

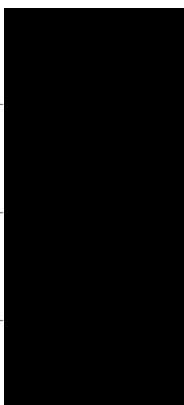
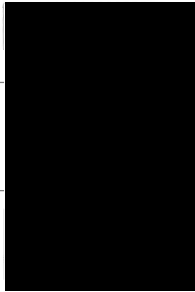


**East Pye Solar  
Environmental Statement  
Volume 3: Appendix 8.6 - Bat Activity Survey Report**  
Revision 1  
March 2026

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# 1 Introduction

## 1.1 Overview

- 1.1.1 Stantec was commissioned by East Pye Solar Ltd to undertake bat activity surveys in the form of Night-time Bat Walkover surveys (NBW) and static surveys in relation to an application to be made to the Secretary of State under Section 37 of the Planning Act 2008 (as amended), seeking a DCO for the Scheme on land located south of Norwich and north of Harleston (the Order Limits), see further details below.
- 1.1.2 Habitats within the Order Limits include arable fields, grassland, hedgerows, scattered trees, lines of trees, woodland, ponds and ditches which have been assessed as being of moderate suitability for foraging and commuting bats.
- 1.1.3 In addition to the bat activity surveys (Nighttime Bat Walkover (NBW) surveys and static detector surveys) completed in 2024 and 2025, a Ground Level Tree Assessment (GLTA) survey was undertaken during habitat surveys undertaken through 2024, 2025, and January 2026 and is reported on separately in the **ES Vol III, Appendix 8.5: Ground Level Tree Assessment Report [EN0110014/APP/6.3.8.5]**. This report should read in conjunction with the GLTA report.

## Scope of Report

- 1.1.4 The report provides an indication of the relative bat activity levels across the Order Limits and the range of bat species utilising the Order Limits throughout the survey season.
- 1.1.5 An assessment will be made as to the suitability of the Order Limits for foraging and commuting as well as the importance of each location and any associated foraging and commuting feature for bats.
- 1.1.6 This assessment is based on the following:
  - an assessment of the surrounding habitats for their likely value to bats.
  - a desk study of the Order Limits and land within a 2km radius.
  - a search for internationally important wildlife sites within a 15 km radius.
  - manual activity surveys (NBW, formerly known as transect surveys).
  - static detector monitoring surveys.
- 1.1.7 This assessment has been prepared with reference to best practice guidance published by the Chartered Institute for Ecology and Environmental

Management (CIEEM, 2018<sup>1</sup> and Reason, P.F. & Wray, S. 2025<sup>2</sup>) and as detailed in British Standard 42020:2013 Biodiversity - Code of Practice for Biodiversity and Development (BSI, 2013<sup>3</sup>).

## 1.2 Order Limits Context and Scheme Description

- 1.2.1 The Order Limits are located within the administrative areas of Norfolk County Council and South Norfolk Council. Order Limits are the maximum extent of land anticipated to be acquired and/or used for the construction, operation and maintenance, and decommissioning phases of the Scheme. A description of the Order Limits can be found in **ES: Chapter 3 The Order Limits [EN0110014/APP/6.1.3]**.
- 1.2.2 The location of the Order Limits and surrounding landscape is shown in **Figure 1**.

### The Scheme

- 1.2.3 The Scheme comprises the construction, operation and maintenance, and decommissioning of a solar photovoltaic (PV) electricity generating station with a total capacity exceeding 100 megawatts (MW) and associated development including a Battery Energy Storage System (BESS), up to three 132 kV Project Substations and up to three 400 kV Project Substations, Grid Connection Infrastructure and a new National Grid Substation. A description of the Scheme can be found in **ES Vol I, Chapter 4 – The Scheme [EN0110014/APP/6.1.4]**.

## 1.3 Relevant Legislation and Planning Policy

### Legislation

- 1.3.1 All bat species are legally protected in the UK and are listed as European Protected Species (EPS) in the Habitats Directive. Annex II of the Habitats Directive lists the bat species of community interest which require the designation of Special Areas of Conservation (SAC). Annex IV lists all bat species as being of community interest, requiring strict protection.
- 1.3.2 The following key pieces of nature conservation legislation are relevant to this appraisal. A more detailed description of legislation is provided in **Annex A**:

<sup>1</sup> CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3*. Chartered Institute of Ecology and Environmental Management, Winchester.

<sup>2</sup> Reason, P.F. and Wray, S. (2025). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.2*. Chartered Institute of Ecology and Environmental Management, Ampfield.

<sup>3</sup> British Standards Institution. (2013). *BS42020:2013 - Biodiversity — Code of practice for planning and development*. The British Standards Institution

- The Conservation of Habitats and Species Regulations 2017 (as amended) (commonly referred to as the Habitats Regulations).
- Wildlife and Countryside Act 1981 (as amended).
- Natural Environment and Rural Communities Act 2006.
- The Environment Act 2021.

1.3.3 The actions that could result in an offence occurring under the above legislation include the disturbance of bats within (and, in some cases, away from) a roost; loss or damage of a roost; obstructing access to or from a roost; or modification of a roost. If development proposals are likely to result in an offence, then a mitigation licence must be obtained from Natural England prior to works, to provide a derogation from the relevant legislation.

## Planning Policy

- 1.3.4 The National Planning Policy Framework (Department for Levelling Up, Housing & Communities, 2024) requires public authorities to contribute to and enhance the natural and local environment, including by minimising impacts on and providing net gains for biodiversity when taking planning decisions. The Environment Act 2021 has strengthened the duty to conserve biodiversity within the Natural Environment and Rural Communities Act 2006, such that all public authorities are required to conserve and enhance biodiversity.
- 1.3.5 The Overarching National Policy Statement (NPS) for Energy (EN-1), National Policy Statement for Renewable Energy Infrastructure (EN-3), and National Policy Statement for Electricity Networks Infrastructure (EN-5) set out the Government's energy policy, the need for new infrastructure, and guidance for determining an application for a DCO. The NPSs include specific criteria and issues that should be covered by the applicants' assessments of the effects of their scheme, and how the decision maker should consider these impacts.
- 1.3.6 Other planning policies at the local level of relevance to this development include the Joint Core Strategy for Broadland, Norwich, and South Norfolk (2019) and the Norfolk Biodiversity Action Plan. Further information is provided in **Annex A**.

## 2 Methodology

### 2.1 Desk Study

- 2.1.1 A desk study was conducted to obtain data relating to bats within a (2km) radius of the Order Limits, as made available by the Norfolk Biodiversity Information Service (NBIS) and Norfolk Barbastelle Study Group (NBSG).
- 2.1.2 Publicly available material including the Barbastelle Review published by the NBSG has also been consulted (Harris, 2020<sup>4</sup>). In addition, NBSG provided further information regarding a Barbastelle roost location study (Harris, 2025<sup>5</sup>) undertaken during 2025 in close proximity to the Order Limits. Information from this study has also been utilised for the desk study.
- 2.1.3 Additional contextual information was compiled from publicly available data sources, including:
- MAGIC<sup>6</sup>: The Government's online mapping service. Information was sought regarding: the presence of ancient semi-natural woodland (ASNW), statutory designated sites, and extant or historic mitigation licences for bats; and
  - Ordnance Survey mapping and publicly available aerial photography to determine any features such as running and standing water, woodland, tree lines, hedgerows, railway corridors, and the surrounding landscape uses.
- 2.1.4 A summary of key records provided by the desk study is presented in **Section 3** of this report. All records have been used to inform the assessment of the potential for bat species to be present within the Order Limits to provide a view of the Schemes ecological importance for bats, but these are not presented in full in the report.

### 2.2 Night-time Bat Walkover Surveys

- 2.2.1 Night-time Bat Walkover (NBW) surveys comprised 16 transect routes in total throughout Site 1-10 and BESS Site, and were implemented on a seasonal basis (Spring, Summer, and Autumn) and in accordance with the most recent guidance from the Bat Conservation Trust (BCT) guidelines, 4<sup>th</sup> edition (Collins, 2023<sup>7</sup>). Spring surveys took place from April to May, Summer surveys took place from July to August, and Autumn surveys took place from

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<sup>4</sup> Harris, J. (2020). *A review of the barbastelle Barbastelle barbastellus in Norfolk based on the work of the Norfolk Barbastelle Study Group*. Available from: <https://www.norwichbatgroup.co.uk/wp-content/uploads/Harris-J.-2020.-Barbastelle-review.-British-Islands-Bats-1-33-48.pdf>

<sup>5</sup> Harris, J. (2025). *Barbastelle Maternity Colonies in the East Pye Solar Scheme Area at December 2025*. Norfolk Barbastelle Study Group

<sup>6</sup> Available from: <http://www.magic.gov.uk>

<sup>7</sup> Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London

## September to October

- 2.2.2 NBW transect routes were designed to be as close to the recommended transect length (3-5 km) as possible, relative to the size of the area to be surveyed and were completed within 2 to 3 hours of sunset. Transect routes covered a range of habitats and ecological features present within and adjacent to the Order Limits, where possible. Whilst the transect routes were pre-determined, flexibility and deviation from the route was allowed to enable a better understanding of the Order Limits. The transect routes are provided in **Figure 1**.
- 2.2.3 Each NBW was undertaken in two parts, the surveys commenced at dusk, 15 minutes before sunset, with surveyors stationed on potential flight lines in proximity to possible roost resources. The surveyors remained in this position for thirty minutes after sunset, at which time they proceeded to walk a pre-determined walkover route taking acoustic recordings and recording a time-stamped narrative about their observations.
- 2.2.4 Recorded observations include species, number of bats, flight direction, activity, and type of flight (as a sketch). For some surveys it was deemed appropriate to change the route, in response to bat behaviour or other control factors such as the growth of crops and access constraints. For the interpretation of the time-stamped observations, a pass is defined by each separate recording.
- 2.2.5 Prior to the adoption of Sites 2 within the Order Limits and original 13 transects took place in Summer 2024, and Autumn 2024 which consisted of Site 1, Site 3-10, and the BESS Site, with the final transects undertaken on these Sites during Spring 2025. Following from the adoption of Site 2 within the Order Limits a further 3 transects were undertaken in Site 2 during Spring, Summer, and Autumn 2025. The results from across the two years have been combined, and presented as Spring, Summer, and Autumn survey results (see **Table 2.1**).
- 2.2.6 Each pair of surveyors had an Elekon Batlogger M bat detectors to record bat echolocation calls in full spectrum for post-survey analysis.
- 2.2.7 Night-time bat walkover surveys were conducted in suitable weather conditions (air temperature above 10°C, no rain, and light or no wind), the weather conditions for each survey are provided in **Table 2.1**.

### Table 2.1: Walkover Survey Details.

Spring, Summer, and Autumn NBW Survey Details						
Route	Parcel Ref	Date	Sunset Time	Start – End Times	Weather	
					Start	End
T01	BESS, 1A, 1B and 1C	23/04/2025	20:07	20:05 – 22:05	12°C, 5/8 cloud, 1/12 wind (Beaufort scale), 0 rain	10°C, 0/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T01		21/08/2024	20:06	20:06 – 22:06	18°C, 6/8 cloud, 4/12 wind (Beaufort scale), 0 rain	16°C, 6/8 cloud, 6/12 wind (Beaufort scale), 0 rain
T01		11/09/2024	19:18	19:18 – 21:18	10°C, 3/8 cloud, 3/12 wind (Beaufort scale), 0 rain	8°C, 0/8 cloud, 1/12 wind (Beaufort scale), 0 rain
T02	3	22/04/2025	20:05	20:00 – 22:00	14°C, 3/8 cloud, 1/12 wind (Beaufort scale), 0 rain	12°C, 2/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T02		22/08/2025	20:04	20:04 – 22:04	20°C, 7/8 cloud, 5/12 wind (Beaufort scale), 0 rain	19°C, 7/8 cloud, 6/12 wind (Beaufort scale), 0 rain
T02		12/09/2024	19:20	19:20 – 21:20	13°C, 2/8 cloud, 3/12 wind (Beaufort scale), 0 rain	8°C, 0/8 cloud, 1/12 wind (Beaufort scale), 0 rain
T03	6	24/04/2025	20:09	20:09 – 22:09	10°C, 3/8 cloud, 1/12 wind (Beaufort scale), 0 rain	8°C, 2/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T03		22/08/2024	20:04	20:04 – 22:04	20°C, 7/8 cloud, 5/12 wind (Beaufort scale), 0 rain	19°C, 7/8 cloud, 6/12 wind (Beaufort scale), 0 rain
T03		16/09/2024	19:06	19:06 – 21:06	15°C, 2/8 cloud, 4/12 wind (Beaufort scale), 0 rain	12°C, 1/8 cloud, 5/12 wind (Beaufort scale), 0 rain
T04	5A and 5B	23/04/2025	20:07	20:05 – 22:05	12°C, 5/8 cloud, 1/12 wind (Beaufort scale), 0 rain	10°C, 0/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T04		20/08/2024	20:09	20:09 – 22:09	18°C, 2/8 cloud, 1/12 wind (Beaufort scale), 0 rain	16°C, 2/8 cloud, 2/12 wind (Beaufort scale), 0 rain
T04		18/09/2024	19:01	19:01 – 21:01	19°C, 8/8 cloud, 8/12 wind (Beaufort scale), 0 rain	18°C, 7/8 cloud, 9/12 wind (Beaufort scale), 0 rain
T05	4A and 4B	28/04/2025	20:16	20:16 – 22:16	16°C, 1/8 cloud, 0/12 wind (Beaufort scale), 0 rain	11°C, 0/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T05		20/08/2024	20:11	20:11 – 22:11	18°C, 4/8 cloud, 1/12 wind (Beaufort scale), 0 rain	15°C, 0/8 cloud, 1/12 wind (Beaufort scale), 0 rain
T05		19/09/2024	19:05	19:05 – 21:05	17°C, 7/8 cloud, 5/12 wind (Beaufort scale), 0 rain	16°C, 7/8 cloud, 6/12 wind (Beaufort scale), 0 rain
T06a	7B and 7C	28/04/2025	20:16	20:16 – 22:16	16°C, 1/8 cloud, 0/12 wind (Beaufort scale), 0 rain	11°C, 0/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T06a		06/08/2024	20:37	20:37 – 22:37	18°C, 7/8 cloud, 6/12 wind (Beaufort scale), 0 rain	15°C, 5/8 cloud, 7/12 wind (Beaufort scale), 0 rain

