandt's bat	<i>Myotis brandtii</i>
Whiskered bat	<i>Myotis mystacinus</i>
Brown long-eared	<i>Plecotus auritus</i>

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## Annex 8H.3 – Aerial tree climbing inspection limitations

Tree reference	Extent of survey undertaken	Constraint
	Partial inspection	One Moderate suitability PRF not fully inspected due to extensive and complex cavity through which the endoscope could not be fully manipulated.
	Partial inspection	One Moderate suitability PRF not inspected due to bees/wasps.
	Ground level	Access refused.
	Partial inspection	One Moderate suitability PRF not fully inspected due to squirrel drey present.
	Ground level	Unsafe to climb due to ash dieback; one ground-level feature inspected with endoscope.
	Partial inspection	One Moderate suitability PRF not inspected due to wasp nest present.
	Partial inspection	One High suitability PRF not fully inspected due to extensive size and hidden cavities through which the endoscope could not be fully manipulated.
	Partial inspection	Three Moderate suitability PRF not inspected due to safety concerns caused by advanced ash dieback.
	Partial inspection	One High suitability PRF not fully inspected due to extensive and complex chambered cavity through which the endoscope could not be fully manipulated.
	Partial inspection	One High suitability feature not fully inspected due to extent and safety as the tree is hollow.
	Ground level	Unsafe to climb due to ash dieback and active wasp nest.
	Partial inspection	One High suitability PRF not fully inspected due to a complex cavity through which the endoscope could not be fully manipulated.
	Partial inspection	Both High suitability PRF not fully inspected due to extensive and complex chambered cavities through which the endoscope could not be fully manipulated.

Tree reference	Extent of survey undertaken	Constraint
	Partial inspection	One High suitability PRF not fully inspected due to extensive cavity as the tree is hollow.
	Ground level	Could not access due to large area of Himalayan Balsam.
	Ground level	Could not access due to large area of Himalayan Balsam.
	Ground level	Could not access due to large area of Himalayan Balsam.
	Ground level	Unsafe to climb due to bracket fungi on every limb, signs of heartwood rot, a wasp nest and overhead high voltage lines.
	Ground level	Could not access due to large area of Himalayan Balsam.
	Ground level	Unsafe to climb due to complete covering of fruiting bodies of fungus.
	Partial inspection	Several PRF not fully inspected due to safety concerns around reliable anchors at height. Recommended using a MEWP.
	Partial inspection	One Moderate suitability PRF not fully inspected due to extensive and complex chambered cavity through which the endoscope could not be fully manipulated.
	Partial inspection	Two Moderate suitability PRF not inspected due to bee's nest present.
	Partial inspection	Five Moderate suitability PRF not assessed due to climber safety as a result of fruiting bodies of fungus on the tree and inability to fully inspect extensive and complex chambered cavities which the endoscope could not be fully manipulated through.
	Ground level	Unsafe to climb as all limbs are dead and no safe anchor points present.
	Ground level	Unsafe to climb due to advanced ash dieback causing there to be no safe anchor points.



## Annex 8H.4 – Manual transect survey results

Date	Species recorded	Number of passes	Notes
<b>Transect 1</b>			
12 October 2021	Soprano pipistrelle	18	First bat, a soprano pipistrelle, recorded at 18:46 (21 minutes after sunset), commuting along a northwest to southeast hedgerow adjacent to a ditch ~30m away from the Order Limits, and approximately ~60m southeast of the location of the new pylon YN007. Foraging activity was detected as the transect route passed the western edge of a woodland, approximately ~0.54km east of the Order Limits. Bats were also seen foraging along the treeline which borders the access track between the northern and southern fields, which is less than ~10m away from the proposed access trackway for the new pylon YN007, and culvert location. Bats were also recorded commuting along the treeline which runs north to south, within the working area for the construction of the pylon YN004.
	Pipistrelle species	2	
26 April 2022	Common pipistrelle	9	First bat, a common pipistrelle, recorded at 21:33 (67 minutes after sunset) commuting along tree line. Bats were seen commuting and foraging along the treeline which borders Moor Gutter, which runs northeast-southwest. At its closest point, the area of bat activity was approximately ~10m west of the proposed access track location for pylon YN006. The activity recorded at the western point of the Moor Gutter is also within approximately ~10m of the proposed bridge location across the Gutter. Bats were also detected commuting along the treeline which runs north-south, within the Order Limits for the construction of the pylon YN004.
30 May 2022	Common pipistrelle	15	First bat, a soprano pipistrelle, recorded at 21:53 (30 minutes after sunset). Bat activity was focused on the treeline bordering the Hurns Gutter, which runs east-west, and the western edge of the woodland to the east of the transect route. Continuous bat commuting and foraging activity was detected along the treeline, continuing from the woodland until midway along the field margin, which runs northwest-southeast. This is located approximately ~0.80m southwest of the Order Limits at its closest point. Bats were also recorded along a hedgerow which runs northeast-southwest, along the northern border of the transect route, which is approximately ~0.22km northwest of the Order Limits. Activity was also detected
	Soprano pipistrelle	30	

Date	Species recorded	Number of passes	Notes
			along the treeline which borders the access track between the northern and southern fields, which is less than ~10m away from the proposed access for the new pylon YN007, and new culvert location.
23 June 2022	Common pipistrelle	40	First bat, a common pipistrelle, recorded at 22:10 (29 minutes after sunset) commuting along a treeline which runs northwest to southeast, along the eastern border of the transect route. This is ~0.35km southeast of the Order Limits for the construction of pylon YN004. Several other commuting and foraging bats were detected along this treeline throughout the night. Bats were also heard commuting and foraging along the treelines and woodland strips which border Moor Gutter and the western edge of the transect route. At its closest point, an area of bat activity was approximately ~10m north of the proposed access track location for pylon YN006. The activity recorded at the western point of the Moor Gutter is also within approximately ~10m of the proposed bridge location across the Gutter.
	Soprano pipistrelle	6	
	Noctule	1	
	Myotis Sp.	16	
20 July 2022 (dusk)	Common pipistrelle	196	First bat, a soprano pipistrelle, recorded at 21:54 (32 minutes after sunset). Bat activity was first recorded along the treeline bordering Moor Gutter, and then further south, along Hurns Gutter, towards the area of woodland to the east. Continuous bat commuting activity, and some foraging activity was detected along the treeline, continuing from the woodland along the field margin, which runs northwest-southeast. Activity recorded at the northern point of this treeline falls within the Order Limits for works on the new overhead line line between span YN005 - YN006. The most bat activity was recorded where this treeline meets the farm track, and adjacent treeline, which runs northeast to southwest bordering the Hurns Gutter. Here, this activity falls within the Order Limits for a new culvert location over the White Sike drain, and the farm track will form an access track used by the works. Bat activity continued as the transect route followed the access track heading northeast, bordered by a treeline. Bats were observed commuting northeast to southwest along here, and feeding buzzes were heard. This farm track will form the access track used as part of the works, for access to pylons YN005, YN006, and further works. Further to this, overhead line works between span YN004 – YN005 will be located where this bat activity was recorded. Further activity was also recorded where this farm track meets the main road,
	Soprano pipistrelle	97	
	Noctule	2	
	Myotis sp.	38	
	Brown long-eared	2	

Date	Species recorded	Number of passes	Notes
21 July 2022 (dawn)	Common pipistrelle	93	<p>along which bats were observed using the treeline, which runs northwest to southeast, to commute along. This activity was located within and adjacent to the Order Limits for the construction of new build pylon YN004, which will also require the removal of a section of the adjacent treeline. The last bat was recorded at 00:12, in this vicinity.</p> <p>First bat recorded was observed commuting along the treeline that borders Moor Gutter, which runs northeast to southwest. This activity was recorded approximately 20m north of the Order Limits for a proposed access trackway location. Additional activity was recorded further west along Moor Gutter, within the Order Limits for the construction of a new bridge over the Gutter for access to pylon YN007 and further work locations. Bat activity was also observed further north of this along Moor Gutter, the closest of which fell ~30m north of the Order Limits. To the east of this, further bat activity was recorded along the treeline bordering the farm track, which runs northeast to southwest. Bats here were seen foraging and commuting back and forth along the treeline, which falls within the Order Limits for the working area for new build pylon YN005. Bats activity was also recorded along the treeline where the farm track meets the road. This activity falls within the Order Limits for the construction of new pylon YN004, and its associated access tracks. More bat activity was recorded outside of the Order Limits, along Moor and Hurns Gutter. Bats were seen using the treelines along these watercourses to commute. At the closest point, this activity was located approximately 70m south of the Order Limits. Last bat, a soprano pipistrelle, was recorded at 04:36 (25 minutes before sunset).</p>
	Soprano pipistrelle	72	
	Myotis	5	
23 August 2022	Common pipistrelle	57	<p>First bat, a soprano pipistrelle, recorded at 21:31 (15 minutes after sunset) along a treeline which runs northwest to southeast, along the western boundary of the transect route. A large majority of the foraging and commuting activity was heard to the west along Hurns Gutter and the bordering treelines. Several of these calls were heard within areas likely to be impacted during the construction of a bridge across Hurns Gutter and the construction of YN005. Further activity was also recorded where the farm track meets the main road, along which bats were observed using the treeline, which runs northwest to southeast, to commute along. This activity was located within and adjacent to the Order Limits for the construction of pylon YN004, which will require the removal of a section of the adjacent treeline.</p>
	Soprano pipistrelle	31	
	Noctule	3	
	Myotis	16	

Date	Species recorded	Number of passes	Notes
12 September 2022	Common pipistrelle	113	First bat, a soprano pipistrelle, recorded at 19:55 (25 minutes after sunset). Bat activity was focused on the western boundary of the transect along treelines bordering the Hurns Gutter. Continuous bat commuting and foraging activity was detected along these treelines, some of which falls within the Order Limits and are likely to be impacted by the construction of a bridge and new pylon (YN005). Activity was also recorded where the farm track meets the main road, along which bats were observed using the treeline, which runs northwest to southeast, to commute along. This activity was located within and adjacent to the Order Limits for the construction of pylon YN004, which will require the removal of a section of the adjacent treeline. Bats were also detected along the treeline which runs northwest to southeast, along the eastern border of the transect route. This is ~0.35km southeast of the Order Limits for the construction of pylon YN004.
	Soprano pipistrelle	63	
	Noctule	14	
	Nyctalus sp.	1	
	Myotis sp.	55	
<b>Transect 2</b>			
27 September 2021	Common pipistrelle	15	First bat, a common pipistrelle, was recorded at 19:42 (50 minutes after sunset). Continuous bat activity was recorded along the river Ouse, which runs northwest-southeast along the eastern border of the transect route. This is located within the Order Limits of the works, approximately ~40m north of the working area for the construction of pylon XC421, and potentially within the area where the scaffold will be constructed to cross the river. Activity was also detected at the southwest corner of this field, along the treeline which borders the river Foss. This is located roughly ~20m west of the planned access route for pylon XC421. Further activity was detected at the southern edge of the same field, with bats using the treeline which runs northwest-southeast to forage. This section of the treeline is located approximately ~10m south of the access trackway location for pylon XCP008, within the Order Limits for the works.
	Soprano pipistrelle	18	
	Pipistrelle species	5	
	Myotis	2	
13 October 2021	Common pipistrelle	15	First bat, a common pipistrelle, was recorded at 18:46 (33 minutes after sunset). Bats were recorded foraging and commuting along the northwest-southeast treeline which borders the southern edge of an arable field, where activity has been detected previously. The bats were seen to potentially emerge from an ash tree along this treeline. This treeline is located approximately ~20m south of the access trackway location for pylon XCP008 within the
	Soprano pipistrelle	19	

Date	Species recorded	Number of passes	Notes
	Pipistrelle species	1	Order Limits for the works. Activity was recorded along this treeline, adjacent to the line works between the two new pylons XC421 - XC422. Further foraging activity was detected at the edge of the woodland bordering the Foss, at the northern edge of an arable field. This falls approximately ~70m northwest of the Order Limits. A foraging buzz was heard just south of the Foss, where the farm track meets an area the woodland. This farm track will form part of the access route for multiple pylons and is located within the Order Limits. At the most northern point of the transect route, foraging and commuting activity was recorded along the woodland edge, bordering the river. This is approximately ~0.29km north of the Order Limits. Further activity was recorded at the western edge of the transect route, which falls within the Order Limits and was detected in the area where pylon XCP005 will be dismantled.
26 April 2022	Common pipistrelle	49	First bat, a noctule, recorded at 21:14 (48 minutes after sunset). Bat activity was recorded at the eastern edge of the transect route, where the arable field borders the river Ouse. This activity falls within the Order Limits for the planned works between overhead line span XC420 – XC421. It is also located approximately 30m north of the working area for planned new pylon XC421. Activity was also recorded at the southern margin of this field along the treeline, ~20m south of a proposed access trackway location. Further activity was also recorded to the west, where the arable field meets the woodland bordering the river Foss. This activity is located within the Order Limits for the planned works, ~10m north of a planned access trackway for pylon XC421. Activity continued to be recorded along the field margins as the transect route followed the woodland west, in particular, where the farm track joins the larger arable field. Here, activity falls within the Order Limits for the overhead line works between span XC422 – XC423. Activity was recorded north of this, as the woodland curves west following the river. This activity was located approximately 100m north of the Order Limits. Finally, bat activity was heard approximately 110m south of the location of existing pylon XCP005, which falls ~20m south of a proposed access trackway for this pylon and new build pylon XC424.
	Soprano pipistrelle	42	
	Noctule	7	
31 May 2022	Common pipistrelle	79	First bat, a soprano pipistrelle, recorded at 22:02 (39 minutes after sunset) commuting north along the woodland area bordering the Foss, at the northern tip of the western field. Here,
	Soprano pipistrelle	10	

Date	Species recorded	Number of passes	Notes
	Noctule	2	<p>the activity detected ranged from approximately ~100-230m from the Order Limits. Activity was also detected at the western edge of this field, along the same treeline. This falls within the Order Limits and is less than ~10m from the overhead line works between XCP005T - XCP004T. The most activity was recorded along the treeline which runs northwest to southeast along the southern edge of an arable and grassland field. Multiple bats were recorded here commuting and foraging back and forth along the treeline. Part of the activity recorded here fell within the Order Limits for the dismantling and subsequent construction of a new pylon XCP008. Activity was also detected to the north of this field, adjacent to the woodland where the Foss meets the Ouse. This is approximately ~60m northwest of the Order Limits. Further activity was also recorded along the hedgerow which borders the farm-track, just north of the farmhouse. This track will be used as an access trackway as part of the works. Last bat recorded at 23:32. Heavy rainfall throughout the day, but light rain at time of survey.</p>
22 June 2022	Common pipistrelle	60	<p>First bat, a soprano pipistrelle, recorded at 22:31 (50 minutes after sunset) commuting along the woodland bordering the Foss which runs northeast-southwest. This activity is located ~0.19km northwest of the Order Limits. Further bat activity was recorded along an area of hedgerow, adjacent to the farm track leading south towards the farmhouse. This farm track will be used as an access trackway for the proposed works. The most activity was recorded along the treeline comprising the southern border of the arable and grassland fields, where multiple bats were seen using this treeline to commute and forage. This area has had the most frequent records of bat activity of the transect, and is located within the Order Limits for the works. Activity recorded at the northern section of this treeline falls within the area in which overhead line works between stretch XC421 - XC422 will take place. Further south, part of the treeline is adjacent to pylon XCP008 which will be dismantled as part of the works. A bat was seen commuting eastwards along a line of scrub with trees. This was recorded where the arable field meets the woodland at the northern edge of the same field, adjacent to the Foss. This is located just adjacent to the proposed access route which will be used by the works. Activity was also recorded at the north of this field, where the Foss meets the Ouse, approximately 10m west of the proposed scaffold location. Lastly, bat activity was recorded adjacent to where the area of woodland meets the farm track, which again will form an access route for newbuild pylon XC422.</p>
	Soprano pipistrelle	18	



Date	Species recorded	Number of passes	Notes
18 July 2022 (dusk)	Common pipistrelle	96	<p>First bat, a common pipistrelle, recorded at 22:01 (36 minutes after sunset). This was recorded foraging along the treeline that borders the Foss, ~0.14km north of the Order Limits at its closest point. Activity was also recorded here later on in the survey. Bats were seen foraging and commuting along the hedgerow and treeline leading south towards the farmhouse. This hedgerow/treeline borders the access track that will be used by the proposed works. Further activity was recorded where the access track meets the arable field, adjacent to the woodland area, with bats seen commuting north to south. This falls within the Order Limits for the works and this access track will form the trackway used by the proposed works for access to new build pylons XC422 and XC421. During this survey, lots of activity was recorded on the southern bank of the Ouse. Several locations of this activity fell within the Order Limits for the works, and within the proposed scaffold locations for lines XC420 - XC421 and XCP009 - XCP008. Activity was also recorded within the Order Limits, along the treeline where the access track meets the large arable field to the west. Last bat recorded at 23:42. In this survey, the grassland field to the south which borders the Ouse was inaccessible due to the presence of cows with young. Instead, the transect followed the public footpath along the northern border of this field, and returned the same way.</p>
	Soprano pipistrelle	22	
	Noctule	13	
19 July 2022 (dawn)	Common pipistrelle	20	<p>Multiple passes were recorded along the riverbank of the Ouse at this point. Part of this activity fell within the Order Limits for the construction of scaffolding over the Ouse, for the construction of the new overhead line XC420 - XC421. This is also approximately 30m north of the working area for the assembly of new build pylon XC421. Activity was also recorded at the south-eastern edge of this field, bordering the treeline which runs northwest to southeast. At this point, this falls within the Order Limits, approximately 20m south of the proposed access trackway location. Further activity was located at the entrance to this field, bordering the woodland and the river Foss. This falls within the Order Limits and is located approximately 15m away from the location of the working areas for the construction and dismantling of pylons XC422 and XCP007. Activity was also recorded within the Order Limits, along the treeline where the access track meets the large arable field to the west. Lastly, bat activity was heard bordering the woodland adjacent to the Foss, approximately ~70m north of the Order Limits. The last bat, a soprano pipistrelle, was recorded at 04:00 (45 minutes before sunrise). In this survey, the grassland field to the south which borders</p>
	Soprano pipistrelle	14	
	Noctule	1	

Date	Species recorded	Number of passes	Notes
			the Ouse was inaccessible due to the presence of cows with young. Instead, the transect followed the public footpath along the northern border of this field, and returned the same way.
23 August 2022	Common pipistrelle	77	First bat, a soprano pipistrelle, recorded at 20:25 (9 minutes after sunset), at the southern edge of the treeline which borders the southern bank of the Foss. Further activity was also recorded in this vicinity later on in the survey, just north of the farm track which runs northeast to southwest. Where the farm track meets the arable field just adjacent to this, a noctule was observed commuting west across the field. This activity falls within the Order Limits for multiple overhead line works between spans XC422 – XC423 and the working area for the dismantling of pylon XCP007. Activity was recorded further north along the Foss, with bat observed commuting and foraging along the treeline at the northern edge of the Order Limits to approximately 0.21km north of this. Multiple bats were observed foraging and commuting along a hedgerow which runs north-south, bordering the access track which leads to the farmhouse. The transect route continued to follow this farm track as it runs northeast, and further bat activity was recorded at the entrance to the easternmost field, which borders the Ouse. This activity was located within the Order Limits for a proposed access trackway location for pylons XC421 and XCP008. Bats were recorded commuting along the hedgerow and treeline that runs along the southern edge of this field. Activity was also recorded along the riverbank of the Ouse. In places, this activity falls within the Order Limits for the overhead line works between spans XCP009 – XCP008 and XC420 – XC421, and the construction of new build pylon XC421.
	Soprano pipistrelle	34	
	Common pipistrelle / Soprano pipistrelle	7	
	Common pipistrelle / Nathusius' pipistrelle	12	
	Noctule	19	
	Myotis	18	

#### Transect 4

27 September 2021	Common pipistrelle	6	First bat, a soprano pipistrelle, recorded at 19:32, (40 minutes after sunset), commuting along a hedgerow eastwards, towards pylon XC497. Commuting and feeding activity was recorded further into the survey, on the opposite side of the hedgerow, within the Order Limits for the modification of the current pylon XC497. Activity was also at the western border of this field, adjacent to a hedgerow which runs north-south. This falls ~0.46km west of the Order Limits. Further activity was recorded along the treeline in the western corner of the southern field containing St Mary's Chapel, where the treeline meets the field. This is
	Soprano pipistrelle	6	
	Myotis sp.	6	