Spring, Summer, and Autumn NBW Survey Details						
Route	Parcel Ref	Date	Sunset Time	Start – End Times	Weather	
					Start	End
T06a		02/09/2024	19:40	19:40 – 21:40	21°C, 3/8 cloud, 1/12 wind (Beaufort scale), 0 rain	20°C, 3/8 cloud, 2/12 wind (Beaufort scale), 0 rain
T06b	7A	29/04/2025	20:18	20:18 – 22:18	12°C, 1/8 cloud, 1/12 wind (Beaufort scale), 0 rain	10°C, 0/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T06b		08/08/2024	20:33	20:33 – 22:33	19°C, 1/8 cloud, 1/12 wind (Beaufort scale), 0 rain	10°C, 0/8 cloud, 0/12 wind (Beaufort scale), 1 rain
T06b		03/09/2024	19:40	19:40 – 21:40	20°C, 4/8 cloud, 0/12 wind (Beaufort scale), 0 rain	19°C, 7/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T07	7D and 7F	30/04/2025	20:19	20:19 – 20:29	15°C, 1/8 cloud, 0/12 wind (Beaufort scale), 0 rain	11°C, 0/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T07		07/08/2024	20:36	20:36 – 22:36	19°C, 7/8 cloud, 5/12 wind (Beaufort scale), 0 rain	18°C, 8/8 cloud, 5/12 wind (Beaufort scale), 1 rain
T07		04/09/2024	19:35	19:35 – 21:35	16°C, 0/8 cloud, 1/12 wind (Beaufort scale), 0 rain	15°C, 0/8 cloud, 1/12 wind (Beaufort scale), 0 rain
T08	7E, 7F, 7G, and 7H	06/05/2025	20:30	20:30 – 22:30	9°C, 5/8 cloud, 1/12 wind (Beaufort scale), 0 rain	7°C, 0/8 cloud, 3/12 wind (Beaufort scale), 0 rain
T08		07/08/2024	20:30	20:30 – 22:30	19°C, 7/8 cloud, 5/12 wind (Beaufort scale), 0 rain	18°C, 8/8 cloud, 5/12 wind (Beaufort scale), 0 rain
T08		05/09/2024	19:32	19:32 – 21:32	22°C, 2/8 cloud, 3/12 wind (Beaufort scale), 0 rain	19°C, 2/8 cloud, 4/12 wind (Beaufort scale), 0 rain
T09	7I, 7J, 7K, and 7L	06/05/2025	20:30	20:30 – 22:30	9°C, 5/8 cloud, 1/12 wind (Beaufort scale), 0 rain	7°C, 0/8 cloud, 3/12 wind (Beaufort scale), 0 rain
T09		12/08/2024	20:25	20:25 – 22:25	27°C, 6/8 cloud, 3/12 wind (Beaufort scale), 0 rain	20°C, 6/8 cloud, 4/12 wind (Beaufort scale), 0 rain
T09		09/09/2024	19:22	19:22 – 21:22	13°C, 6/8 cloud, 2/12 wind (Beaufort scale), 0 rain	12°C, 6/8 cloud, 3/12 wind (Beaufort scale), 0 rain
T10	8A and 8B	08/05/2025	20:33	20:33 – 22:33	9°C, 1/8 cloud, 1/12 wind (Beaufort scale), 0 rain	7°C, 0/8 cloud, 1/12 wind (Beaufort scale), 0 rain
T10		13/08/2024	20:34	20:34 – 22:34	29°C, 7/8 cloud, 0/12 wind (Beaufort scale), 0 rain	22°C, 6/8 cloud, 2/12 wind (Beaufort scale), 1 rain
T10		09/09/2024	19:22	19:22 – 21:22	12°C, 6/8 cloud, 2/12 wind (Beaufort scale), 0 rain	11°C, 6/8 cloud, 3/12 wind (Beaufort scale), 0 rain
T11	9	08/05/2025	20:33	20:33 – 22:33	9°C, 1/8 cloud, 2/12 wind (Beaufort scale), 0 rain	7°C, 0/8 cloud, 1/12 wind (Beaufort scale), 0 rain

Spring, Summer, and Autumn NBW Survey Details						
Route	Parcel Ref	Date	Sunset Time	Start – End Times	Weather	
					Start	End
T11		15/08/2024	20:20	20:20 – 22:20	21°C, 7/8 cloud, 3/12 wind (Beaufort scale), 0 rain	19°C, 8/8 cloud, 3/12 wind (Beaufort scale), 1 rain
T11		19/09/2024	18:59	18:59 – 20:59	17°C, 8/8 cloud, 4/12 wind (Beaufort scale), 0 rain	15°C, 8/8 cloud, 5/12 wind (Beaufort scale), 0 rain
T12	10A, 10B, 10C, and 10D	12/05/2025	20:40	20:40 – 22:40	14°C, 0/8 cloud, 2/12 wind (Beaufort scale), 0 rain	12°C, 0/8 cloud, 2/12 wind (Beaufort scale), 0 rain
T12		19/08/2024	20:10	20:10 – 22:10	19°C, 5/8 cloud, 4/12 wind (Beaufort scale), 0 rain	18°C, 6/8 cloud, 5/12 wind (Beaufort scale), 1 rain
T12		24/09/2024	18:47	18:47 – 20:47	14°C, 7/8 cloud, 3/12 wind (Beaufort scale), 0 rain	13°C, 8/8 cloud, 1/12 wind (Beaufort scale), 0 rain
T13	10E	21/05/2025	20:52	20:52 – 22:52	10°C, 6/8 cloud, 1/12 wind (Beaufort scale), 0 rain	9°C, 7/8 cloud, 1/12 wind (Beaufort scale), 0 rain
T13		19/08/2024	20:10	20:10 – 22:10	19°C, 5/8 cloud, 4/12 wind (Beaufort scale), 0 rain	18°C, 6/8 cloud, 5/12 wind (Beaufort scale), 1 rain
T13		11/09/2024	19:18	19:18 – 21:18	10°C, 3/8 cloud, 2/12 wind (Beaufort scale), 0 rain	8°C, 3/8 cloud, 2/12 wind (Beaufort scale), 0 rain
T14	2A	19/05/2025	20:50	20:50 – 22:50	12°C, 2/8 cloud, 2/12 wind (Beaufort scale), 0 rain	10°C, 2/8 cloud, 2/12 wind (Beaufort scale), 0 rain
T14		07/08/2025	20:37	20:37 – 22:37	20°C, 6/8 cloud, 3/12 wind (Beaufort scale), 0 rain	18°C, 8/8 cloud, 3/12 wind (Beaufort scale), 0 rain
T14		01/09/2025	19:42	19:42 – 21:42	16°C, 6/8 cloud, 2/12 wind (Beaufort scale), 0 rain	14°C, 0/8 cloud, 1/12 wind (Beaufort scale), 0 rain
T15	2B	27/05/2025	21:02	21:02 – 23:02	16°C, 8/8 cloud, 4/12 wind (Beaufort scale), 0 rain	14°C, 8/8 cloud, 6/12 wind (Beaufort scale), 0 rain
T15		23/07/2025	21:00	21:00 – 23:00	18°C, 4/8 cloud, 0/12 wind (Beaufort scale), 0 rain	17°C, 1/8 cloud, 0/12 wind (Beaufort scale), 0 rain
T15		04/09/2025	19:35	19:35 – 22:35	17°C, 1/8 cloud, 3/12 wind (Beaufort scale), 0 rain	15°C, 1/8 cloud, 3/12 wind (Beaufort scale), 0 rain
T16	2C	29/05/2025	21:04	21:04 – 23:04	18°C, 1/8 cloud, 6/12 wind (Beaufort scale), 0 rain	16°C, 1/8 cloud, 6/12 wind (Beaufort scale), 0 rain
T16		24/07/2025	20:59	20:59 – 22:59	16°C, 8/8 cloud, 2/12 wind (Beaufort scale), 0 rain	16°C, 4/8 cloud, 1/12 wind (Beaufort scale), 0 rain
T16		04/09/2025	19:35	19:35 – 21:35	17°C, 1/8 cloud, 3/12 wind (Beaufort scale), 0 rain	15°C, 1/8 cloud, 3/12 wind (Beaufort scale), 0 rain

## 2.3 Static Detector Surveys

### Field Survey Method

- 2.3.1 A total of 28 automated bat detectors were deployed across Sites 1-10/BESS Site each month, from April to October. Surveys were conducted in accordance with BCT guidelines (Collins, 2023).
- 2.3.2 The locations of each static detector (location L1 to L29<sup>8</sup>) were chosen subjectively according to the habitat present and were placed along suitable commuting habitats or at transitions between habitat types to cover areas where there are potential flightlines around the Order Limits.
- 2.3.3 Automated static bat detectors were used to record the calls of passing bats from fixed positions. High quality, full-spectrum zero crossing automated static Song Meter Mini Bat 2 detectors were used to record ultrasonic activity.
- 2.3.4 A summary of static locations and habitats present is provided in **Table 2.2** and deployment location provided in **Figure 1**.

**Table 2.2: Summary of the Habitats Present at each Static Location.**

Static Location	Parcel Reference	Grid Reference	Habitat
L1	BESS/1B	TM 16959 88436	Woodland edge, woodland ponds, and arable field.
L2	1A	TM 16879 89816	Tree line, and grass arable field.
L3	2A	TM 18428 87973	Scattered trees, ditch, and arable field.
L4	2B	TM 18593 88914	Tree line and arable field.
L5	2C	TM 18921 89524	Group of trees, pond, and arable field.
L7	3B	TM 24651 92043	Woodland edge, hedgerow with ditch, and arable field.
L8	4A	TM 19896 94545	Small woodland copse, and arable field.
L9	4B	TM 20432 94283	Woodland edge, scattered trees, and arable field.
L10	5A	TM 22452 93963	Tree line and arable field.
L11	5B	TM 22416 93355	Tree line and arable field.
L12	6	TM 25222 93567	Tree line and arable field.
L13	7A	TM 21117 95392	Hedgerow with trees and arable field.
L14	7C	TM 22187 95450	Woodland edge and arable field.
L15	7C	TM 22855 95549	Woodland edge and arable field.
L16	7D	TM 23543 96370	Tree line and arable field.
L17	7E/7F	TM 24089 95909	Woodland edge and grass arable field.
L18	7F/7G	TM 24929 95530	Woodland edge and arable field.
L19	7H	TM 25788 95005	Woodland edge and arable field.
L20	7I/7J/7K	TM 26515 95312	Small woodland copse, and arable field.
L21	7K/7L	TM 27332 95770	Scattered trees and arable field.
L22	8A	TM 25916 96855	Woodland edge, hedgerow with ditch, and arable field.

<sup>8</sup> Location L6 has not been included within this report as the location was removed mid-survey due to the area of land being taken out of the Order Limits.

Static Location	Parcel Reference	Grid Reference	Habitat
L23	8B	TM 25966 97533	Scattered trees, hedgerow with ditch, and arable field.
L24	9	TM 27946 98045	Scattered trees, hedgerow with ditch, and arable field.
L25	9	TM 28283 98118	Hedgerow with trees and arable field.
L26	10A	TM 29976 94830	Woodland edge and arable field.
L27	10B	TM 30821 94939	Woodland edge and arable field.
L28	10C	TM 29939 95498	Tree line and arable field.
L29	10E	TM 31330 96345	Tree line and arable field.

2.3.5 Remote static detector surveys were deployed each month for a minimum of five nights in October 2024 and May to September 2025, to record night-time bat activity across the survey area, with the exception of Site 2 (L3, L4, and L5) which were deployed in Sub-Sites 2A, 2B, and 2C from May 2025 until October 2025, as these areas were not included in the Order Limits at the time of the original surveys undertaken in the preceding year (2024)<sup>9</sup>. Where detectors were out for longer than five nights in one period, only five consecutive nights have been analysed. Due to the number of detectors being deployed they could not all be deployed on the same day and so the dates are staggered, this is also the case where detectors may have failed and been re-deployed at a later date. The static detectors were deployed for the following dates in **Table 2.3**:

**Table 2.3: Summary of Dates for Static Detector Deployment, Sunrise and Sunset Times, and Mean Recording Hours.**

Month	Recording Period (five nights)	Mean Sunrise Time	Mean Sunset Time	Mean Recording Hours
April	17/04/25 - 21/04/25	05:47	20:00	72.13
	24/04/25 - 28/04/25	05:32	20:12	
May	13/05/25 - 17/05/25	04:59	20:54	79.77
	14/05/25 - 18/05/25	04:58	20:55	
	15/05/25 - 19/05/25	04:56	20:56	
June	11/06/25 - 15/06/25	04:30	21:20	83.68
	12/06/25 - 16/06/25	04:30	21:21	
July	16/07/25 - 20/07/25	05:01	21:13	80.92
	17/07/25 - 21/07/25	05:02	21:12	
August	15/08/25 - 19/08/25	05:49	20:28	73.30
September	18/09/25 - 22/09/25	06:41	19:06	62.06
October 24/25	17/10/24 - 21/10/24	07:28	18:01	54.12
	07/10/25 - 11/10/25	07:18	18:16	
<b>Total Mean Recording Hours</b>				<b>505.98</b>

## Data Analysis

2.3.6 Data analysis and the interpretation of results followed the principles

<sup>9</sup> Dates of deployment vary each month due to the different days in which detectors were deployed and collected.

- presented in the BCT guidance (Collins, 2023).
- 2.3.7 In the first instance, all acoustic recordings were analysed using the industry standard BTO Acoustic Pipeline auto-identification software to confirm species identification.
  - 2.3.8 A percentage (2 to 100% (dependant on species)) of bat calls were analysed manually using Kaleidoscope (Lite / Pro) and following bat acoustic analysis acoustic guidelines (using diagnostic features) to corroborate data, confirm species identification, and check for any additional unidentified calls.
  - 2.3.9 Data analysis was undertaken by Neil Everett, Rob Tiscoff and Saraya Gallagher, who are experienced bat ecologists which regularly carry out analysis of bat survey data.
  - 2.3.10 Where there is any doubt, calls were identified to genus level only due to the complexity with differentiating calls between certain species, such as *Myotis* species.
  - 2.3.11 Bat species have been grouped into higher level groups based on taxonomy, by genus or type of bat. The group and bat species is provided in **Table 2.4**, below.

**Table 2.4: Grouping of Bat Species and Percentage Subject to Manual QA.**

Group	Species	Percentage QA
Barbastelle	Barbastelle <i>Barbastella barbastellus</i>	100%
'Big Bats'	Common noctule <i>Nyctalus noctula</i> Leisler's bat <i>Nyctalus leisleri</i> Serotine <i>Cnephaeus serotinus</i>	20%
Myotis sp.	Alcathoe bat <i>Myotis alcathoe</i> Bechstein's bat <i>Myotis bechsteinii</i> Brandt's bat <i>Myotis brandtii</i> Daubenton's bat <i>Myotis daubentonii</i> Greater mouse-eared bat <i>Myotis myotis</i> Natterer's bat <i>Myotis nattereri</i> Whiskered bat <i>Myotis mystacinus</i>	100%
Pipistrellus sp.	Common pipistrelle <i>Pipistrellus pipistrellus</i> Nathusius' pipistrelle <i>Pipistrellus nathusii</i> Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	2% to 10%
Plecotus sp.	Brown long-eared bat <i>Plecotus auritus</i> Grey long-eared bat <i>Plecotus austriacus</i>	100%

## Nearby Emergences

- 2.3.12 To determine the presence of nearby roosts on or near to the Order Limits, the difference in the time of each bat pass from the time of sunset was calculated (in minutes).

- 2.3.13 Guidance on species emergence times provided in the Bat Conservation Trust (Collins, 2023) was used to establish a suitable ‘emergence window’. The ‘emergence window’ for each species or group is set out in **Table 2.5**.
- 2.3.14 For bat passes to be considered nearby emergences, they must be recorded within the emergence window for that species.

**Table 2.5: Emergence windows of each bat species group**

Group	Emergence Window (minutes before/ after sunset)
Barbastella	-15 to 30
Big Bat	-15 to 20
Myotis	-15 to 40
Pipistrellus	-15 to 20
Plecotus	-15 to 45

## Bat Activity Index (BAI)

- 2.3.15 BAI present data as an activity level, rather than the total number of bat passes. This is because an individual bat can pass on several occasions while foraging, and it is difficult to determine whether it is one bat or several bats passing separately.
- 2.3.16 BAI was calculated for each species by dividing the number of recorded detector files across the survey period, per species, by the total mean recording hours across the combined survey period.

$$\text{Species BAI} = \frac{\text{Number of detector files for species}}{\text{Total mean recording hours}}$$

- 2.3.17 BAI was calculated for each location by dividing the number of recorded detector files across the survey period, per location, by the total mean number of recording hours across the survey period. To provide the mean number of bat passes per hour (pph) at each location.

$$\text{Location BAI} = \frac{\text{Number of detector files for location}}{\text{Total mean recording hours}}$$

- 2.3.18 BAI was calculated for each month across all locations by dividing the number of recorded detector files, per month, by the total mean number of recording hours across the survey period.

$$\text{Month BAI} = \frac{\text{Number of detector files for month}}{\text{Total mean recording hours}}$$

- 2.3.19 The term ‘pass’ is defined as each file made up of bat pulses of a single species (i.e. one sound file).
- 2.3.20 BAI is discussed herein as a standardised measures of bat activity relative to the mean recording hours, enabling comparisons between each species,

static location, and month, accounting for both spatial and seasonal activity across the Order Limits.

## 2.4 Geographic Evaluation and Preliminary Assessment

- 2.4.1 The Order Limits ecological importance has been evaluated broadly following guidance issued by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) which ranks the nature conservation importance of a site according to a geographic scale of reference; International/ European, UK/national, regional (East Anglia), County (Norfolk), Local (South Norfolk) or other local authority-wide area, and Site. In evaluating the nature conservation importance of the Order Limits, the following factors were considered: nature conservation designations; species/habitat rarity; naturalness; fragility and connectivity to other habitats. Where no importance has been assigned this is due to insufficient information.
- 2.4.2 An assessment of the value of bat populations within the Order Limits is based on the method outlined in the UK Bat Mitigation Guidelines (Reason & Wray, 2023/2025). This includes identifying the potential for regional species assemblage based on known distributions, assessing the importance of roosts and foraging and commuting habitats, as well as the overall importance of bat assemblage.
- 2.4.3 The Order Limits importance for bats has been assessed at an appropriate spatial scale, based on species distribution, conservation status, current population trends, functionality of the Order Limits and the Zone of Influence (Zol) of the project as it relates to bats. Conservation status varies between the different counties of the UK, reflecting current understanding of abundance and distribution. Table 3.1 of the Bat Mitigation Guidelines (Reason and Wray, 2023) sets out the current categorisation of species, reflecting their relative abundance across the UK. Species have been further subdivided based on the location surveyed. **Table 2.6** presents the rarity categorisation of bats in East Anglia to The Wash (Reason & Wray, 2025).

**Table 2.6: Categorising Bats by Distribution and Rarity.**

East Anglia to The Wash			
Widespread all geographies (Score 1)	Widespread in many geographies, but not as abundant in all (Score 2)	Rarer or restricted distribution (Score 3)	Rarest Annex II species and very rare (Score 4)
Common pipistrelle Soprano pipistrelle Brown long-eared bat	Daubenton's bat Natterer's bat Noctule	Mouse-eared bat Brandt's bat Serotine Leisler's bat Nathusius' pipistrelle	Barbastelle

- 2.4.4 The Order Limits contains no buildings; however, a number of trees could provide roosting habitat for bats. An assessment of the importance of bat roost features and bat roosts is discussed in the separate **Ground Level Tree Assessment Report [EN0110014/APP/6.3.8.5]**.
- 2.4.5 The importance of bat assemblages present within the Order Limits has been evaluated in accordance with Table 3.3 of the Bat Mitigation Guidelines (Reason and Wray, 2023), which can be used as a tool to identify the importance of bat assemblages according to geographic variations in species distributions. To assess the importance of bat assemblage, three things should be determined:
- Species present
  - Local species distributions
  - Regional species distributions
- 2.4.6 To determine the maximum possible score any site could achieve, a score is assigned to each species that could be present based on its known distribution relevant to the region and therefore rarity (see **Table 2.7**).
- 2.4.7 Once the score has been calculated, the maximum possible threshold score needed for any assemblage to meet each geographic level of importance can be determined:
- Assemblage score meets or exceeds 45% of the maximum score: **County importance**
  - Assemblage score meet or exceeds 55% of the maximum score: **Regional importance**
  - Assemblage score meets or exceeds 70% of the maximum score: **National importance**

**Table 2.7: Valuing Bat Assemblages.**

Scoring System East Anglia to The Wash		
Rarity Category	Importance	Score
Threshold	Maximum possible	28
County importance: 45%	County	13
Regional importance: 55%	Regional	15
National importance: 70%	National	20

- 2.4.8 The score for each of the rarity categories is multiplied by the number of species within that category and the total score for each category is added together to provide a total score for the Order Limits.
- 2.4.9 This assessment is based on presence only, other factors such as the number of individuals of that species could increase the importance of any assemblage.

## 2.5 Limitations

- 2.5.1 It should be noted that, whilst every effort has been made to provide a comprehensive description of the Order Limits, no investigation can ensure the complete characterisation and prediction of the natural environment. It is considered that this report accurately reflects the habitats present, their biodiversity values and the potential of the Order Limits to support foraging and commuting bats based on the data collected so far.
- 2.5.2 It should be noted that even where data are held, a lack of records for a defined geographical area does not necessarily equate to a lack of ecological interest; the area may be simply under-recorded.
- 2.5.3 Following amendments to the Order Limits additional areas (2A, 2B, and 2C) were included after the initial suite of NBW and static surveys commenced in 2024 and therefore all surveys on these areas were completed in 2025.
- 2.5.4 Some transect routes were altered between surveys where the time to complete a full walkover had been miscalculated or for other limiting factors outside of the surveyor's control such as vegetation growth and maturing crop fields.
- 2.5.5 Bats are highly mobile animals and can move over long distances in a single evening, they may emerge from roost sites and leave the Survey Area immediately. It is not possible to capture evidence of each potential bat flight path; these data are, however, indicative of the type of bat activity and number of species using the Survey Area.
- 2.5.6 The number of bat passes does not directly equate to the number of individual bats; it is likely that on some occasions multiple passes will involve the same individual bat. Bats often fly back and forth along the same routes, particularly in areas where they are foraging or commuting. Therefore, while the number of bat passes can provide valuable insight into activity levels and use of the survey area, it does not reflect the exact number of individual bats present during the survey period. The use of the BAI calculation has been included here to reduce the significance of this limitation.
- 2.5.7 In the context of the data, it is important to recognise that the observed higher abundance of common pipistrelle bats compared to other species is a reflection of their differing population densities and conservation status. Common pipistrelle bats are one of the most abundant and widespread bat species in Europe, their high numbers in the data are consistent with their general abundance in the environment. In contrast, barbastelle bats are a much rarer species, typically associated with specific habitats, such as mature woodlands, and are less commonly encountered. Their lower abundance aligns with their status as a nationally rare species, with populations declining due to habitat loss and other environmental pressures. Therefore, while the data shows a large number of common pipistrelle bats and fewer barbastelle bats, this distribution is not unexpected given the relative abundance of common pipistrelles compared to the rarity of barbastelles. This contextual

- understanding of species prevalence should be considered when interpreting the results, as the observed abundance reflects broader ecological trends and conservation challenges for the different species. Although the number of common pipistrelles was highest other species recorded at lower levels of prevalence within the Order Limits are of a higher ecological importance.
- 2.5.8 *Plecotus* species (long-eared bats) are often under-recorded as their calls are extremely quiet and are usually only recorded when within a few metres of the detector. They may therefore be present in higher numbers than indicated from the recordings. This is a limitation inherent in surveys of this nature, despite the high-quality equipment being used. It should be noted that for calls identified to genus level for *Plecotus* species, it is considered that these are most likely attributed to brown long-eared bats given the rarity of grey long-eared bats in East Anglia.
- 2.5.9 Given the size and extent of the Scheme, it was not possible to scope out days of moderately bad weather when selecting nights for data analysis. As such, the weather could have influenced bat activity levels for a proportion of nights of data included in this report. However, an effort was made to avoid deploying statics when there were sustained periods of bad weather forecast. As such, the weather is considered unlikely to have significantly influenced activity levels that would negatively affect the outcome of this report.
- 2.5.10 Recording errors were encountered for several of the static detectors per month; as such, some of the data was only available for four or four and a half nights within a recording period. Given the amount of data collected across all seasons, the loss of some data is not considered to have significantly affected the results of the survey or analysis of bat activity across the Order Limits. The use of BAI to present data as an activity level negates temporal bias brought about by variation in survey length.
- 2.5.11 Where recording errors occurred, for the most part, statics still recorded for a period from sunset within the emergence window for most bat species. As such, any missing data is not considered to have impacted the analysis of bat activity in relation to potential nearby roost resources.
- 2.5.12 An auto-classifier the BTO Acoustic Pipeline<sup>10</sup> was used to analyse the static detector data in the first instance. Acoustic species discrimination is still relatively new, and it should be noted that an auto-classifier provides guidance and inference to species, but the process of classification can produce false positives for species ID. Where there were lots of recordings, at least up to at least 2% and in most cases up to 10% of the data run through the BTO Pipeline has been manually checked by an experienced ecologist. Where Annex II species are detected, all recordings have been checked manually.
- 2.5.13 Data was split over two years; however, only one month (October) was in undertaken in 2024, so most of the data is from a single activity period (2025).

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<sup>10</sup> Available from: <https://www.bto.org/data/tools-products/acoustic-pipeline>

Additional surveys were conducted for Sub-Sites 2A, 2B, and 2C in October 2025.