Date	Species recorded	Number of passes	Notes
			~0.27km west of the Order Limits. Incidences of single passes were also recorded at the northern border of the transect route, adjacent to the hedgerow. This activity was located within the Order Limits for modifying current pylon XC496.
13 October 2021	Common pipistrelle	37	First bat, a soprano pipistrelle, was recorded at 18:44 (31 minutes after sunset) along a hedgerow running east to west on the northern boundary of the transect route. A large percentage of the bat activity was recorded along a tree line running north to south on the eastern boundary of the transect, located ~0.12km to the northwest of the Order Limits and access to the scaffold which will be placed to the north of pylon XC498. Single passes were heard along the treeline bordering Cod Beck ~10m to the south of the access which will be placed to the north of pylon XC498 and along hedgerows bordering the arable fields, located ~0.28km west and ~0.31km west of pylons X497 and X496 respectively.
	Soprano pipistrelle	19	
26 April 2022	Common pipistrelle	12	First bat, a common pipistrelle, was recorded at 21:02 (36 minutes after sunset) along a hedgerow within the centre of the transect route. This is ~0.28km to the west of the Order Limits and 0.32km northwest of pylon XC497. All other bat activity was recorded along a tree line running north to south on the eastern boundary of the transect, located ~0.12km to the northwest of the Order Limits and access to the scaffold which will be placed to the north of pylon XC498.
24 May 2022	Common pipistrelle	53	First bat, a common pipistrelle, recorded at 21:53 (39 minutes after sunset). Bat activity was recorded along the north-eastern edge of the transect route, where an area of grassland meets the treeline, approximately ~90m west of the Order Limits. Activity was also recorded further south along the same treeline, as it runs north-south bordering Cod Beck. At this point, activity was located ~60m east of the Order Limits. Further activity was also recorded at the southern edge of the transect, adjacent to the B1217. This is approximately 30m south of a proposed access trackway location. Bat activity was also heard along the hedgerow containing pylon XC497, some of which was located within the Order Limits for the modification of this pylon. Bats were also heard commuting around the treeline which borders the western edge of the field containing St Mary's Chapel, ~270m west of the Order Limits.
	Soprano pipistrelle	4	
23 June 2022	Common pipistrelle	29	

Date	Species recorded	Number of passes	Notes
	Noctule	3	First bat a common pipistrelle, recorded at 22:27 (46 minutes after sunset) commuting along the treeline at the north-eastern edge of the transect route, where the arable field and area of grassland meets the treeline. This is ~95m west of the Order Limits. Further activity was recorded at the western border of this field, along the hedgerow that runs north to south approximately ~340m west of the Order Limits at its closest point. As the transect route followed this hedgerow further south, foraging activity was recorded, with bats using this hedgerow for commuting and were seen to be travelling northwest. This activity was located approximately 420m west of the Order Limits at its nearest point. Further activity was recorded along the hedgerow containing pylon XC497. Bats were heard either side of this hedgerow, and directly under the pylon, within the Order Limits for the proposed works. Activity was also recorded where the southern grassland field borders the woodland to its north, approximately 50m west of the proposed access trackway location. Last bat recorded at 23:36.
	Myotis	1	
20 July 2022 (dusk)	Common pipistrelle	13	First bat, a soprano pipistrelle, recorded at 21:54 (32 minutes after sunset) along a hedgerow in the centre of the transect route adjacent to existing pylon XC497. A large proportion of the bat foraging and commuting activity was recorded to the south along treelines bordering a rough species poor semi-improved grassland field. The closest activity to the Order Limits is ~10m from the access trackway to a scaffold located to the north of pylon XC498. Furthermore, calls were heard along the northern most hedgerow running east to west, ~0.23km west of the Order Limits.
	Soprano pipistrelle	17	
	Noctule	3	
	Brown long-eared	1	
21 July 2022 (dawn)	Common pipistrelle	24	Last bat, a common pipistrelle, recorded at 04:33 (28 minutes before sunrise) along a hedgerow along the northern boundary which follows a track to be used to access pylon XC496. Further calls were heard along this hedgerow adjacent to pylon X496. Activity was also record along the hedgerow either side of pylon XC497 with a further small cluster of calls recorded along this hedgerow, ~0.52km west of pylon XC497. Bat foraging and commuting activity was also recorded to the south along treelines bordering a rough species poor semi-improved grassland field. The closest activity to the Order Limits is ~10m from the access trackway to a scaffold located to the north of pylon XC498.
	Soprano pipistrelle	8	
	Brown long-eared	1	
	Common pipistrelle	19	

Date	Species recorded	Number of passes	Notes
August 23 2022	Soprano pipistrelle	12	First bat, a soprano pipistrelle, recorded at 20:42 (26 minutes after sunset) along the tree line bordering Cod Beck on the eastern border of the transect route, located ~0.37km east of the Order Limits. Several other calls were also heard in this location throughout the night. A large proportion of the bat activity was recorded along a hedgerow in the centre of the transect route, some of which were adjacent to the existing pylon XC497. Bat activity was also recorded along a tree line running north to south on the eastern boundary of the transect, located ~0.12km to the northwest of the Order Limits and access to the scaffold which will be placed to the north of pylon XC498.
	Noctule	1	
	Myotis sp.	17	
<b>Transect 5</b>			
29 September 2021	Soprano pipistrelle	1	First bat, a soprano pipistrelle, was recorded at 19:25 (38 minutes after sunset) commuting south along the western edge of the woodland surrounding the farmhouse. The Order Limits begin at the southern edge of this woodland, approximately 70m south of where the bat activity was recorded.
14 October 2021	No bats recorded	0	No bats recorded.
31 May 2022	Common pipistrelle	13	First bat, a common pipistrelle, recorded at 22:01 (38 minutes after sunset) commuting along an east-west hedgerow just north of the Monk Fryston substation, ~15m north of the proposed access trackway route for pylon 4YS029. Further activity was recorded along the hedgerow at the southern border of the same field, approximately 20m southwest of the proposed new build FLT Gantry location. The majority of activity was recorded along the roadside of Rawfield lane, bordering the treeline and hedgerow. This began at the entrance to the substation and continued north to the parking location. This area falls within the Order Limits for the works, which includes the dismantling, construction and modification of pylons, access routes for each, and the instalment and dismantling of overhead lines and their associated working areas. Activity was also recorded along the scrub margin dividing two arable fields, just west of the parking location, along the defunct hedgerow. This is located within the Order Limits for the works, <10m south of the proposed access trackway location and working area at its closest point.
	Soprano pipistrelle	1	

Date	Species recorded	Number of passes	Notes
23 June 2022	Common pipistrelle	72	First bat, a common pipistrelle, recorded at 22:21 (40 minutes after sunset) commuting along the hedgerow east of the substation, running north to south. This is located within the Order Limits, adjacent to the access trackway location for pylon 4YS029. Feeding buzzes were heard, and common pipistrelles were seen foraging around the gate at the south-eastern edge of the same field. This gateway forms the entrance to the field containing pylon 4YS029, and will be used as an access route. It is also adjacent to the proposed location of a new culvert over the ditch. Further activity was recorded along the southern border of this field, where the grassland meets an area of scrub, south of the substation. This is located within the Order Limits. Activity continued to be heard as the transect route continued north, along the eastern boundary of the existing substation. This activity is located within the Order Limits for the works, ~65m west of the new build FLT Gantry and adjacent to the existing substation. Further activity was also recorded along Rawfield Lane, just north of the substation. Multiple passes of common pipistrelle were recorded at several locations along the lane, stopping at the parking location. Access to the substation, as well as to the field to its north and west, will use this Lane. Multiple overhead line works are proposed to take place in this area, as well as the construction of two new pylons in the vicinity, pylon XC526 and XC525, ~29m, and ~130m away from the Lane, respectively.
	Soprano pipistrelle	2	
	Noctule	1	
20 July 2022 (dusk)	Common pipistrelle	35	First bat, a noctule, recorded at 21:49 (27 minutes after sunset) commuting along the southern border of the field containing the substation. Further activity was also heard in this area, where the grassland meets the scrub at the southwestern field corner. This activity is located within the proposed working area for the new build FLT Gantry. Activity was also recorded at the entrance to the field containing the substation, less than 10m south of the working area for new build pylon XC526. The largest concentration of activity was recorded along Rawfield Lane, just north of the substation, where bats were observed commuting north to south along the hedgerow and treeline either side of the Lane. A common pipistrelle was also seen flying in a figure of eight underneath the ash tree at the parking location, which has been identified as a potential roost location. This Lane will form the access to the substation and to the fields to the north and west. The working area for the overhead line works between pylons XC525 - XC526 is <10m away from the location of the nearest bat activity. Access to the field northwest of the substation will use an access route ~5m north of the ash tree. Further activity was also recorded along the hedgerow and
	Soprano pipistrelle	3	
	Noctule	6	

Date	Species recorded	Number of passes	Notes
			treeline which runs east-west, dividing the two arable fields northwest of the substation. This is located approximately 10m west of the access trackway route at its closest point. Activity was also heard along the treeline which borders the A63, which falls within the Order Limits for the works. The A63 will be used as access for site vehicles etc.
21 July 2022 (dawn)	Common pipistrelle	35	Last bat, a soprano pipistrelle, recorded at 04:24 (37 minutes before sunrise) commuting along the hedgerow which borders Rawfield Lane. Further activity was also recorded along this Lane one hour later. As discussed previously, Rawfield Lane will form the main access route for the substation and associated fields, and activity was recorded within the working area for overhead line works between pylons XC525 - XC526. East of this, activity was recorded at the entrance to the field containing the substation, along the hedgerow which extends west to east. Here, activity falls within the working area for new build pylon XC526, and two associated gantries, which may require hedgerow removal to enable their construction. Activity continued along the hedgerow at the eastern border of the same field. The proposed access trackway route for pylon 4YS029 will be located within ~5m of this hedgerow. Activity was recorded along the southern border of this field, which forms part of the working area for new build gantries 4YS030 and 4YS031. Further activity was recorded along the hedgerow and treeline that runs east-west, located northwest of the substation. The access route for the proposed welfare area is located within ~5m of this hedgerow and treeline. Activity was also recorded at the southern edge of the woodland that surrounds the farmhouse, west of the substation. This is located within the Order Limits for the works, within the working area for span XC550 - XC551.
	Soprano pipistrelle	4	
25 August 2022	Common pipistrelle	20	First bat, a noctule, recorded at 20:37 (23 minutes after sunset) at the southernmost point of the transect route within a grassland field, ~32m south of the existing substation and ~20m south of the proposed substation drainage pipe. Several additional calls were recorded in this corner an hour later. Activity was also recorded along the southern border of this field, which forms part of the working area for new build gantries 4YS030 and 4YS031 and along the hedgerow and treeline that runs east-west, located northwest of the substation. The access route for the proposed welfare area is located within ~5m of this hedgerow and treeline. Activity within the northern section of the transect included foraging and commuting
	Soprano pipistrelle	10	
	Common pipistrelle / Soprano pipistrelle	2	
	Noctule	6	

Date	Species recorded	Number of passes	Notes
Serotine	1	bats along a hedgerow and treeline running east to west. The nearest call is ~10m west of the access route used works between pylons XC525 - XC526. Activity was also recorded along the western boundary adjacent to an area of plantation woodland with the stringing area of XC523 located ~55m to the northeast.	
Myotis sp.	2		

## Annex 8H.5 – Preliminary Ground Level Roost Assessment (GLRA) results

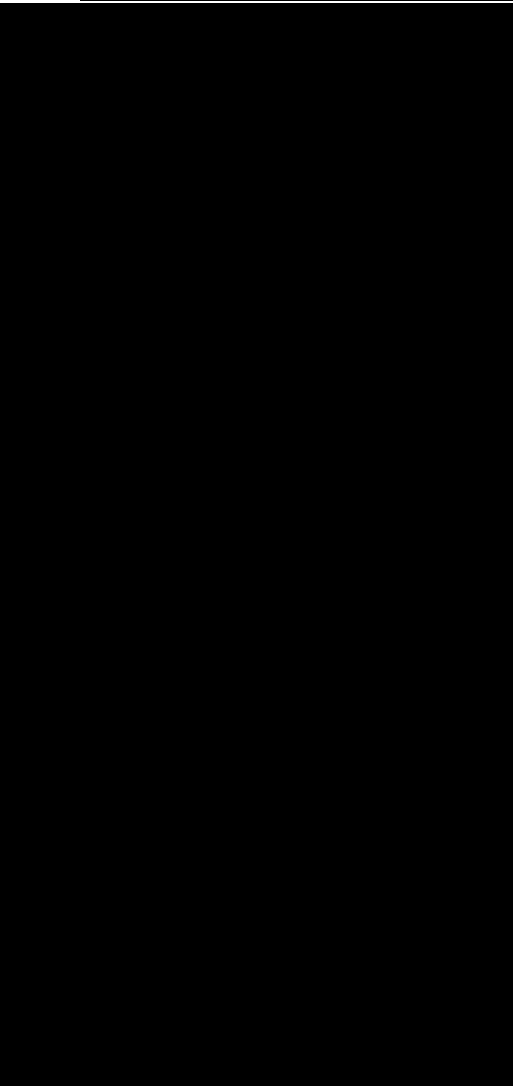
### *Preliminary ground level roost assessment results*

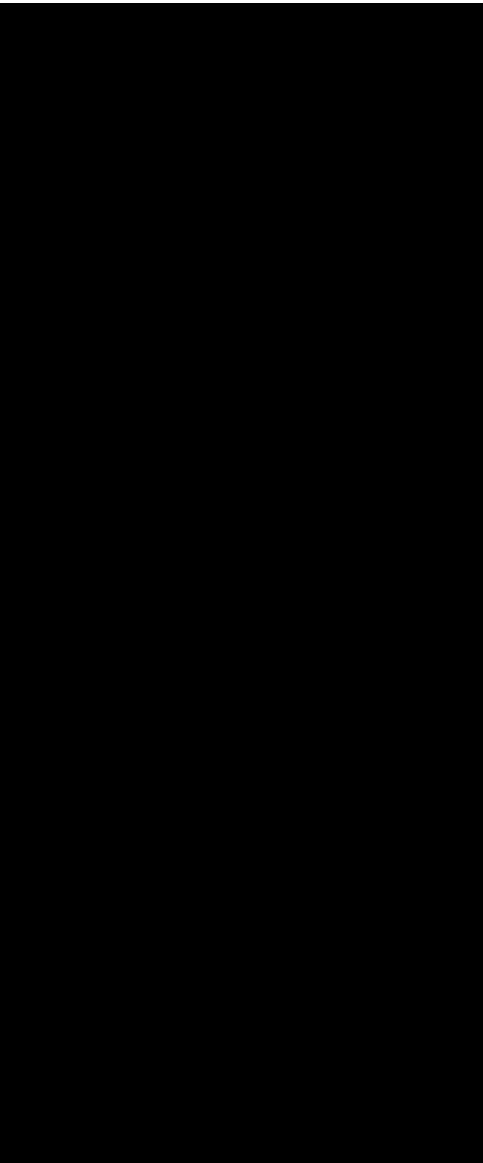
<b>Tree reference</b>	<b>NGR</b>	<b>PRF description</b>	<b>Constraint to inspection</b>	<b>Evidence of bats</b>	<b>Roost suitability</b>	<b>Scope in for further survey work</b>
		Tree with several small splits in the bark, and some broken limbs. These features appear to be superficial.		No	Low	No
		Tree with two split limbs, one on the northern aspect and the other on the southern aspect.		No	Low	No
		Mature oak tree, with some hanging dead wood and dead branches. Some branches show signs of splitting, e.g. one large west-facing branch has a split ~10m high facing west, with another just adjacent to this. These appear to be superficial. This tree may have potential for use by a single, individual bat but is not expected to contain large roosts or a variety of roost types, therefore it has been given low potential.	Only assessed from western aspect of tree.	No	Low	No
		Mature ash with large tear out and knot hole ~9m high facing north aspect.		No	Moderate	Yes
		Standing dead tree with rot hole ~5m high facing north west aspect			Moderate	Yes
		Mature oak with some dead wood stumps.		No	Low	No
		Mature oak tree. This tree has some dead wood facing southwest and southeast branching off the main trunk, around ~10m above ground. Some		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		minor splits are present, with more around ~12m above ground facing south. A split is located within a limb on the northern side of the tree, ~16m above ground, but with an upwards aspect, which reduces its likelihood of use by bats due to its exposed nature. This tree has potential for use as a roost by individual bats as a day roost.				
		Mature oak tree. This tree has several splits along its branches, approximately ~7m high. A potential tear-out with a northern aspect is around ~5m above ground.		No	Moderate	Yes
		Tree with rot hole around ~5m high with a northern aspect. Precautionary low potential due to possible use by an individual bat as day roost.		No	Low	No
		Semi-mature sycamore tree. Where the main trunk forks, around ~10m above ground, there is a knot hole facing south east on a deadwood branch. Another knot hole is located ~50cm higher on the same branch facing eastwards. Two rot holes approximately ~8m high facing north are also present, with a potential birds nest in the lower hole. This tree could have potential to host a variety of bat roosts if the features lead further into the limb and tree, therefore it has been awarded a moderate roost potential.		No	Moderate	Yes
		Mature oak tree with soe splitting present in limbs. A deadwood stump, around ~7m high is present with a western aspect. However, the opening points upwards, so is therefore exposed to the		No	Low	No



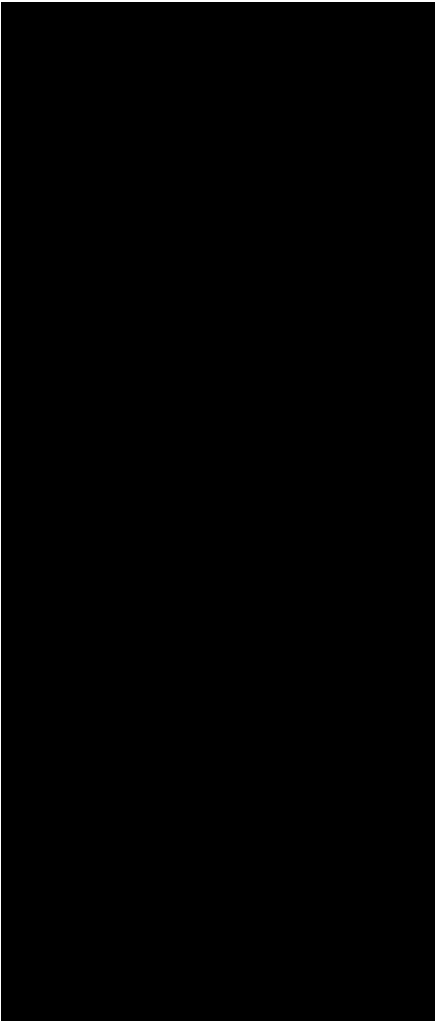
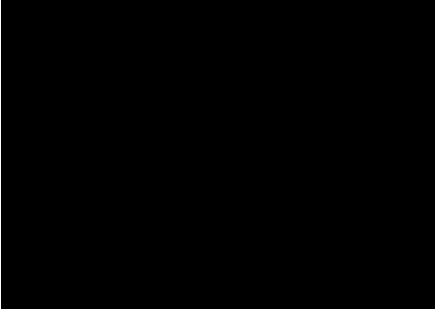
Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
[REDACTED]		elements which may reduce roost potential. Use by bats is expected to be limited to a day roost for an individual, therefore it was awarded a low roost potential.				
		Mature oak tree, with knot hole located on the main trunk with a south-eastern aspect, approximately ~10m high. It is unclear whether this leads further into the tree. Also, several dead limbs are present, facing south around ~9m above ground close in proximity to the previous knot hole. Another obvious hole is present where a deadwood branch facing southwest connects to the main trunk. A tear out on the main trunk is present, approximately ~11m high facing west. If the mentioned features lead further into the tree, this oak has potential to host a number of bats in a variety of roost types.	No	Moderate	Yes	
		Semi mature to mature oak tree, with butt rot present at the base on the south side of the tree, which may lead further into the tree. This most probably could be further investigated via endoscope. This tree has been awarded moderate roost potential, because if the hole leads into the tree, it would make it suitable for a number of bats and a range of roost types.	No	Moderate	Yes	
		Mature oak with split on trunk facing north aspect that looks like leads into trunk but could be quite exposed to weather elements. Rot hole ~4m high facing west aspect	No	Moderate	Yes	