## 2.6 Report Qualification

- 2.6.1 At the time of the completion of this report, the surveys and assessments have been conducted in accordance with best practice guidelines (Reason & Wray, 2023/2025). Site circumstances, scientific knowledge, or the methodological requirements can change during the course of a project, and these external factors may impact the scope of subsequent work requirements.
- 2.6.2 All work has been carried out by experienced and suitably qualified ecologists, in accordance with the Code of Professional Conduct of the Chartered Institute of Ecology and Environmental Management (CIEEM) (CIEEM, 2023).
- 2.6.3 All ecological surveys have an expected validity period owing to the tendency of the natural environment to change over time. This validity period varies depending on the receptor, the site-specific management, and the ecology of the landscape. Where there is a possibility of change and it is considered to be relevant, this is highlighted in the applicable section.
- 2.6.4 Data from bat surveys is valid for a period of 12-18 months, unless there are any significant changes to habitats within the Order Limits (CIEEM, 2019).
- 2.6.5 This report does not purport to provide detailed, specialist legal advice. Where legislation is referenced, the reader should consult the original legal text and/or the advice of a qualified environmental lawyer.

### 3 Results

#### 3.1 Desk Study

##### Protected Species Records

- 3.1.1 The data search through NBIS returned a total of 479 records of bats within 2 km of the Order Limits within the last 10 years (from 2014 to 2024). These include a total of 11 confirmed species and a further four unidentified bat species, including *Chiroptera* (bat) species (*sp.*), *Pipistrelle* *sp.*, *Myotis* *sp.*, and *Plecotus* *sp.* (likely brown long-eared bat).
- 3.1.2 Records relating to roosts were returned by NBIS for brown long-eared bats *Plecotus auritus*, Natterer’s bats *Myotis nattereri*, serotine *Eptesicus serotinus*, common pipistrelle *Pipistrellus pipistrellus*, and soprano pipistrelle *Pipistrellus pygmaeus* bats, as well as unidentified pipistrelle and long-eared bat species. The closest was a brown long-eared bat and common pipistrelle roost located 32 m southwest of Sub-Site 4B, whereby bats were observed roosting in stables and a dairy barn. The closest roost records returned by NBIS are detailed in **Table 3.1**.

**Table 3.1: A summary of the closest bat roost records returned by NBIS within the last ten years (including 2014), for all *Chiroptera* species.**

Species	Date	Distance and Orientation	Notes
Common pipistrelle and brown long-eared bat	2015	~32 m southwest of Sub-Site 4B	Pipistrelle observed roosting in clay lump stables and both species observed emerging from day roosts in dairy barn.
Common pipistrelle and brown long-eared bat	2017	~246 m south of Sub-Site 5B	Total of seven individuals observed roosting within the Old Rectory (same as EPSML record, see <b>Table 3.5</b> ).
Common pipistrelle and brown long-eared bat	2014	~277 m southwest of Sub-Site 10C	Scattered droppings found within building.
Natterer's bat and common pipistrelle	2016	~667 m northwest of Sub-Site 7D	Observed and recorded emerging from roost inside barn and under barn gable bargeboards.
Common pipistrelle	2024	~683 m southwest of Sub-Site 3A	Two records of individuals observed emerging from a barn.
Common pipistrelle	2022	~1.16 km southeast of CRC4	Two bats observed emerging from a building.
Pipistrelle bat species	2017	~1.3 km southeast of Sub-Site 6	Droppings observed within church.
Long-eared bat	2016	~1.51 km northeast of Sub-Site 9	Droppings observed within church.
Barbastelle, Natterer's bat, common pipistrelle, soprano pipistrelle, and brown long-eared bat	2014/15	~1.62 km southwest of Sub-Site 4A	Recorded active inside barn.
Common pipistrelle	2015	~1.63 km southwest of Sub-Site 4A	Recorded active on-site, passing from a nearby roost.

Species	Date	Distance and Orientation	Notes
Pipistrelle bat species	2017	~1.68 km east of Sub-Site 9.	Droppings observed within church porch.

3.1.3 A search of the MAGIC database returned a total of six EPSML records (ten with updates) for bats within 2 km of the Order Limits, within the last 10 years. A summary of these records is provided in **Table 3.2**.

**Table 3.2: A summary of granted EPSML’s records returned by the MAGIC database within 2 km of the Order Limits, within the last ten years.**

EPSML	Species	Date	Impact	Distance and Orientation
2017-30714-EPS-MIT	Brown long-eared bat and common pipistrelle	2017 to 2018	Destruction of a roost	~246 m south of Sub-Site 5B
2015-14218-EPS-MIT-1, 2015-14218-EPS-MIT-2, and 2015-14218-EPS-MIT-3	Brown long-eared bat, common pipistrelle, Natterer’s bat, and soprano pipistrelle	2016/17 to 2023	Destruction of a roost	~100 m southwest of Sub-Site 4B
2018-33516-EPS-MIT and 2018-33516-EPS-MIT-1	Common pipistrelle and soprano pipistrelle	2018 to 2019	Destruction of a roost	~1 km north of Sub-Site 7D
2015-16585-EPS-MIT	Brown long-eared bat, common pipistrelle, and soprano pipistrelle	2016 to 2021	Destruction of a roost	~1.28 km west of the CRC4 between Sub-Sites 2 and 5
EPMS2013-6636, 2014-4043-EPS-MIT, and 2014-4043-EPS-MIT-1	Common pipistrelle, brown long-eared bat, barbastelle, and Natterer’s bat	2013 to 2015, 2014 to 2016, & 2014 to 2015	Destruction of a roost	~1.47 km southeast of the cable route between Sub-Sites 2 and 5
2020-50285-EPS-MIT	Brown long-eared bat and common pipistrelle	2020 to 2027	Destruction of a roost	~1.85 km southeast of Sub-Site 10B

### Barbastelle Bat

3.1.4 The barbastelle bat is classed as vulnerable and is believed to be rare in the UK; however, East Anglia is known to support a highly significant population on a national scale. Norfolk is considered a stronghold for this species and has subsequently been identified as one of the core areas suitable for the implementation of the species recovery programme (Harris, 2020).

3.1.5 Following surveys conducted by a number of organisations, including Norfolk Barbastelle Study Group (NBSG), as of 2020, 24 maternity colonies have been confirmed to be present across the county. All of the colonies are located within woodland, with the exception of the Great Paston Barn SAC maternity colony, which reside in a 16<sup>th</sup> Century building. The study found that for woodland roosts, the woodlands are foraging areas in their own right and that foraging areas also targeted are typically arable mosaics ranging from 30 to 229 ha with linear features being of particular importance. Home ranges were also calculated for the most intensively tracked maternity colonies, with the distance found to be travelled from woodland roosts averaging at 3.5 km, with no bats travelling beyond 5.5 km. It is concluded that these figures are consistently less than the suggested CRZ of 6 km for this species (Collins, 2023). It is considered likely that Norfolk provides sufficiently productive

foraging areas close to woodland roosts. Radio tagging and trapping in the autumn indicates that female barbastelles do not appear to disperse more than 5 km from maternity sites, and that numerous records of barbastelle in agricultural barns throughout the winter indicate these types of buildings are likely to be of importance for roosting outside of the maternity period. NBSG monitoring of barbastelle in the winter shows that they are winter-active and are frequently recorded flying in woodlands, with barbastelles rarely found in underground hibernation sites, instead appearing to stay within tree roosts during more mild winters.

3.1.6 A total of eleven records were sourced from the Norfolk Barbastelle Study Group (NBSG) relating to barbastelle maternity colonies. These records are listed in **Table 3.3**.

**Table 3.3: A summary of all maternity colony records returned by NBSG, within 2 km of the Order Limits.**

Distance and Orientation	Date	Location	Details
Colonies with CRZ's which overlap with the Site:			
~138m east of Sub-Site 7F	2015	Saxlingham Grove	Medium colony size (South Norfolk context)
~300m north of CRC9	2025	Spring Wood	Unknown roost size
~500m west of Sub-Site 8B	2025	Little Wood	Large colony size (Norfolk context)
~650m west of Site 9	2025	Brooke Wood	Unknown roost size
~490m east of CRC4	2017	Tyrrels Wood	Large colony size (South Norfolk context)
~2.5km north-west of Sub-Site 7D	2018	Smockmill Common	Medium colony size (South Norfolk context)
~5.4km south-east of CRC4	2019	Gawwdy Hill Woods	Large colony size (South Norfolk context)
~6km north-west of Sub-Site of 4A	2022	Tacolneston	Large colony size (South Norfolk context)
~6km south-east of CRC9	2019	Earsham Woods	Medium colony size (South Norfolk context)
Colonies with CRZ's outside of the Site:			
~6.5 km northwest of Sub-Site 4A	2018	Hethel	Small colony size (South Norfolk context)
~6.8 km northwest of Sub-Site 4A	2016	Ashwellthorpe Lower Wood	Small colony size (South Norfolk context)

3.1.7 A total of 60 records of barbastelle were returned by NBIS, including recent and historic records dating back to 1987. Of these, a total of six records relate to barbastelle roosts within 2km of the Order Limits. The six roost records are listed in **Table 3.4**.

3.1.8 The closest barbastelle roost record is of a peak count of 30 bats recorded during emergence surveys between 2010 and 2012, located within a parcel of

woodland known as Saxlingham Grove. The record is located approximately 48 m northeast of Sub-Site 7F. Saxlingham Grove is part of the Shotesham-Woodton Hornbeam Woods SSSI and shares boundaries with the Sub-Sites 7F and 7H.

**Table 3.4: A summary of the closest barbastelle roost records returned by NBIS, within 2 km of the Order Limits.**

Distance and Orientation	Date	Location	Details
~48 m NE of sub-parcel 7F	Between 11/07/2010 and 26/09/2012	Saxlingham Grove	Ten records and a peak count of 30 individual bats recorded during emergence surveys, with roosts located in two ash trees and one oak.
~161 m NE of sub-parcel 7F	Between 28/05/2012 and 04/07/2012	Saxlingham Grove	Three records and a peak count of two bats, one audibly detected and one caught from a roost.
~188 m NE of sub-parcel 7F.	Between 2010 and 2012	Saxlingham Grove	Three records and a peak count of 22 individual bats recorded during emergence surveys, with roosts located in a dead oak tree.
~220 m	07/07/2010	Saxlingham Grove	Discovery of a lactating female.
~673 m	Between 25/05/2012 and 28/05/2012.	Winter's Grove	Two records of one male, in a mist net and audibly detected.
~1.6 km	31/10/2014	Tharston	One bat observed active inside a barn, audio recorded.

### Statutory Designated Sites

3.1.9 The Order Limits is not subject to any statutory nature conservation designations. Five Internationally Important Wildlife Sites (IIWS), the nearest IIWS is Norfolk Valley Fens SAC, located approximately 2.55 km north-west of the Order Limits. There were eleven Sites of Special Scientific Interest (SSSI) within 5km of the Order Limits. The closest being Shotesham-Woodton Hornbeam Woods SSSI, which shares boundaries with Parcels 7F and 7H. There are three Local Nature Reserves (LNR) within 5km of the Order Limits, including Bath Hills, Broome Heath, Smockmill Common. None of the statutory designated sites are designated/notified for bats and they are not mentioned in their site citations; however, the habitats present are likely to be of value for roosting and foraging/commuting purposes.

### Non-Statutory Designated Sites

3.1.10 There were 44 non-statutory designated sites within the 2 km search area. Of these, 34 are County Wildlife Sites (CWS) and ten are Roadside Nature Reserves (RNR). None of the non-statutory designated sites are designated/notified for bats and they are not mentioned in their site citations; however, the habitats present are likely to be of value for roosting and foraging/commuting purposes.

- 3.1.11 A full list of all statutory and non-statutory designated sites together with a description of their reasons for designation is provided in the **ES Volume II, Appendix 8.1: Ecological Desk Study & Extended Habitat Survey**.

#### Irreplaceable Habitats

- 3.1.12 There are no parcels of ancient woodland within the Order Limit boundaries. There are 31 areas of woodland listed within the Ancient Woodland Inventory (AWI)<sup>11</sup>, and four areas of lowland fen (totalling fourteen individual parcels) located within 2km of the Order Limits. These habitat sites receive protection via the NPPF<sup>12</sup>, in which they are listed as an 'irreplaceable habitat' and under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024<sup>13</sup>.
- 3.1.13 A full list of irreplaceable habitats together with information is provided in the **ES Volume II, Appendix 8.1: Ecological Desk Study & Extended Habitat Survey**.

#### Priority Habitats

- 3.1.14 Desk study analysis indicates that the Order Limits are dominated by arable field parcels, which include priority hedgerow habitat field boundaries. Aerial mapping also suggests that multiple ponds are present within and surrounding the Order Limits. Occasional blocks of lowland deciduous woodland are present within and surrounding the Order Limits. Notably, floodplain grazing marsh is located within Sub-Site 7B and within CRC7 (Fritton Grange Meadows CWS) along with lowland fen priority habitat (classified as irreplaceable habitat – see above).
- 3.1.15 A full list of priority habitats together with information is provided in the **ES Volume II, Appendix 8.1: Ecological Desk Study & Extended Habitat Survey**.

## 3.2 Field Survey

- 3.2.1 The results of the surveys and the Bat Activity Index (BAI) are summarised below. The transect mapping and static bat detector locations are available in **Figure 1**.