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature oak tree with multiple deadwood limbs with some splitting, approximately ~4m high, facing eastwards, ~10m high facing eastwards and ~10m high facing southwards.		No	Low	No
		Mature oak tree, with split located ~10m up on the south-eastern aspect. A hazard beam split is located approximately ~12m high facing south, which is likely to be used by nesting birds, as a bird was observed to enter the split during the time of survey, therefore this tree was awarded a low roost potential.		No	Low	No
		Mature oak with dead wood stumps and rot hole with deadwood branch sticking out facing south aspect		No	Moderate	Yes
		Mature oak, with a tear-out facing north, around ~4, above the ground. This appears to be possibly healed. A broken limb is present, approximately ~5m above ground with a north facing aspect, which may lead further into branch, but this was not possible to establish at the time of survey. This tree has been awarded a precautionary moderate just in case this leads further into the tree.		No	Moderate	Yes
		Mature oak tree, with a knot hole located on the south facing aspect of the tree. There are also multiple dead wood stumps and limbs present around the tree. This tree has the potential to be used by a large number of bats in various roost		No	High	Yes

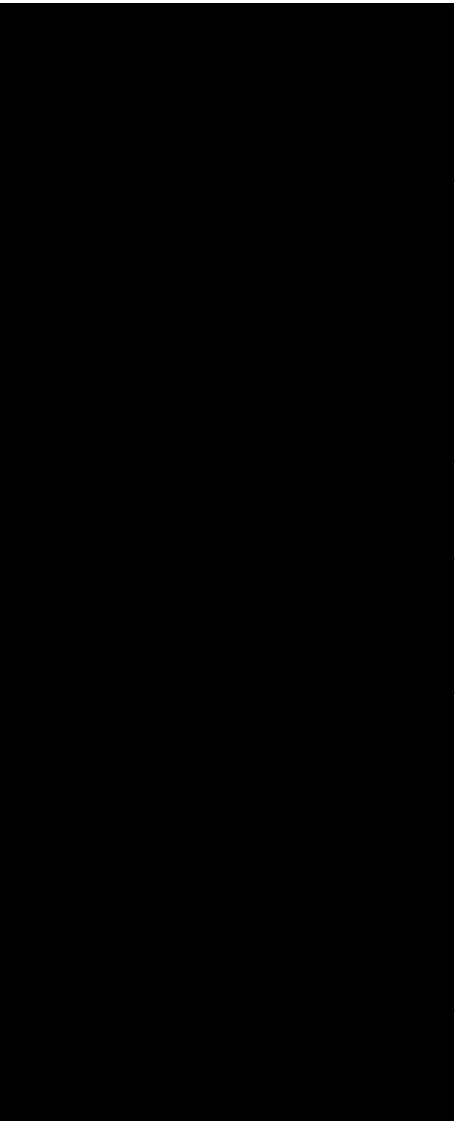
Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		types and therefore has been awarded a high roost potential.				
		Mature oak tree with ivy covering the majority of the tree. For the most part, the ivy is not expected to provide roosting areas, however in small areas it may provide potential roost features. Pro forma, the ivy could be hiding potential roost features as most of the ivy is not thicker than ~5cm. Some deadwood branches are also present around the tree. This tree has been awarded a low roost potential, as use is expected to be limited to the odd individual bat for a day roost.	No	Low	No	
		Mature oak tree with ivy which is not a potential roost feature itself, but may be covering them. Some dead wood is also present. There is potential for use by a single bat, for example as a day roost, but overall, the tree has low suitability and roost potential. roost features. some dead wood.	No	Low	No	
		Mature ash with ivy covering which is not a potential roost feature in itself, but may be hiding some underneath. Several dead branches are located around the tree. The tree has an overall low suitability for roosting bats.	No	Low	No	
		Mature oak tree with rot hole in dead wood approximately ~4m above ground facing eastwards. Also, a deadwood branch is also present with multiple splits, approximately ~8m high with an eastern aspect.	No	Moderate	Yes	

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Semi-mature ash tree with a knot hole facing southwest, approximately ~4.5m above ground.		No	Moderate	Yes
		9 semi-mature trees have an ivy covering which would not be a potential roost feature in itself but could be hiding them. Species include oak, sycamore and horse chestnut. These trees have been awarded a precautionary low roost potential; in case the ivy is disguising potential features.		No	Low	No
		Mature oak tree with a knot hole ~4m above ground facing southwest. Several dead wood branches are present in all directions around the tree. There is some potential for roosting bats, depending on whether the knot hole leads further into the tree, therefore this tree has been awarded a moderate roost potential.		No	Moderate	Yes
		Mature oak with an ivy covering which is not a potential roost feature in itself, but could be hiding them.		No	Low	No
		Mature oak with an ivy covering which is not a potential roost feature in itself, but could be hiding them.		No	Low	No
		Mature oak tree, with knot hole which appears to be healed, but this is not known. This is located on the southe-astern aspect of the tree, approximately ~4m above ground. Several dead branches are also present.		No	Low	No

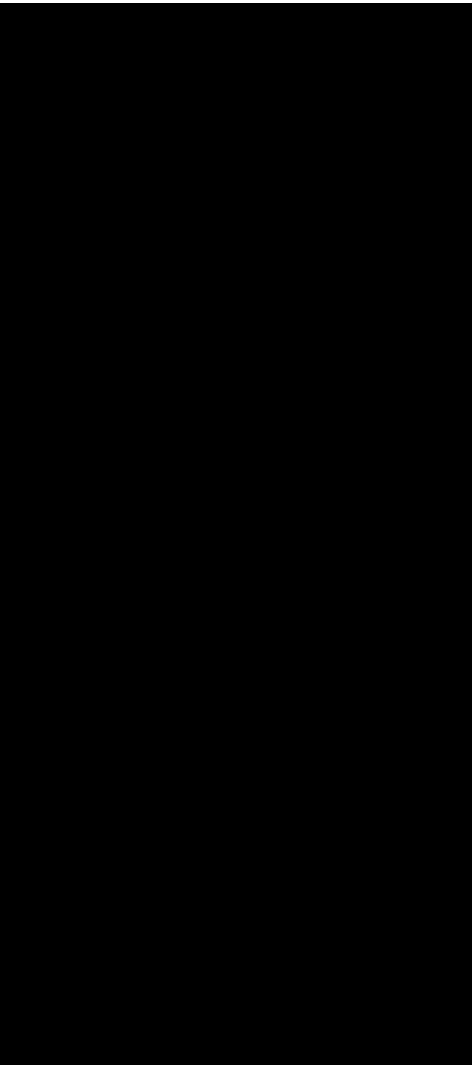
Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
[REDACTED]		<p>Mature ash tree with some dead branches present in multiple directions around the tree. Two knot holes are located on a limb facing northwards, around ~5-6m above ground. One appears healed, and the other not. Multiple tear-outs are located on the northern aspect of the tree, and it was not possible to establish whether this lead further into the tree at the time of survey. One further tear-out is located on the western aspect of the tree, around ~3m above ground. This appears superficial. This tree has been assessed as having Moderate suitability, as it is not clear whether the features present lead further into the tree.</p>		No	Moderate	Yes
		<p>Mature oak tree with some dead branches present. A knot hole approximately ~7m above ground is present facing westwards, which appears as though it could lead further into a cavity. A second knot hole is located on a large limb, facing west. It is not clear whether this hole lead further into the tree. This tree has been awarded a moderate roost potential as there is potential for use by a number of bats in a variety of roost types.</p>		No	Moderate	Yes
		<p>Mature oak tree. This tree has a clear hole facing southeast, ~3m above the ground, located where a split in the tree limb has occurred, but this does not appear to lead further into the tree. Where the trunk splits in two, a gap has been created, which, again, is not clear whether this leads further into the tree. This tree has been awarded a low bat</p>		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		roost potential as it has potential to support single bats in a day roost.				
		Mature oak tree with a split located ~7m above ground facing northwards. On the other side of the tree, there is another split facing south at the same height. Several dead branches are also present. Overall, this tree has been awarded low roost potential for bats due to limited access to potential cavities.		No	Low	No
		Mature oak tree, with a split and hazard beam approximately ~12m high facing north, and a split in a branch, approximately ~10m, high facing northwards.		No	Low	No
		Mature oak tree with a dead wood limb approximately ~5m high, facing south, with some potential splits. A rot hole is also present on a main limb of the tree facing east.		No	Moderate	Yes
		Mature oak with a cavity in an old wound leading into the trunk, approximately ~4m high facing eastwards. A rotting stump is also present, around ~5m high, slightly above the previous cavity facing eastwards. This has an open cavity but it could not be established at the time of survey whether this leads further into the tree. Splitting of bark is also present in the main cavity, facing west, around ~3-4m above ground, which appears to lead further into the tree.		No	Moderate	Yes

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
[REDACTED]		<p>Mature oak tree with a split in the main bough, facing north-east, approximately ~5m above ground, with a possible entrance into the cavity above. A knot-hole is present, facing south-west towards a drain, around ~4m above ground and it is not clear whether this leads further into the tree. Multiple dead branches are present facing all directions around the tree. Another split in a branch is present, facing north-east approximately ~8m above ground, but this appears to be superficial. This tree has been awarded moderate potential as if these potential roost features lead further into the tree, then it will have the potential to host a variety of roost types.</p>		No	Moderate	Yes
		<p>Mature oak tree with various dead branches and several dead stumps. A dead branch is present facing north-west, around ~4m above ground, which has a split and some flaking bark. A similar dead branch is located just underneath the previous, approximately ~3m off ground. Further areas of bark flaking are present on several branches facing south. A hole is present facing northwards, overlooking a drain, but is unclear whether this leads further into the tree.</p>		No	Low	No
		<p>Mature ash tree with various deadwood branches and stumps. A knot hole is present facing southeast, around ~6m above ground, but it was not possible to establish whether this leads further into the tree. Two further knot holes are located on the south-eastern southern aspect of the tree. A</p>		No	Moderate	Yes

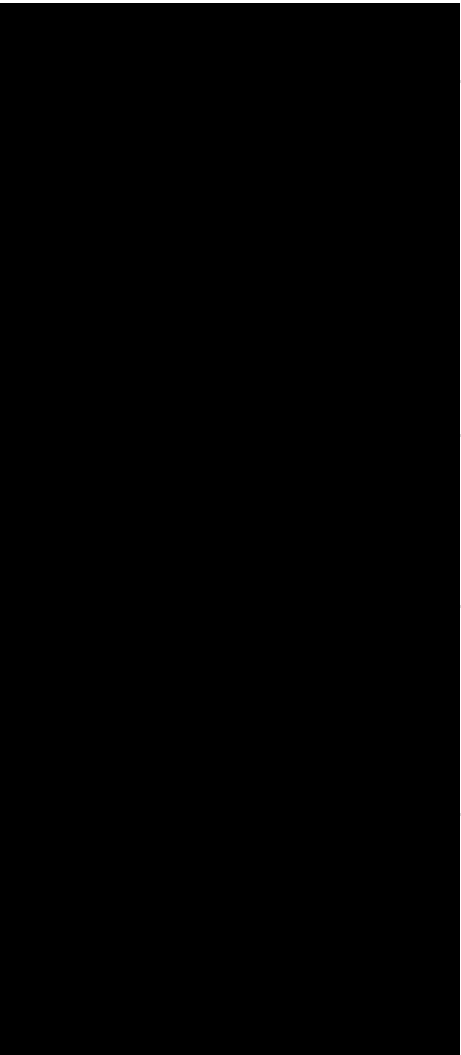
Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		broken branch is present facing west, but this does not appear to have potential access points. More deadwood is also present on the south-eastern side of the tree. For this reason, this tree has been assessed as having Moderate roost potential.				
		Semi-mature field maple. This tree has a split present on the main trunk, and a wound approximately ~4m high facing westwards. On the south-eastern aspect of the tree, there is a split near the tree base, and a wound hole facing northwards, which happens to be facing upwards so may be quite exposed to the elements.	No	Moderate	Yes	
		Semi mature ash tree with likely superficial cracks, and some flaking bark present.	No	Low	No	
		Sparse hawthorn scrub present along this hedgerow, including a dead tree with some splitting, but not obvious potential roost features.	No	Low	No	
		Mature ash tree with a height of ~10m, and DBH of ~1m. One broken limb is present approximately ~4m above ground facing northwards which appears to lead further into the tree. For this reason, this tee has been awarded a moderate roost potential. Due to restraints on the survey this tree may require further survey if to be affected by works.	Unable to access opposite side of bank (SW side) due to dense vegetation	No	Moderate	Yes
		Mature ash tree, around ~8m high with a DBH of 0.7m. One knothole and some cracks on a limb facing south are present. This hole appears to be	No	Moderate	Yes	



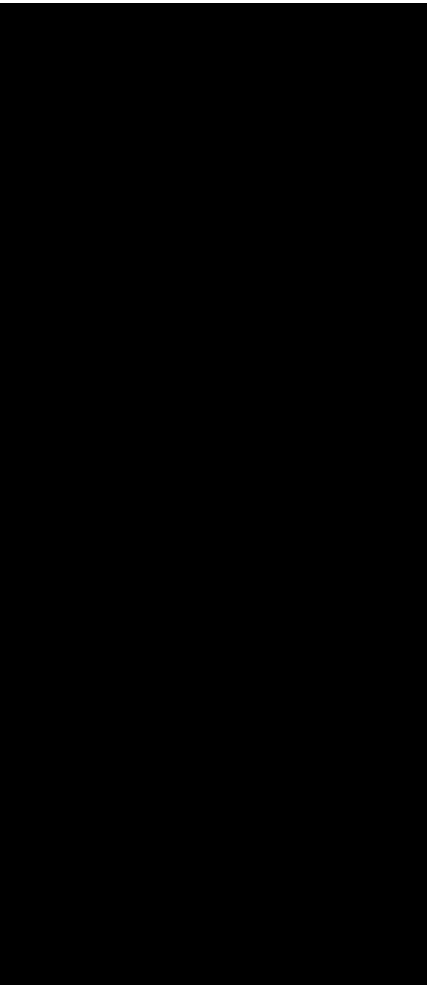
Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		partly sealed, so may require further survey if affected by works. For this reason, this tree has been awarded a moderate roost potential.				
		Mature ash tree with a height of 8m and DBH of 1m. This tree has a tear-out present, and one small hole approximately ~4m above the ground. This hole does not appear to extend further, although may require further survey if this tree will be affected by works.	Only surveyed from western side	No	Low	No
		Mature ash with one hole ~3m up facing northwest aspect, and one knot hole ~4m high facing southwest aspect.	Only assessed from western aspect		Moderate	Yes
		Mature ash tree with a tear-out present approximately ~4m above ground, on the western aspect of the tree. This tree was only assessed from the western side so requires further assessment. This tree has been awarded a moderate roost potential due to the number of knot holes and dead branches present.	Only assessed from western side	No	Moderate	Yes
		Multiple mature ash trees along this stretch of treeline which is on the boundary of the red line. Potential roost features present include splits and knot holes, some of which appear to be superficial, and others where this is unclear. This group of trees were scored a precautionary moderate as they were only assessed from the western side at time of survey.		No	Moderate	Yes

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature oak tree with several dead wood stumps approximately ~2m high facing southwest. It is unlikely that this leads into a cavity, so this tree has been awarded a precautionary low.		No	Low	No
		Mature willow with a small number of holes on a branch facing south-west around ~4m high. Butt rot is also present at the base of the tree, which has created several holes, but again, these do not appear to lead further into the tree. This tree was scored a precautionary low, as if these features were to extend further, the tree would only likely support the odd individual bat in a day roost.		No	Low	No
		Semi-mature willow which is a triple leader. This has a split present in a branch approximately ~3m high, facing east. This may suit an individual bat for a day roost at the most, so has been scored a low roost potential.		No	Low	No
		Mature willow with numerous broken branches with some peeling bark present.		No	Low	No
		Mature willow with hazard beam present.		No	Low	No
		Mature hawthorn with twisted branches and crevices present.		No	Low	No
		Mature hawthorn tree with wound in main trunk. This likely does not extend further into the tree, but this is partly obscured by another branch.		No	Low	No
		Semi-mature willow with split branches approximately ~1m high.		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature willow with a split at its base, and a small crack approximately ~2m off the ground.		No	Low	No
		Willow tree with a small wound hole approximately ~2m high, facing north. This is not likely to extend further than what is visible.		No	Low	No
		Small split present in the main trunk of the tree, approximately ~2.5m high facing west.		No	Low	No
		Dead leaning willow with some peeling bark present.		No	Low	No
		Willow with several incidences of peeling bark present.		No	Low	No
		Semi-mature willow with a knothole approximately ~4m high on the southern aspect of the tree.		No	Moderate	Yes
		Mature willow with multiple dead branches present. Also, one branch shows some splitting on the northern aspect of the tree, approximately ~3m above ground, it is not clear whether this leads further into the tree. For this reason, this tree has been scored a precautionary low, with potential limited to use by an individual bat as a day roost.		No	Low	No
		Mature willow, with a tension split where a large limb joins the main trunk, approximately ~4m above ground with a southwestern aspect. It is unclear whether this leads further into the tree. Part of the same branch has split leaving a partial cavity, which, again, may lead further into the tree but this is unlikely. This tree was scored a low		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		roost potential, as a possibility exists for this to be used for individual bats as a day roost.		No	Low	No
		Mature willow with multiple splits at the top of its trunk, approximately ~4-6m high, facing upwards. This orientation reduces its potential for bat use because it may experience increased exposure to the elements. These splits also appear superficial. Some peeling of bark is also present around the same area. This tree has been scored a precautionary low, as it is likely only has potential for use by single individuals for a day roost .	No	No	Low	No
		Mature willow with numerous incidences of cracks and dead wood. The trunk is hollowed out, and split down to the base of the tree in some areas. Hard to determine if these holes go anywhere.	No	No	Low	No
		Mature willow with a single potential roost feature comprising of a partial split in a branch approximately ~2m above ground, facing southwest. This appears to be healed, but has been awarded a precautionary low.	No	No	Moderate	Yes
		Mature willow tree with a large split in the main bough facing southwest, approximately ~5m above ground. This may lead to a cavity further inside the tree. Multiple dead branches are also present throughout the tree. A dead branch facing east has two knot holes pointing towards the ground, of which the lower hole appears healed but the higher one may lead further into the tree. Hence this tree has been awarded a moderate bat roost potential.				

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature willow with numerous tear outs and dead wood stumps which show some signs of splitting. There looks to be a potential cavity in a tear out approximately ~8m high, facing northeast. In addition, large branches with cracks present facing towards the watercourse may also offer roosting opportunities.		No	Moderate	Yes
		Semi-mature willow tree with a tension crack in the trunk approximately 1m above ground.		No	Low	No
		Semi-mature willow tree with tension crack in the trunk approximately 1.5m above ground.		No	Low	No
		Mature ash with hole in small tear out ~10m high on southern aspect. Cavity ~12m high facing south aspect. Couple of dead wood stumps facing northeast. Large tear out and broken branch on northern aspect but only appear to likely be superficial. Small hole on broken branch end ~3m high facing north is unlikely to go far into branch.		No	Moderate	Yes
		Mature hawthorn tree. Multiple holes are present around the main trunk of the tree. There is a hole facing south around ~1.5m above ground, it is unclear whether this may lead further into the tree. Some splitting is present at the base of the tree, and approximately ~1m above ground, on the north facing aspect of the trunk. A hole is present approximately ~2m above ground on the main trunk facing west but is was assessed to be likely superficial. A further hole is located where a branch has previously broken off. This hole is		No	Moderate	Yes

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
	facing upwards and exposed to the elements, which therefore reduces its potential for roosting bats. This tree has been scored a moderate roost potential.					
	Hawthorn scrub with a hazard beam present.		No	Low	No	
	Mature ash with hollowing of trunk near the base of tree on the south aspect. Some dead branches, Knot holes are also present but appear to be superficial. Large tear out where tree forks but is exposed to weather.		No	Moderate	Yes	
	Mature ash tree, with cavity present approximately ~7m high facing southwest. At time of survey, a blue tit was observed repeatedly going in and out of the hole. It is possible this cavity may be used by bats outside of nesting season. Two rotholes are present facing northeast, it was not possible to determine whether this lead further into the tree. A final rothole was identified facing east, which appears to have healed. A bird box is present on the tree.		No	Moderate	Yes	
	Mature ash tree with multiple knot holes present, and several wounds which all appear to be healed. A knot hole is located approximately ~5m high facing north, which appears largely healed, but there may be potential for use by an individual bat as a day roost.		No	Low	No	