## Night-time Bat Walkover Surveys

### Overview

- 3.2.2 A total of 16 transect surveys were undertaken across Spring, Summer, and Autumn 2024 and 2025 to provide a representative coverage of the habitats

<sup>11</sup> Available at: [https://naturalengland-defra.opendata.arcgis.com/datasets/a14064ca50e242c4a92d020764a6d9df\\_0/explore?location=52.830611%2C-2.004678%2C7.54](https://naturalengland-defra.opendata.arcgis.com/datasets/a14064ca50e242c4a92d020764a6d9df_0/explore?location=52.830611%2C-2.004678%2C7.54) (accessed October 2025)

<sup>12</sup> Available at: <https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment> (accessed October 2025)

<sup>13</sup> Available at: <https://www.legislation.gov.uk/uksi/2024/48/note/made> (accessed October 2025)

across the Order Limits. The habitats present within and along the boundaries include woodland edges, tree lines, scattered trees hedgerows, ditches, arable fields, grassland, and ponds. A summary of the range of bat species recorded across all seasons, per transect and per parcel is provided in **Table 3.5**

3.2.3 A total of nine species were recorded across the entire survey period, during the NBW surveys including common pipistrelle, soprano pipistrelle, barbastelle, brown long-eared bat, Daubenton’s bat, Leisler’s bat, Natterer’s bat, noctule, serotine, and. In addition, records that could not be identified to species level were also recorded for *Myotis* species *Pipistrellus* species.

**Table 3.5: Summary of the Range of Bat Species Encountered Across the Combined Survey Period Comparing Location.**

		Annual											
Transect	Parcel Reference	Species											
		Barbastelle	Brown Long-eared Bat	Common Pipistrelle	Daubenton’s Bat	Leisler’s Bat	Myotis species	Natterer’s bat	Noctule	Pipistrellus species	Serotine	Soprano Pipistrelle	
T1	BESS, 1A, 1B & 1C	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓
T2	3	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✓	
T3	6	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	
T4	5A, 5B	✓	✓	✓	✗	✗	✗	✗	✓	✗	✓	✓	
T5	4A, 4B	✗	✓	✓	✗	✓	✗	✗	✓	✗	✗	✓	
T6a	7C, 7B	✓	✗	✓	✗	✓	✗	✗	✓	✗	✗	✓	
T6b	7A	✓	✓	✓	✗	✓	✗	✗	✓	✗	✗	✓	
T7	7D, 7F	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	
T8	7E, 7F, 7G, 7H	✓	✓	✓	✗	✓	✓	✗	✓	✗	✓	✓	
T9	7I, 7J, 7J, 7K, 7L	✓	✗	✓	✗	✗	✗	✓	✓	✗	✗	✓	
T10	8A, 8B	✓	✗	✓	✗	✓	✗	✗	✓	✗	✗	✓	
T11	9	✓	✗	✓	✗	✓	✗	✗	✓	✗	✗	✓	
T12	10A, 10B, 10C, 10D	✓	✓	✓	✓	✓	✗	✗	✓	✗	✓	✓	
T13	10E	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓	✓	
T14	2A	✗	✓	✓	✗	✓	✗	✗	✓	✗	✓	✓	
T15	2B	✓	✗	✓	✗	✓	✗	✓	✓	✗	✓	✓	
T16	2C	✓	✗	✓	✗	✓	✗	✗	✗	✗	✓	✗	
<b>Total</b>		13	7	16	14	12	2	3	12	2	8	15	

Spring

- 3.2.4 Eight species/ species groups were recorded across the Order Limits, during the Spring period, with 1818 total passes recorded. Common pipistrelle was the most recorded, with consistently moderate to high numbers recorded across all locations, followed by soprano pipistrelle and noctule respectively.
- 3.2.5 The highest level of activity was recorded at T7 (Sub-Sites 7D and 7F), followed by T14 (Sub-Site 2A), with the third highest recorded activity occurring at T12 (Sub-Sites 10A, 10B, 10c, and 10D). The lowest level of activity was recorded at T3 (Site 6), which had no recorded bat passes.
- 3.2.6 Barbastelle activity was recorded across seven of the 16 transect routes, with the highest levels recorded at T7 (Sub-Sites 7D and 7F). Barbastelle was also the fourth highest recorded species with a total of 26 recorded bat passes across the Spring survey period.
- 3.2.7 A summary of the number of passes recorded for each species, per transect route, comparing location and Site/Sub-Site in Spring is provided in **Table 3.6**, overleaf.

**Table 3.6: Summary of Bat Activity for Each Species, per Location in Spring (in order of most to least total bat activity).**

Spring													
Transect Route	Parcel Reference	Species											Total
		Barbastelle	Brown Long-eared Bat	Common Pipistrelle	Daubenton's Bat	Leisler's Bat	Myotis species	Natterer's bat	Noctule	Pipistrellus species	Serotine	Soprano Pipistrelle	
T07	7D, 7F	12	1	311		4						41	369
T14	2A		1	230									231
T12	10A, 10B, 10C, 10D	5		193	1	2						24	225
T13	10E			61						12		115	188
T01	BESS, 1A, 1B, 1C	1		124								3	128
T06a	7C, 7B	1		96								13	110
T16	2C	1		83		1							85
T02	3	4		74						1			79
T06b	7A		1	37		2			20			16	76
T10	8A, 8B	2		49		1						24	76
T05	4A, 4B		1	37					20			16	74
T15	2B			57									57
T09	7I, 7J, 7J, 7K, 7L			54									54
T04	5A, 5B			45								1	46
T11	9			3		3						10	16
T08	7E, 7F, 7G, 7H			2								2	4
T03	6												0

Spring													
Transect Route	Parcel Reference	Species											Total
		Barbastelle	Brown Long-eared Bat	Common Pipistrelle	Daubenton's Bat	Leisler's Bat	Myotis species	Natterer's bat	Noctule	Pipistrellus species	Serotine	Soprano Pipistrelle	
<b>Total</b>		26	4	1456	1	13	0	0	40	13	0	265	1818

### Summer

- 3.2.8 Eight species/ species groups were recorded across the Order Limits, during the summer period, with 2541 total passes recorded. Common pipistrelle was the most recorded, with consistently moderate to high numbers recorded across all locations, followed by soprano pipistrelle and Leisler's bat respectively.
- 3.2.9 The highest level of activity was recorded at T03 (Site 6), followed by T14 (Sub-Site 2A), and T07 (Sub-Sites 7D and 7F). The lowest level of activity was recorded at T06b (Sub-Site 7A), which had significantly fewer bat passes.
- 3.2.10 Barbastelle activity was recorded across nine of the 16 transect routes, with the highest levels recorded at T12 (Sub-Sites 10A, 10B, 10C, and 10D). Barbastelle was also the fourth highest recorded species with a total of 39 recorded bat passes across the Summer survey period.
- 3.2.11 A summary of the number of passes recorded for each species, per transect route, comparing location and Site/Sub-Site in Spring is provided in **Table 3.7**, overleaf.

**Table 3.7: Summary of Bat Activity for Each Species, per Location in Summer (in order of most to least total bat activity).**

Summer													
Transect Route	Parcel Reference	Species											Total
		Barbastelle	Brown Long-eared Bat	Common Pipistrelle	Daubenton's Bat	Leisler's Bat	Myotis species	Natterer's bat	Noctule	Pipistrellus species	Serotine	Soprano Pipistrelle	
T03	6			393		16						34	443
T14	2A			182		2						124	308
T07	7D, 7F	1		237	2	10		1	3			26	280
T01	BESS, 1A, 1B, 1C			178								9	187
T12	10A, 10B, 10C, 10D	17		128		6			3		5	28	187
T08	7E, 7F, 7G, 7H			110		51	4				5	13	183
T13	10E	7		117							6	28	158
T15	2B			134		1		2	1		1	1	140
T16	2C	2		132		1					1		136
T05	4A, 4B			68		5						37	110
T02	3	2		88								2	92
T10	8A, 8B	2		54		2			5			11	74
T11	9	2		21		3			3			43	72
T04	5A, 5B	5	1	38					3		1	18	66
T06a	7C, 7B			50		9			1			3	63
T09	7I, 7J, 7K, 7L			20					5				25
T06b	7A	1		7		4			3			2	17
<b>Total</b>		39	1	1957	2	110	4	3	27	0	19	379	2541

### Autumn

- 3.2.12 Nine species/ species groups were recorded across the Order Limits, during the Autumn period, with 1744 total passes recorded. Common pipistrelle was the most recorded, with consistently moderate to high numbers recorded across all locations, except for T02, T04, T05, and T13 which had no recorded bat passes. Soprano pipistrelle was the second most recorded species followed by Leisler's bat.
- 3.2.13 The highest level of activity was recorded at T16 (Sub-Site 2C), followed by T15 (Sub-Site 2B), and T08 (Sub-Sites 7E, 7F, 7G, and 7H). No activity was recorded at T02 (Sub-Site 3), T04 (Sub-Sites 5A and 5B), T05 (Sub-Sites 4A and 4B), and T13 (Sub-Site 10E).
- 3.2.14 Barbastelle activity was recorded across six of the 16 transect routes, with the highest levels recorded at T15 (Sub-Site 2B). Barbastelle was also the fourth highest recorded species with a total of 21 recorded bat passes across the Autumn survey period.
- 3.2.15 A summary of the number of passes recorded for each species, per transect route, comparing location and Site/Sub-Site in Spring is provided in **Table 3.8**, overleaf.

**Table 3.8: Summary of Bat Activity for Each Species, per Location in Autumn (in order of most to least total bat activity).**

Autumn													
Transect Route	Parcel Reference	Species											Total
		Barbastelle	Brown Long-eared Bat	Common Pipistrelle	Daubenton's Bat	Leisler's Bat	Myotis species	Natterer's bat	Noctule	Pipistrellus species	Serotine	Soprano Pipistrelle	
T16	2C	1		297							1		299
T15	2B	8		244							3	4	259
T08	7E, 7F, 7G, 7H	7	2	165		4			8		5	31	222
T07	7D, 7F			183		8	1		3		1	23	219
T11	9	2		85		4			1			67	159
T14	2A		1	136		1			1		2	1	142
T06a	7C, 7B			76		3			1			19	99
T09	7I, 7J, 7K, 7L	1		73				1				9	84
T12	10A, 10B, 10C, 10D		1	77		1			1			1	81
T03	6			57								1	58
T01	BESS, 1A, 1B, 1C			27								28	55
T10	8A, 8B	2		14					4			31	51
T06b	7A			10		1						5	16
T02	3												0
T04	5A, 5B												0
T05	4A, 4B												0
T13	10E												0
<b>Total</b>		21	4	1444	0	22	1	1	19	0	12	220	1744

## Static Surveys

### Overview

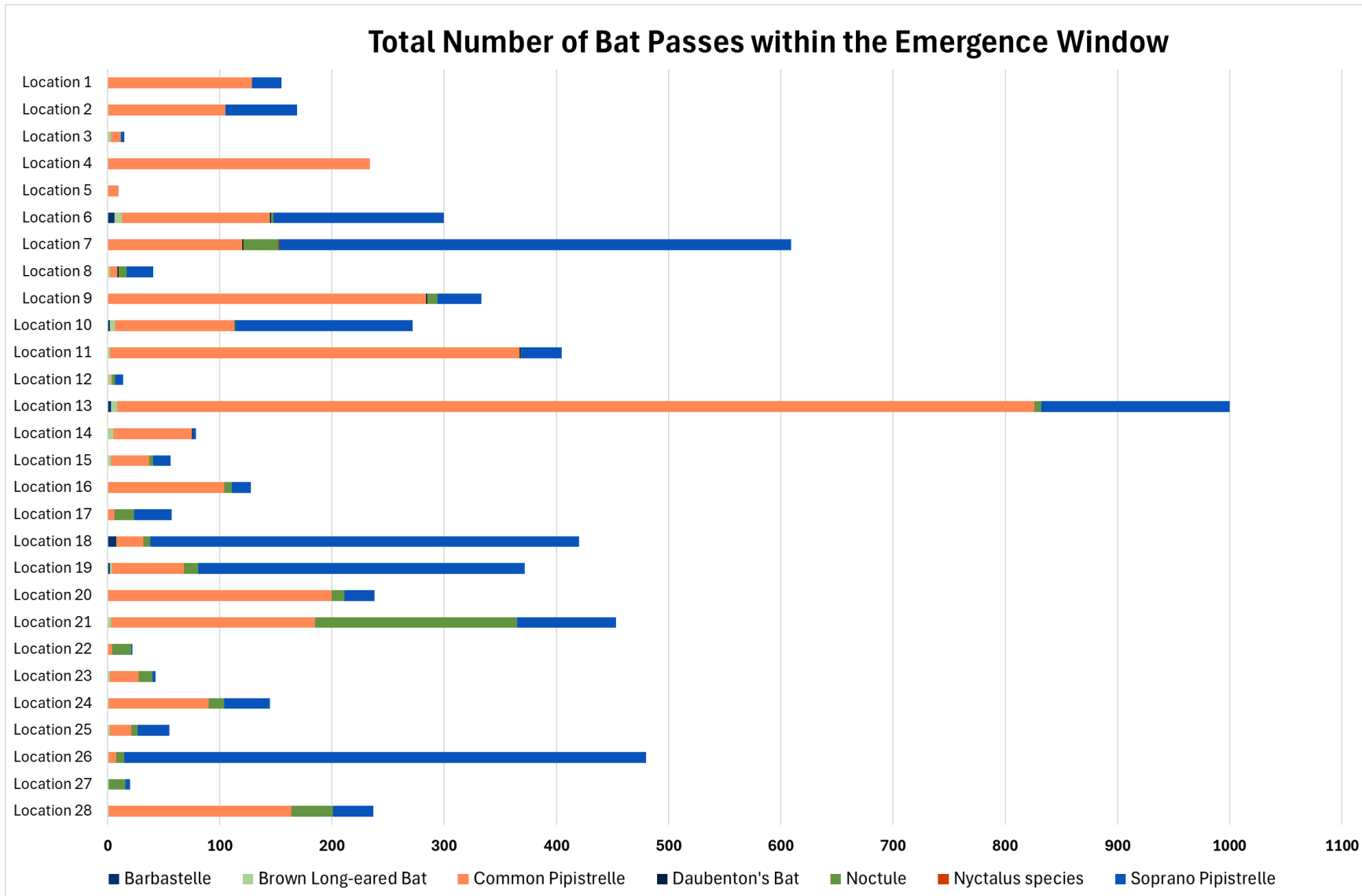
- 3.2.16 Bat activity was recorded on all 28 static detectors across the Order Limits, across the seven survey months October 2024 and April to October 2025, inclusive.
- 3.2.17 The static detectors recorded 11 species and three species groups, listed in order from highest to lowest BAI (pph) (see **Table 3.10**):
- Common Pipistrelle
  - Soprano Pipistrelle
  - Barbastelle
  - Noctule
  - Brown long-eared Bat
  - *Myotis* species
  - Natterer's bat
  - Serotine
  - Daubenton's Bat
  - *Nyctalus* species
  - Nathusius' Pipistrelle
  - Leisler's Bat
  - Whiskered bat
  - Pipistrellus species
- 3.2.18 Records that could not be identified to species level were instead assigned to a group at species level, this is the case for *Myotis*, *Nyctalus*, and *Pipistrellus* species.
- 3.2.19 Species recorded in all locations across the survey period were barbastelle, brown long-eared bat, common pipistrelle, and noctule.
- 3.2.20 Leisler's and Whiskered bats were the least frequently recorded.
- 3.2.21 A summary of the range of bat species present across each static location and land parcel, across the full survey period, is provided in **Table 3.9**, below, Survey results are also presented within **Figure 2**.