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature ash tree with several dead branches present. Two knot holes were located on a branch facing southwest, around ~5m and ~5.5m above the ground respectively. The lower hole was identified as healed, but the second hole may lead to a cavity further into the tree. Around ~0.5m above this, a south-facing branch appeared rotten at the end, creating a potential entrance for use by bats. In addition, on the north-eastern face of the tree, a broken branch projects out around ~3m above the ground, which has potential to be used for access by bats. A final knot hole was also identified on the tree, facing south. These features could all potentially be healed, but this tree has been awarded a precautionary moderate		No	Moderate	Yes
		Mature ash with one knot hole on a main limb, facing south, approximately ~9m above ground. Another knot hole is present on the main trunk, which may lead further into the tree.		No	Moderate	Yes
		Mature ash tree with a small number of knot holes, which all appear to be superficial and healed. On the northern side of the tree, four more knot holes were noted, including a hole approximately ~8m above ground facing east, another approximately ~6m above ground facing northeast, and two final holes approximately ~10m above ground facing east. A bird box was noted on this tree.		No	Moderate	Yes
		Semi-mature sycamore. A small split in a branch was identified. This was facing upwards, and thus		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		exposed to the elements, reducing its potential for use by bats. This tree was awarded a precautionary moderate in case this leads further into the tree, although this appeared unlikely at time of survey.				
		Willow tree with split present at the top of tree.	No	Low	No	
		Willow tree with some peeling bark present and several broken branches.	No	Low	No	
		Mature willow tree with flaking bark, and dead wood stumps present.	No	Low	No	
		Mature willow with six woodpecker holes on two trunks facing north to the River Foss. These holes range from approximately ~6-10m high. One hole is around ~8m above ground on the northern aspect of the tree, approximately ~10cm wide. Multiple broken branches are also present throughout the tree.	No	High	Yes	
		Semi-mature willow tree with twin leader present. A woodpecker hole was identified on the northern aspect of the tree, around ~8m high and ~15cm wide.	No	Moderate	Yes	
		This woodland area has multiple hawthorn scrub trees with some splits, cracks, and small holes present throughout. Trees present in this area were judged to have generally low bat roost potential.	No	Low	No	



Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature willow tree with several splits, cracks and deadwood stumps present. A hole was identified approximately ~8m above ground facing southeast. Another hole was found on the western aspect of the tree, approximately ~7m high.		No	Moderate	Yes
		Mature willow tree with two woodpecker holes approximately ~8.5m, ~10m and ~11m high respectively, all facing east.		No	Moderate	Yes
		Hawthorn with some splits present in branches.		No	Low	No
		Mature hawthorn with some deadwood stumps and split branches present.		No	Low	No
		Mature apple tree. Numerous incidences of dead wood and dead branches present throughout tree. A hole and split in a main limb was identified, facing south approximately ~3-4m above ground, but it was not possible to ascertain whether this leads further into the tree. The same branch has also started to hollow on the inside. Two dead branches were identified, facing northwest and northeast, with a split present in each. The first of which appeared superficial, but it was not possible to ascertain this for the second branch. Because of the potential roost features identified, this tree was assessed as having Moderate roost suitability.		No	Moderate	Yes
		Mature hawthorn with several splits and broken branches present. There is a split on a branch facing southwest, around ~2-3m above ground, which appears to be superficial. Around this		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		locality, there is also some peeling bark present, and approximately ~6m above the ground. This tree has been awarded a precautionary low.				
		Mature oak with numerous broken branches present. Two branches appear to have split from the main trunk on the western side of the tree, but no further potential roost features were identified.	No	Low	No	
		Mature hawthorn with a split located in centre of a main limb, facing southwest, which begins approximately ~2m above ground until ~4m above ground. This does not appear to lead further into the tree. Dead wood and branches are also located throughout the tree. There are some holes at the base of the tree, seemingly created by badger activity but these do not appear to lead further into the tree. Several knot holes are also present, all of which appear healed.	No	Low	No	
		Mature hawthorn with multiple splits and a rotting bough. These splits appear to be healed and no access points were visible. A badger sett is located at the base of this scrub.	No	Low	No	
		Mature willow tree with two knot holes, approximately ~9m high facing east and north respectively.	No	Moderate	Yes	
		Mature willow tree with a hole on the trunk approximately ~4m above ground facing west. A hazard beam was also identified on a branch located approximately ~5m above ground.	No	Moderate	Yes	

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
[REDACTED]		<p>Mature willow tree with a woodpecker hole approximately ~8m high, facing south. Also, a broken branch was identified containing a knot hole, around ~10m high on the north-eastern aspect of the tree, overlooking the river. For this reason, it was unclear how far these leads into the tree. Other potential features identified also include: a crack in the bark ~4m above ground on the north-eastern aspect of the tree, a hole created from a broken branch located ~5m above ground on south-eastern aspect, a knothole approximately ~10m high on south-eastern aspect, and a wood pecker hole around ~8m high facing southeast.</p>		No	Moderate	Yes
		<p>Mature willow tree with A large amount of dead and cracked wood present. One of the main boughs, facing northwest, approximately ~3m above ground, was cracked and broken, but it was not possible to ascertain whether this crack leads further into the tree. However, due to its orientation, the potential cavity could be exposed to the elements, which would reduce its suitability for bats. Another broken and rotting limb is present on the south-eastern aspect of the tree, with an opening present into a potential cavity. This is a large opening which could mean it would also be rather exposed. This tree also has several knot holes which were identified at the time of survey. Their descriptions are as follows: Knot hole on southern aspect approximately ~20m above ground.</p>		No	High	Yes

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Two knot holes on eastern aspect of the tree, ~20m and ~21m high respectively. Hollowing present on the northern twin leader trunk.				
		Mature apple tree with a split present in the main bough, with a side branch extending to north, which could potentially lead further up into the tree, located around ~1.5m above ground. Numerous other split branches are located around the tree. Another cavity has been created where a branch has broken off the main trunk of the tree, facing north-west.		No	Moderate	Yes
		Mature field maple with rot hole facing present north-west approximately ~1.5m above ground. This appears to extend up into the tree, but it is not clear by how far. Another hole is also present approximately 0.5m above ground, also pointing north west. This appears to be healed.		No	Moderate	Yes
		Mature oak with multiple dead wood stumps and evidence butt rot on the north-eastern aspect of the tree. This tree is likely to have Low bat roost suitability but has been assessed as Moderate as a precaution due to the potential for the feature to extend further into the tree.		No	Moderate	Yes
		Bat box present.		No	Moderate	Yes
		Bird box present.		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature ash tree with a hollowing present, but this appeared too exposed to the elements and so is deemed to have limited potential for roosting bats.		No	Low	No
		Mature ash with a knot hole approximately ~6m above ground facing north. It is not possible to establish whether this leads further into tree. Another hole is present on a north-facing bough, around ~4m above ground with a large opening. This appeared to have a bees nest inside. A final knot hole is located on the south-eastern aspect around ~2m above ground, which is likely to be healed. Only surveyed from north side.		No	Moderate	Yes
		Mature willow with a cavity present in the main trunk approximately ~1.5m high, facing north. Some deadwood is also present at the top of the tree. A knothole was located around ~5m above ground on the western aspect of the tree.		No	Moderate	Yes
		Semi-mature willow with a knot hole ~4m high on western aspect of the tree.		No	Moderate	Yes
		Mature willow with several broken branches and flaking bark.		No	Low	No
		Mature ash tree ~10m high and ~0.5m DBH. Two potential knotholes were identified on the eastern aspect of the tree, approximately ~2.5m and ~3m above ground respectively, on the main trunk of the tree. This may require further survey to establish whether these features lead further into the tree. The tree can be climbed.		No	Moderate	Yes

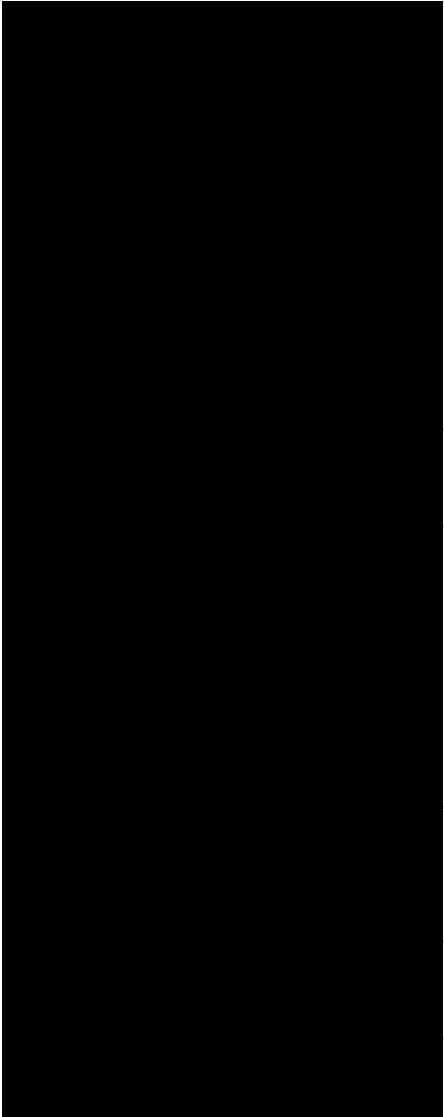
Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature oak with several dead wood stumps present. No obvious potential roost features were identified at the time of survey.		No	Low	No
		Mature oak with multiple superficial knot holes present. No other obvious potential roost features, hence this tree was awarded a precautionary low roost potential.		No	Low	No
		Mature oak with multiple dead branches present. a slight opening was noted where one dead branch meets the main trunk around ~4m above ground, facing west. It was not possible to establish whether this leads into a cavity. As a result, this tree has been awarded a precautionary low, in case this hole leads into cavity. This tree has potential for use by single odd individual as a day roost. It has only been assessed from western side.		No	Low	No
		Mature ash tree with hollowing in the main trunk, which extends from base of tree to approximately ~3m above ground, and possibly further into the tree limbs from the north side. A knothole is also present on the south-eastern aspect of the tree, around ~2m above the ground. This tree has been given a moderate roost potential because of the possibility this extends further into tree.		No	Moderate	Yes
		Mature oak ~8m high and ~0.7m DBH. One limb approximately ~0.3m wide, ~3m above ground, on the eastern side of the tree has multiple splits and cracks which could potentially extend further. A		No	Moderate	Yes

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		wound is also present on the north-western aspect of the tree, which is approximately ~4m above ground. Finally, a knot hole was identified on the western aspect of the tree, around ~6m above the ground. This tree has been awarded a moderate bat roost potential, as if these features extend, the tree has the potential to host a number of bats in a variety roosting type.				
		Mature oak tree with a dead branch featuring a split and potential cavity, facing north and approximately ~4m above the ground. This cavity is tilted skyward so is quite exposed to the elements, and therefore may have a lower potential for use by bats as a roost. This tree has been rated a precautionary low in the event that this feature leads further into the tree.	No	Low	No	
		Mature oak with hole present with a south-eastern aspect, ~3m above ground. This could possibly lead further into the tree. No other observable features were recorded at the time of survey. This tree has been awarded a precautionary moderate in the event that this feature leads further into the tree cavity.	No	Moderate	Yes	
		Mature oak with multiple holes and deadwood. Large hole ~3m high on eastern aspect. Knot hole ~10m high facing southeastern aspect. On same branch there is a split where bark has peeled away.	No	Moderate	Yes	

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Young oak with a hole present where a branch has been removed, approximately ~2m above ground with a western aspect.		No	Low	No
		Mature ash with tearout ~5m high on northern aspect; potentially exposed to weather elements. Some deadwood stumps, and branches with splits but unlikely to lead anywhere.	Only assessed from northern aspect	No	Moderate	Yes
		Semi-mature ash with a knothole present approximately ~8m above ground facing southeast. Another two knot holes were also recorded, both with south-eastern aspects, ~10m and ~7m above the ground respectively. It is unclear how far these features extend into the tree; therefore it has been awarded a moderate roost potential.		No	Moderate	Yes
		Mature oak tree with a knot hole approximately ~5m above ground facing southwards.		No	Moderate	Yes
		Mature oak tree with a small split in a branch approximately ~6m above ground facing east.		No	Low	No
		Hawthorn and willow trees with heavy coverage of ivy. The ivy is not a roost feature itself but may be hiding features within its cover. For this reason, these trees have been given a precautionary low roost potential.		No	Low	No
		A probable mature willow with dense coverage of ivy, and some dead wood present. The ivy is not a roost feature in itself, but could be hiding them		No	Low	No



Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		within it, so this tree has been categorised as having a precautionary low roost potential.				
		Mature apple tree with a rot hole facing southwest, approximately ~5m above ground. A further hole is located just behind this, which appears healed. This tree has been awarded a moderate roost potential in the event that the first rot hole leads further into a cavity.		No	Moderate	Yes
		Mature beech tree with some dead wood stumps containing some splits, and a wound approximately ~3.5m high, facing south. This cavity appears to contain a bird's nest. This tree also has some holes which are superficial in appearance. A knot hole is present approximately ~7m above ground facing west. This tree also has some tear-outs which appear to be healed.		No	Moderate	Yes
		Semi-mature to mature beech with a large knothole on its western aspect, approximately ~2m high. This does not appear to lead further. A hollowing is present on the eastern aspect of the tree which, again, does not appear to lead further. The final feature identified is a tear-out, located ~5m above the ground on the western aspect of the tree, with some flaking bark present in the surrounding area.		No	Low	No
		Semi-mature rowan tree with a deadwood cavity present and several knot holes, the description of which are as follows:		No	High	Yes

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		<p>Two knot holes located ~2m and ~2.2m above ground on north-western aspect of the tree</p> <p>Two knot holes ~2.5m and ~3m above ground on the southern aspect of the tree.</p> <p>One knot hole approximately ~3.5m above ground on the eastern aspect of the tree.</p> <p>Finally, the top of the trunk is cracked and split, which could have allowed a cavity to form within the main trunk. However, this would be exposed to the elements, decreasing its likelihood of use by roosting bats.</p>				
		Mature willow tree with a light ivy covering that could be disguising potential roost features.		No	Low	No
		Mature willow tree with a split located ~15m high on the north-eastern aspect of the tree. Another split is also present at the same elevation on the south-eastern aspect. The tree has an ivy covering which may be hiding other potential roost features. The tree also contains multiple deadwood branches		No	Low	No
		Mature field maple with some splitting of branches. The tree has an ivy covering which may be hiding other potential roost features.		No	Low	No
		Semi-mature field maple with an ivy covering which may be hiding other potential roost features.		No	Low	No
		Semi-mature willow tree with some split bark present.		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature oak tree with multiple deadwood stems, but no obvious potential roost features.		No	Low	No
		Multiple semi-mature trees with an ivy covering which may be hiding potential roost features.		No	Low	No
		Mature ash tree with numerous rotting and splitting limbs. These branches have many openings, the majority of which go straight through the branch or appear superficial. Hole present facing east approximately ~0.5m above ground. This does not appear to lead further into the tree. Evidence of butt rot is also present at the base of the tree. This tree was also enclosed within the hedgerow and movement by bats would be restricted in this area.		No	Low	no
		Mature hazel tree with a hole present within the bough, facing south-east, approximately ~1ft above ground. Another hole was identified further up the tree, approximately ~1m above ground, facing northeast. This hole appears to connect to the first, and the first may lead further down towards the base of the tree. Both of these holes are orientated skyward, so could potentially be too exposed to the elements for use by bats. This tree is also located within a dense hedgerow, so access for bats would likely be reduced.		No	Low	No
		Mature ash tree with ivy covering. This is unlikely to form a potential roost feature itself, but may be hiding them. A large tear-out is present, as well as		No	Moderate	Yes

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		some splitting and hollowing at the base of the tree.				
		Hawthorn with a hollowing present, which is likely to be exposed to the elements due to its orientation.		No	Low	No
		Mature hawthorn with multiple splits in several limbs, and areas of rotting dead wood. These splits do not appear to lead further into a cavity. The hawthorn has fairly dense covering of bramble which restricts observations of potential roost features.		No	Low	No
		Hawthorn with a tear-out wound located approximately ~2m above the ground facing northwest. It is possible that this tear-out is exposed to the elements due to its orientation, therefore reducing its likelihood for use by roosting bats.		No	Low	No
		Multiple scrub trees, including species such as apple etc. identified with dense covering of ivy. This is unlikely to form a potential roost feature itself, but may be hiding them.		No	Low	No
		Mature field maple with an ivy covering that is unlikely to form a potential roost feature itself, but may be hiding them. Some dead wood and branches are also present, but no potential roost features were identified at the time of survey.		No	Low	No
		Elder scrub with a split present in a dead branch.		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work	
		Young elder tree with a hole in a branch approximately ~1m above the ground with an eastern aspect. Another hole is also present on a branch approximately ~2m above the ground, similarly facing east.		No	Low	No	
		Semi-mature elm tree with areas of peeling bark present.		No	Low	No	
		Semi mature to mature ash with large snapped/broken off section leaving dead stump which may go into trunk. Tear out ~4m high facing southwest aspect and knot hole ~3m high facing east aspect		No	Moderate	Yes	
		Semi-mature ash tree with a knot hole approximately ~4m above ground facing southwest. Numerous cracks are also present, located approximately ~3.5m above ground facing southwest.		No	Moderate	Yes	
		Mature ash with two holes facing north aspect ~1-2m high. Cracks appear to extend upwards in to a hollow down the centre of tree.		Only assessed from northern aspect	No	Moderate	Yes
		Semi-mature willow with a knothole approximately ~2m above ground on the eastern aspect of the tree. Another knothole is located around ~3m above ground on the eastern aspect as well. Finally, a tear-out is present which is approximately ~2.5m above the ground, facing eastwards with some flaking bark present in the surrounding area.		No	Moderate	Yes	

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Row of mature to semi-mature maples and notable trees, all with covering of ivy that is unlikely to form a potential roost feature itself, but may be hiding them.		No	Low	No
		Hawthorn scrub with covering of ivy which does not form a potential roost feature in itself but may be hiding them.		No	Low	No
		Area of scrub containing hawthorn and elder trees, that may have small cracks, holes and splits present.		No	Low	No
		Twin-stemmed mature ash tree with no obvious potential roost features, but the tree has a dense covering of ivy which could be used for roosting and may conceal other potential roosting features.		No	Low	No
		Semi-mature ash with ivy covering that is unlikely to form a potential roost feature itself, but may be hiding them.		No	Low	No
		Semi-mature ash tree with ivy covering that is unlikely to form a potential roost feature itself, but may be hiding them.		No	Low	No
		Semi-mature rowan with ivy covering that is unlikely to form a potential roost feature itself, but may be hiding them.		No	Low	No
		Mature rowan tree with a tear-out approximately ~15m high on the southern aspect of the tree.		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
		Mature double-stemmed ash tree with several narrow deadwood branches and flaking bark present. Three small knot holes are also present, which appear quite open to the elements. These are located on the southern side of the tree, and have limited potential to provide shelter for roosting bats. Another knot hole was also identified approximately ~10m above the ground on the northern aspect of the tree.		No	Low	No
		Mature ash tree with hollowing in the trunk, visible from the southern aspect of the tree. This cavity appears mostly exposed with little roosting opportunities, except for a ~20cm cavity located approximately ~4m above ground with some loose bark surrounding this. A knot hole was also identified approximately ~5m above ground on the northern aspect of the tree.		No	Moderate	Yes
		Semi-mature sycamore tree with a knothole located approximately ~1.5m above ground facing southeast. Another knothole was identified around ~4m high with a north-eastern aspect.		No	Moderate	Yes
		Semi-mature sycamore tree with several shallow knot holes and cracks present at the end of a dead branch.		No	Low	No
		Semi-mature sycamore tree with a shallow knot hole approximately ~4m above the ground, with an eastern aspect.		No	Low	No

Tree reference	NGR	PRF description	Constraint to inspection	Evidence of bats	Roost suitability	Scope in for further survey work
[REDACTED]		Mature ash tree with a number of rot holes present around ~5-6m above ground, on the southern aspect of the tree, all of which appeared healed. This tree was assigned a score of precautionary low.		No	Low	No



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