### Emergence Times

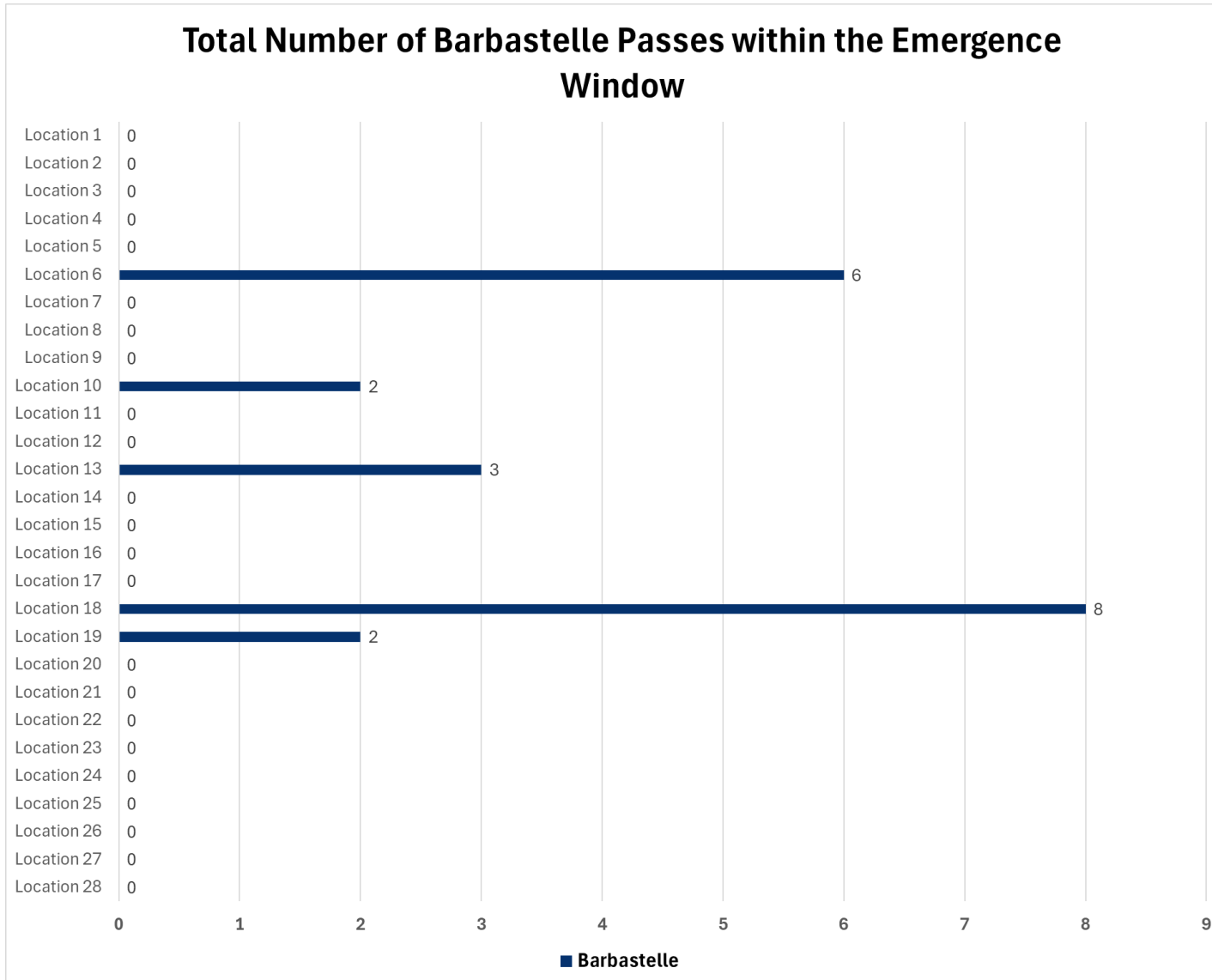
- 3.2.22 Seven species/species groups were recorded within the emergence window for the respective species (Collins, 2023) indicating potential roost sites close to the detector locations. These species were; barbastelle, brown long-eared bat, common pipistrelle, Daubenton's bat, noctule, *Nyctalus* species, and soprano pipistrelle
- 3.2.23 **Plate 1** presents, per location, the total number of passes within the emergence window for the seven species/species groups recorded listed above.

- 3.2.24 Location 13 (Sub-Site 7A) had the highest total number of bat passes within the emergence window for the combined bat assemblage, with 1000 bat passes. Location 7 (Sub-Site 4A) had the second highest with 609 bat passes and Location 26 (Sub-Site 10B) had the third highest with 480 bat passes.
- 3.2.25 **Plate 2** presents the total number of barbastelle bat passes within the emergence window.
- 3.2.26 In terms of Barbastelle passes only, Location 18 (Sub-Site 7H) had the highest number with 8 bat passes, followed by Location 6 (Site 3) with 6 bat passes, and Location 13 (Sub-Site 7A), with 3 bat passes.

**Plate 1: Total Number of Bat Passes Recorded for the Combined Assemblage within the Respective Emergence Windows.**



**Plate 2: Total Number of Barbastelle Bat Passes Recorded within the Emergence Window.**



**Table 3.9: A Summary of the Range of Bat Species Present Across the Survey Period, at Each Location.**

Static Location	Parcel Reference	Annual													
		Species													
		Barbastelle	Brown Long-eared Bat	Common Pipistrelle	Daubenton's Bat	Leisler's Bat	Myotis species	Nathusius Pipistrelle	Natterer's bat	Noctule	Nyctalus species	Pipistrellus species	Serotine	Soprano Pipistrelle	Whiskered bat
Location 1	BESS/SS	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	X	✓	✓
Location 2	1A/1B	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	X	✓	✓
Location 3	2A	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	X
Location 4	2B	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	✓	✓	X
Location 5	2C	✓	✓	✓	✓	X	✓	X	✓	✓	X	X	✓	✓	✓
Location 6	3	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	✓	✓	✓
Location 7	4A	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	X
Location 8	4B	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	X
Location 9	5A	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	X
Location 10	5B	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	X
Location 11	6	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	✓
Location 12	7A	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	✓	✓	X
Location 13	7C	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	X
Location 14	7C	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	✓	✓	X
Location 15	7D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	X
Location 16	7F	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	X
Location 17	7G	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	X

Annual															
Static Location	Parcel Reference	Species													
		Barbastelle	Brown Long-eared Bat	Common Pipistrelle	Daubenton's Bat	Leisler's Bat	Myotis species	Nathusius Pipistrelle	Natterer's bat	Noctule	Nyctalus species	Pipistrellus species	Serotine	Soprano Pipistrelle	Whiskered bat
Location 18	7H	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	X
Location 19	7J	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	✓	✓	X
Location 20	7L	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	X	✓	X
Location 21	8A	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	✓	✓	✓
Location 22	8B	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓	✓	X
Location 23	9	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	✓	✓	X
Location 24	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	X
Location 25	10A	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	✓	✓	✓
Location 26	10B	✓	✓	✓	✓	X	✓	X	✓	✓	✓	X	✓	✓	X
Location 27	10C	✓	✓	✓	✓	X	✓	✓	✓	✓	X	✓	✓	✓	X
Location 28	10E	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	✓	✓	X

- 3.2.27 **Table 3.10** provides a summary of bat activity across all locations and across the combined survey period, with mean BAI per species, offering a standardised measure of passes per hour (pph) to allow comparison of activity levels between species, normalised by recording effort.
- 3.2.28 Common pipistrelle bats are the most frequently recorded species, with **73.70%** of all recorded passes and a high Mean BAI of **516.38** pph. Similarly, soprano pipistrelle has a high Mean BAI of **144.78** pph, indicating strong levels of activity.
- 3.2.29 Barbastelle is the third most frequently recorded species with a BAI of **23.12** pph, indicating high use of the Order Limits by this species, though is significantly lower than that for soprano and common pipistrelle.
- 3.2.30 Species such as Leiser’s (**0.02** pph) and Whiskered bat (**0.01** pph) have low BAIs, indicating low activity levels across the Order Limits and survey period.

**Table 3.10: Summary of Total Bat Activity and Mean BAI for Each Species Across the Combined Survey Period and Locations (not inclusive of September).**

Combined Survey Period and Locations			
Species	Total no. of Bat Passes	% of Total Passes	Mean BAI (per species)
Common Pipistrelle	261280	73.70%	516.38
Soprano Pipistrelle	73258	20.66%	144.78
Barbastelle	11699	3.30%	23.12
Noctule	3039	0.86%	6.01
Brown Long-eared Bat	1603	0.45%	3.17
<i>Myotis</i> species	1500	0.42%	2.96
Natterer’s bat	1121	0.32%	2.22
Serotine	453	0.13%	0.90
Daubenton’s Bat	380	0.11%	0.75
<i>Nyctalus</i> species	112	0.03%	0.22
Nathusius’ Pipistrelle	71	0.02%	0.14
Leisler’s Bat	9	0.003%	0.02
Whiskered bat	7	0.002%	0.01
<i>Pipistrellus</i> species	3	0.001%	0.01
<b>Total</b>	<b>354535</b>	<b>100%</b>	<b>700.69</b>

- 3.2.31 **Table 3.11** provides a summary of bat activity across each month and each location for the combined bat assemblage, with mean BAI per location and per month, offering a standardised measure of passes per hour (hour). To

allow comparison of activity levels between locations and months, normalised by recording effort, identification of spatial and temporal distribution, high activity locations, potentially significant habitat areas, and seasonal trends in activity.

- 3.2.32 Location 11 has the highest mean BAI (**71.28** pph), indicating high activity across the combined survey period at this location. Location 5 has the lowest mean BAI (**4.69** pph).
- 3.2.33 September has the highest mean BAI (**187.62** pph) and April has the lowest (**6.97** pph).

**Table 3.11: Summary of Bat Activity for the Combined Bat Assemblage per Month, for Each Location and Mean BAI per Location and per Recording Period (listed in order of highest to lowest BAI per location).**

Combined Assemblage										
Static Location	Parcel Reference	Apr	May	Jun	Jul	Aug	Sept	Oct	Total	Mean BAI (per location)
Location 11	6	406	1624	0	1490	3802	17344	11401	36067	71.28
Location 19	7J	284	14494	2413	4275	3872	613	1009	26960	53.28
Location 2	SS/1A	254	6417	1901	1219	6618	4933	1445	22787	45.04
Location 13	7C	63	8280	779	1884	5802	3514	950	21272	42.04
Location 1	BESS/1B	19	427	258	109	455	15010	4473	20751	41.01
Location 28	10E	296	870	629	1654	13092	3172	191	19904	39.34
Location 16	7F	120	1670	324	995	2345	12807	230	18491	36.54
Location 18	7H	7	865	2088	2316	956	2497	9695	18424	36.41
Location 7	4A	182	39	1054	2566	9283	4210	792	18126	35.82
Location 6	3	258	445	2693	2148	688	1876	7126	15234	30.11
Location 4	2B	250	1889	978	1941	795	5032	3594	14479	28.62
Location 17	7G	30	3940	4164	840	634	4073	175	13856	27.38
Location 20	7L	21	4761	529	994	4520	2227	443	13495	26.67
Location 9	5A	273	985	680	2425	3008	4649	1102	13122	25.93
Location 10	5B	56	163	623	2294	202	578	7834	11750	23.22
Location 15	7D	25	25	117	1431	799	4253	3351	10001	19.77
Location 26	10B	108	184	147	1367	7077	734	380	9997	19.76
Location 3	2A	149	0	768	2613	2374	2206	1202	9312	18.40

Combined Assemblage										
Static Location	Parcel Reference	Apr	May	Jun	Jul	Aug	Sept	Oct	Total	Mean BAI (per location)
Location 21	8A	22	490	629	2120	1297	613	2817	7988	15.79
Location 8	4B	19	399	311	2342	2222	269	208	5770	11.40
Location 25	10A	14	186	239	891	735	553	1954	4572	9.04
Location 27	10C	17	21	60	686	540	1344	1251	3919	7.75
Location 23	9	96	186	848	597	373	566	792	3458	6.83
Location 12	7A	42	54	898	1201	345	514	233	3287	6.50
Location 24	9	479	40	391	360	686	513	808	3277	6.48
Location 14	7C	5	41	149	1297	491	370	747	3100	6.13
Location 22	8B	1	284	940	1038	283	151	68	2765	5.46
Location 5	2C	32	215	145	162	1413	310	94	2371	4.69
<b>Total</b>		3528	48994	24755	43255	74707	94931	64365		
<b>Mean BAI (per month)</b>		6.97	96.83	48.92	85.49	147.65	187.62	127.21		
Location Total	354535	Mean BAI per location	700.69 pph							
Month Total	709070	Mean BAI per month	1401.38 pph							

Location 1 (BESS/1B)

- 3.2.34 A total of 10 species (plus *Myotis* spp.) were recorded at Location 1 (**Table 3.12**), with a total of **20751** passes recorded for the combined assemblage across the survey period.
- 3.2.35 Common pipistrelle is the most recorded species, with a peak occurring in September. Soprano pipistrelle is the second most abundant, with a peak in September. The majority of other species were recorded intermittently except for barbastelle which had consistently low numbers recorded throughout the survey period, and was the third highest recorded species at Location 1, with a peak in activity occurring in September.
- 3.2.36 A summary of the total number of passes per species, each month, at Location 1 is provided in **Table 3.12**.

**Table 3.12: Summary of Bat Activity at Location 1.**

Location 1 - BESS/1B								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	3	6	2	1	30	49	24	115
Brown Long-eared Bat			1		17	9		27
Common Pipistrelle	11	178	200	92	312	8588	3834	13215
Daubenton's Bat					1	10	13	24
Leisler's Bat								0
<i>Myotis</i> species	1	37		8				46
Nathusius Pipistrelle			1			3		4
Natterer's bat					1	32	1	34
Noctule				1	5			6
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine								0
Soprano Pipistrelle	4	206	54	7	89	6319	600	7279
Whiskered bat							1	1
<b>Total</b>	19	427	258	109	455	15010	4473	<b>20751</b>

Location 2 (1A/1C)

- 3.2.37 A total of 10 species (plus *Myotis* spp.) were recorded at Location 2 (**Table 3.13**), with a total of **22787** passes recorded for the combined assemblage across the survey period.
- 3.2.38 Common pipistrelle is the most recorded species, with peaks in activity occurring in May and August. Soprano pipistrelle is the second most abundant, with a peak in activity occurring in July and no recorded passes in June. The majority of other species are recorded intermittently, including barbastelle with relatively low numbers of passes each month. Barbastelle is the third most abundant with a peak in activity occurring in July.

3.2.39 A summary of the total number of passes per species, each month, at Location 2 is provided in **Table 3.13**.

**Table 3.13: Summary of Bat Activity at Location 2.**

Location 2 – SS/1A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	1	12	7	58	5	136	1	220
Brown Long-eared bat		2		7				9
Common Pipistrelle	246	6400	1890	643	6577	4673	1271	21700
Daubenton's Bat						11		11
Leisler's Bat								0
<i>Myotis</i> species	5		2	43				50
Nathusius Pipistrelle						4		4
Natterer's bat					18	32	40	90
Noctule			2			2	1	5
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine								0
Soprano Pipistrelle	2	3		468	17	75	132	697
Whiskered bat					1			1
<b>Total</b>	254	6417	1901	1219	6618	4933	1445	<b>22787</b>

Location 3 (2A)

3.2.1 A total of 11 species (plus *Myotis* spp. And *Nyctalus* spp.) were recorded at Location 3 (**Table 3.14**), with a total of **9312** passes recorded for the combined assemblage across the survey period.

3.2.2 Common pipistrelle is the most recorded species, with peaks in activity occurring in July and August, followed by barbastelle with a peak of activity occurring in July and October. The majority of other species are recorded intermittently, including soprano pipistrelle, which also have a peak in activity occurring in October.

3.2.3 A summary of the total number of passes per species, each month, at Location 3 is provided in **Table 3.14**.

**Table 3.14: Summary of Bat Activity at Location 3.**

Location 3 - 2A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	15		31	105	27	42	104	324
Brown Long-eared bat			20	58	27	15	26	146
Common Pipistrelle	128		701	2422	2284	1967	998	8500
Daubenton's Bat	3		1		10	7	3	24
Leisler's Bat								0

Location 3 - 2A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
<i>Myotis</i> species			8	9				17
Nathusius Pipistrelle						2		2
Natterer's bat	1				1	42	7	51
Noctule			2	6	15	9	1	33
<i>Nyctalus</i> species				3				3
<i>Pipistrellus</i> species								0
Serotine			4	1	6		1	12
Soprano Pipistrelle	2		1	9	4	122	62	200
Whiskered bat								0
<b>Total</b>	149	0	768	2613	2374	2206	1202	<b>9312</b>

Location 4 (2B)

- 3.2.4 A total of 10 species (plus *Myotis* spp.) were recorded at Location 4 (**Table 3.15**), with a total of **14479** passes recorded for the combined assemblage across the survey period.
- 3.2.5 Common pipistrelle is the most recorded species, followed by barbastelle, with consistently moderate levels of activity from April to August, with a peak in activity in September and October, indicating high activity levels later in the season. The majority of other species are recorded intermittently, including soprano pipistrelle with relatively low numbers of passes each month and a peak of activity in October, similar to common pipistrelle and barbastelle.
- 3.2.6 A summary of the total number of passes per species, each month, at Location 4 is provided in **Table 3.15**.

**Table 3.15: Summary of Bat Activity at Location 4.**

Location 4 - 2B								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	11	56	48	52	200	500	528	1395
Brown Long-eared bat		1	4	13	10	1	7	36
Common Pipistrelle	239	1830	910	1844	556	4382	2949	12710
Daubenton's Bat				5	7	12		24
Leisler's Bat								0
<i>Myotis</i> species		1	6				1	8
Nathusius Pipistrelle			1					1
Natterer's bat				15	14	127	10	166
Noctule			5	2	2	2		11
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine			2	4				6
Soprano Pipistrelle		1	2	6	6	8	99	122

Location 4 - 2B								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Whiskered bat								0
<b>Total</b>	250	1889	978	1941	795	5032	3594	<b>14479</b>

Location 5 (2C)

- 3.2.7 A total of nine species (plus *Myotis* spp.) were recorded at Location 5 (**Table 3.16**), with a total of **2371** passes recorded for the combined assemblage across the survey period.
- 3.2.8 Common pipistrelle is the most recorded species, with consistently moderate levels of activity recorded and a peak of activity occurring in August. The majority of other species are recorded intermittently, including barbastelle with relatively low numbers of passes throughout the survey period and a peak of activity occurring in September.
- 3.2.9 A summary of the total number of passes per species, each month, at Location 5 is provided in **Table 3.16**.

**Table 3.16: Summary of Bat Activity at Location 5.**

Location 5 – 2C								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	1			4	10	73	19	107
Brown Long-eared bat		1			4	5	3	13
Common Pipistrelle	27	214	136	154	1388	182	70	2171
Daubenton's Bat				1	1	6		8
Leisler's Bat								0
<i>Myotis</i> species			1					1
Nathusius Pipistrelle								0
Natterer's bat					1	12	1	14
Noctule	2		6		6	6		20
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine			2					2
Soprano Pipistrelle	2			3	3	25	1	34
Whiskered bat						1		1
<b>Total</b>	32	215	145	162	1413	310	94	<b>2371</b>

Location 6 (3)

- 3.2.10 A total of 10 species (plus *Myotis* spp.) were recorded at Location 6 (**Table 3.17**), with a total of **15234** passes recorded for the combined assemblage across the survey period.
- 3.2.11 Common pipistrelle is the most recorded species, with a peak in activity occurring in October. Followed by soprano pipistrelle with a peak in activity occurring in October, and barbastelle, with a peak in activity occurring in

September. The majority of other species are recorded intermittently, with relatively low numbers of passes each month.

- 3.2.12 A summary of the total number of passes per species, each month, at Location 6 is provided in **Table 3.17**.

**Table 3.17: Summary of Bat Activity at Location 6.**

Location 6 - 3								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	91		95	156	62	686	272	1362
Brown Long-eared bat	4	21	38	11	2	21	15	112
Common Pipistrelle	137	420	2297	1872	547	493	5375	11141
Daubenton's Bat	4		4	1	2	6	8	25
Leisler's Bat								0
<i>Myotis</i> species	2	2	1	2				7
Nathusius Pipistrelle			4			1		5
Natterer's bat			6		4	20	8	38
Noctule			9	1		5		15
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine			70				1	71
Soprano Pipistrelle	20	2	169	105	71	642	1447	2456
Whiskered bat						2		2
<b>Total</b>	258	445	2693	2148	688	1876	7126	<b>15234</b>

#### Location 7 (4A)

- 3.2.13 A total of 10 species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 7 (**Table 3.18**), with a total of **18126** passes recorded for the combined assemblage across the survey period.

- 3.2.14 Common pipistrelle is the most recorded species, followed by soprano pipistrelle, with consistent activity levels across the month and a peak in August for both pipistrelle species. The majority of other species are recorded intermittently, with moderate to high levels of activity recorded for barbastelle, *Myotis* species, and noctule. A peak in activity was recorded for barbastelle in September, with low levels of activity in April and no recorded passes occurring in May.

- 3.2.15 A summary of the total number of passes per species, each month, at Location 7 is provided in **Table 3.18**.

**Table 3.18: Summary of Bat Activity at Location 7.**

Location 7 - 4A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	3		17	66	94	211	124	515

Location 7 - 4A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Brown Long-eared bat			10	5	2	4	2	23
Common Pipistrelle	16	37	948	1690	6759	3086	257	12793
Daubenton's Bat	1		5			7	3	16
Leisler's Bat								0
<i>Myotis</i> species	17			61	118			196
Nathusius Pipistrelle					1			1
Natterer's bat			20			24	14	58
Noctule	2		10	21	58	79	7	177
<i>Nyctalus</i> species				6	5			11
<i>Pipistrellus</i> species								0
Serotine			8	9	5			22
Soprano Pipistrelle	143	2	36	708	2241	799	385	4314
Whiskered bat								0
<b>Total</b>	182	39	1054	2566	9283	4210	792	<b>18126</b>

#### Location 8 (4B)

- 3.2.16 A total of nine species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 8 (**Table 3.19**), with a total of **5770** passes recorded for the combined assemblage across the survey period.
- 3.2.17 Common pipistrelle is the most recorded species, followed by soprano pipistrelle, with the highest activity levels recorded in July and August for both species. Moderate to high levels of activity was also recorded for barbastelle, noctule, and serotine, given their relative low numbers when compared to their abundance. A peak in activity levels occur in August for barbastelle, with no recorded passes in April.
- 3.2.18 A summary of the total number of passes per species, each month, at Location 8 is provided in **Table 3.19**.

**Table 3.19: Summary of Bat Activity at Location 8.**

Location 8 – 4B								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle		21	8	13	40	16	13	111
Brown Long-eared bat		7	2	14	10	4	10	47
Common Pipistrelle	9	297	219	1402	1517	93	99	3636
Daubenton's Bat	1				6	3	2	12
Leisler's Bat								0
<i>Myotis</i> species	5	12	3	9				29
Nathusius Pipistrelle						4		4
Natterer's bat					18	5	1	24
Noctule	2	9	25	34	39	12	5	126
<i>Nyctalus</i> species				5				5

Location 8 – 4B								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
<i>Pipistrellus</i> species								0
Serotine			5	21	4	1		31
Soprano Pipistrelle	2	53	49	844	588	131	78	1745
Whiskered bat								0
<b>Total</b>	19	399	311	2342	2222	269	208	<b>5770</b>

Location 9 (5A)

- 3.2.19 A total of nine species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 9 (**Table 3.20**), with a total of **13122** passes recorded for the combined assemblage across the survey period.
- 3.2.20 Common pipistrelle is the most recorded species, with a peak in activity occurring in September, followed by soprano pipistrelle, with a peak in activity occurring August. Relatively high numbers of barbastelle were also recorded, with a peak in activity occurring in July and no recorded passes in April.
- 3.2.21 A summary of the total number of passes per species, each month, at Location 9 is provided in **Table 3.21**.

**Table 3.20: Summary of Bat Activity at Location 9.**

Location 9 - 5A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle		10	11	114	12	36	53	236
Brown Long-eared bat		2	3	1	3	9		18
Common Pipistrelle	265	929	612	2153	546	3653	880	9038
Daubenton's Bat	1	1				11	2	15
Leisler's Bat								0
<i>Myotis</i> species	1	10	2	5	21			39
Nathusius' Pipistrelle						7		7
Natterer's bat						2		2
Noctule			3	5	3	11		22
<i>Nyctalus</i> species				4				4
<i>Pipistrellus</i> species								0
Serotine			1					1
Soprano Pipistrelle	6	33	48	143	2423	920	167	3740
Whiskered bat								0
<b>Total</b>	273	985	680	2425	3008	4649	1102	<b>13122</b>

Location 10 (5B)

- 3.2.22 A total of nine species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 10 (**Table 3.21**), with a total of **11750** passes recorded for the combined assemblage across the survey period.

- 3.2.23 Common pipistrelle is the most recorded species, followed by soprano pipistrelle, with a peak in activity occurring in October for both species. Relatively high numbers of barbastelle calls were recorded, with a peak in activity occurring in September for this species.
- 3.2.24 A summary of the total number of passes per species, each month, at Location 10 is provided in **Table 3.22**.

**Table 3.21: Summary of Bat Activity at Location 10.**

Location 10 - 5B								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	21		9	25	31	100	77	263
Brown Long-eared bat	1	6	11	7		13	4	42
Common Pipistrelle	3	129	522	1296	133	357	6237	8677
Daubenton's Bat		1				7	2	10
Leisler's Bat								0
<i>Myotis</i> species	1	4	2	13				20
Nathusius' Pipistrelle						2	1	3
Natterer's bat			2		2	22	5	31
Noctule		1	6	4		2		13
<i>Nyctalus</i> species				2				2
<i>Pipistrellus</i> species								0
Serotine			7	10				17
Soprano Pipistrelle	30	22	64	937	36	75	1508	2672
Whiskered bat								0
<b>Total</b>	56	163	623	2294	202	578	7834	<b>11750</b>

Location 11 (6)

- 3.2.25 A total of 10 species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 11 (**Table 3.22**), with a total of **36067** passes recorded for the combined assemblage across the survey period.
- 3.2.26 Common pipistrelle is the most recorded species, with a peak in activity occurring in September, followed by soprano pipistrelle with a peak of activity occurring in September. Relatively low numbers of other species were recorded, including barbastelle, with a peak in activity occurring in October and no recorded activity in May.
- 3.2.27 A summary of the total number of passes per species, each month, at Location 11 is provided in **Table 3.22**.

**Table 3.22: Summary of Bat Activity at Location 11.**

Location 11 - 6								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	20			8	3	48	155	234

Location 11 - 6								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Brown Long-eared bat	3	3		2	5	19	3	35
Common Pipistrelle	367	1608		1444	3763	16932	11025	35139
Daubenton's Bat		3				15	54	72
Leisler's Bat								0
<i>Myotis</i> species				7	5			12
Nathusius' Pipistrelle						14		14
Natterer's bat						19	22	41
Noctule		1		8	6			15
<i>Nyctalus</i> species					2			2
<i>Pipistrellus</i> species								0
Serotine						1		1
Soprano Pipistrelle	16	9		21	18	295	141	500
Whiskered bat						1	1	2
<b>Total</b>	406	1624	0	1490	3802	17344	11401	<b>36067</b>

Location 12 (7A)

- 3.2.28 A total of 10 species (plus *Myotis* spp.) were recorded at Location 12 (**Table 3.23**), with a total of **3287** passes recorded for the combined assemblage across the survey period.
- 3.2.29 Soprano pipistrelle is the most recorded species, followed by common pipistrelle, with consistently low levels of activity and a peak in activity in July for both species. Other species were recorded intermittently, and barbastelle was recorded consistently throughout, with a peak of activity in July.
- 3.2.30 A summary of the total number of passes per species, each month, at Location 12 is provided in **Table 3.23**.

**Table 3.23: Summary of Bat Activity at Location 12.**

Location 12 - 7A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	4	2	13	63	47	8	27	164
Brown Long-eared bat			7	31	50	9	1	98
Common Pipistrelle	2	27	372	396	143	117	63	1120
Daubenton's Bat				2	2	5		9
Leisler's Bat							1	1
<i>Myotis</i> species	35	15	41					91
Nathusius Pipistrelle			1			5		6
Natterer's bat				8	16	6	1	31
Noctule		3	19	44	22	10	3	101
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0

Location 12 - 7A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Serotine			5	5	3	1		14
Soprano Pipistrelle	1	7	440	652	62	353	137	1652
Whiskered bat								0
<b>Total</b>	42	54	898	1201	345	514	233	<b>3287</b>

### Location 13 (7C)

- 3.2.31 A total of nine species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 13 (**Table 3.24**), with a total of **21272** passes recorded for the combined assemblage across the survey period.
- 3.2.32 Common pipistrelle is the most recorded species, with a peak of activity in August, followed by soprano pipistrelle, with a peak in activity occurring in September. The majority of other species were recorded intermittently, and barbastelle were recorded consistently throughout, with a peak in activity occurring in August for this species.
- 3.2.33 A summary of the total number of passes per species, each month, at Location 13 is provided in **Table 3.24**.

**Table 3.24: Summary of Bat Activity at Location 13.**

Location 13 - 7C								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	7	170	49	64	279	189	48	806
Brown Long-eared bat		4	20	25	24	36	13	122
Common Pipistrelle	47	3049	557	1342	5084	2736	837	13652
Daubenton's Bat				1	5	7	1	14
Leisler's Bat								0
<i>Myotis</i> species	5	41	1	10	3			60
Nathusius Pipistrelle		1				2	1	4
Natterer's bat					18	24		42
Noctule		8	9	53	19	11		100
<i>Nyctalus</i> species				3				3
<i>Pipistrellus</i> species								0
Serotine			4	5	6			15
Soprano Pipistrelle	4	5007	139	381	364	509	50	6454
Whiskered bat								0
<b>Total</b>	63	8280	779	1884	5802	3514	950	<b>21272</b>

### Location 14 (7C)

- 3.2.34 A total of nine species (plus *Myotis* spp.) were recorded at Location 14 (**Table 3.25**), with a total of **3100** passes recorded for the combined assemblage across the survey period.

- 3.2.35 Common pipistrelle is the most recorded species, with a peak in activity occurring in July followed by soprano pipistrelle, with a peak in activity occurring in September. The majority of other species were recorded intermittently, with relatively high numbers of activity recorded for barbastelle, with a peak in activity occurring in October.
- 3.2.36 A summary of the total number of passes per species, each month, at Location 14 is provided in **Table 3.25**.

**Table 3.25: Summary of Bat Activity at Location 14.**

Location 14 – 7C								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle		1	3	25	40	6	79	154
Brown Long-eared bat		3	3	5	37	31	15	94
Common Pipistrelle	2	17	53	1102	194	70	478	1916
Daubenton's Bat	1			4		3	2	10
Leisler's Bat								0
<i>Myotis</i> species		1						1
Nathusius Pipistrelle	1					4		5
Natterer's bat				16	15		1	32
Noctule	1	4	9	28	13		2	57
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine			3	45	3			51
Soprano Pipistrelle		15	78	72	189	256	170	780
Whiskered bat								0
<b>Total</b>	5	41	149	1297	491	370	747	<b>3100</b>

Location 15 (7D)

- 3.2.37 A total of 10 species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 15 (**Table 3.26**), with a total of **10001** passes recorded for the combined assemblage across the survey period.
- 3.2.38 Soprano pipistrelle is the most recorded species, with a peak in activity occurring in September, followed by common pipistrelle with a peak in activity occurring in October. Barbastelle was the third most abundant, with a peak in activity occurring in July for this species. A summary of the total number of passes per species, each month, at Location 15 is provided in **Table 3.26**.

**Table 3.26: Summary of Bat Activity at Location 15.**

Location 15 – 7D								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle			7	106	33	85	33	264
Brown Long-eared bat	1	2	1	23	24	15	2	68
Common Pipistrelle	13	11	80	1005	523	947	1642	4221

Location 15 – 7D								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Daubenton's Bat	1				5	7	1	14
Leisler's Bat							1	1
<i>Myotis</i> species	5	2	7	43				57
Nathusius' Pipistrelle						11		11
Natterer's bat					3	55	15	73
Noctule		6	10	35	14	49	2	116
<i>Nyctalus</i> species			1	4				5
<i>Pipistrellus</i> species								0
Serotine			5	6	1			12
Soprano Pipistrelle	5	4	6	209	196	3084	1655	5159
Whiskered bat						85		0
<b>Total</b>	25	25	117	1431	799	4253	3351	<b>10001</b>

Location 16 (7E/7F)

- 3.2.39 A total of nine species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 16 (**Table 3.27**), with a total of **18491** passes recorded for the combined assemblage across the survey period.
- 3.2.40 Common pipistrelle is the most recorded species, followed by soprano pipistrelle, with a peak in activity occurring in September for both species. Other species were recorded intermittently, and barbastelle were recorded consistently throughout, with a peak in activity occurring in September for this species.
- 3.2.41 A summary of the total number of passes per species, each month, at Location 16 is provided in **Table 3.27**.

**Table 3.27: Summary of Bat Activity at Location 16.**

Location 16 – 7E/7F								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	2	6	1	18	37	115	47	226
Brown Long-eared bat		6	1	25	14	70		116
Common Pipistrelle	100	1180	277	799	2152	10588	106	15202
Daubenton's Bat	1				2	10	2	15
Leisler's Bat								0
<i>Myotis</i> species	5	16						21
Nathusius Pipistrelle						4		4
Natterer's bat				33	18	43	11	105
Noctule		1	5	37	21	42		106
<i>Nyctalus</i> species			2					2
<i>Pipistrellus</i> species								0
Serotine			2	1		1		4

Location 16 – 7E/7F								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Soprano Pipistrelle	12	461	36	82	101	1934	64	2690
Whiskered bat						115		0
<b>Total</b>	120	1670	324	995	2345	12807	230	<b>18491</b>

Location 17 (7F/7G)

- 3.2.42 A total of nine species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 17 (**Table 3.28**), with a total of **13856** passes recorded for the combined assemblage across the survey period.
- 3.2.43 Common pipistrelle is the most recorded species, with a peak in activity occurring in September. Followed by barbastelle, which is the second most abundant, with consistently moderate levels of activity from April to October, and a peak in activity occurring in May and June, indicating high activity levels earlier in the season. Relatively high levels of *Myotis* species, Natterer’s bat, noctule, and serotine was also recorded.
- 3.2.44 A summary of the total number of passes per species, each month, at Location 17 is provided in **Table 3.28**.

**Table 3.28: Summary of Bat Activity at Location 17.**

Location 17 – 7F/7G								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	5	472	371	84	113	87	38	1170
Brown Long-eared bat			4		25	3	3	35
Common Pipistrelle		3216	3625	680	403	3734	86	11744
Daubenton’s Bat	1		2		3	1	2	9
Leisler’s Bat								0
<i>Myotis</i> species	14	13		6				33
Nathusius’ Pipistrelle			1		1	3		5
Natterer’s bat			9		27	82	10	128
Noctule		7	15	22	13	4	2	63
<i>Nyctalus</i> species				3				3
<i>Pipistrellus</i> species								0
Serotine		2	15		2			19
Soprano Pipistrelle	10	230	122	45	47	159	34	647
Whiskered bat						87		0
<b>Total</b>	30	3940	4164	840	634	4073	175	<b>13856</b>

Location 18 (7H)

- 3.2.45 A total of 10 species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 18 (**Table 3.29**), with a total of **18424** passes recorded for the combined assemblage across the survey period.

- 3.2.46 Common pipistrelle is the most recorded species, with a peak in activity occurring in October, followed by soprano pipistrelle, with a peak in activity occurring in October. Barbastelle is the third most abundant, with a peak in activity occurring in September and no recorded passes in April or May. The majority of other species are recorded intermittently, with relatively low levels of activity across the season.
- 3.2.47 A summary of the total number of passes per species, each month, at Location 18 is provided in **Table 3.29**.

**Table 3.29: Summary of Bat Activity at Location 18.**

Location 18 – 7H								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle			35	67	55	129	40	326
Brown Long-eared bat			1		4	3	4	12
Common Pipistrelle	2	812	1864	1961	613	1802	4320	11374
Daubenton's Bat					2	5	2	9
Leisler's Bat							2	2
<i>Myotis</i> species	1		1	2				4
Nathusius' Pipistrelle		2				1		3
Natterer's bat	2		3		1	13	1	20
Noctule	2	6	8	1	16	8	5	46
<i>Nyctalus</i> species				2				2
<i>Pipistrellus</i> species								0
Serotine			1			1		2
Soprano Pipistrelle		45	175	283	265	535	5321	6624
Whiskered bat						129		0
<b>Total</b>	<b>7</b>	<b>865</b>	<b>2088</b>	<b>2316</b>	<b>956</b>	<b>2497</b>	<b>9695</b>	<b>18424</b>

Location 19 (7I/7J/7K)

- 3.2.48 A total of nine species (plus *Myotis* spp.) were recorded at Location 19 (**Table 3.30**), with a total of **26960** passes recorded for the combined assemblage across the survey period.
- 3.2.49 Common pipistrelle is the most recorded species, followed by soprano pipistrelle, with a peak in activity occurring in May for both species. Barbastelle was recorded consistently each month, with a peak in activity occurring in July and August. Other species are recorded intermittently, with whiskered bat being recorded the least.
- 3.2.50 A summary of the total number of passes per species, each month, at Location 19 is provided in **Table 3.30**.

**Table 3.30: Summary of Bat Activity at Location 19.**

Location 19 – 7I/7J/7K								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	28	31	42	225	251	85	58	720
Brown Long-eared bat			8	3	34	20	3	68
Common Pipistrelle	134	11175	1888	1722	2205	136	239	17499
Daubenton's Bat	3	1		1	10	3		18
Leisler's Bat								0
<i>Myotis</i> species	5	75	10	18				108
Nathusius Pipistrelle	2	4	1					7
Natterer's bat		5			14	4	3	26
Noctule	1	6	3	19	21	27	4	81
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine			5		5			10
Soprano Pipistrelle	111	3197	456	2287	1332	338	702	8423
Whiskered bat								0
<b>Total</b>	<b>284</b>	<b>14494</b>	<b>2413</b>	<b>4275</b>	<b>3872</b>	<b>613</b>	<b>1009</b>	<b>26960</b>

Location 20 (7K/7L)

- 3.2.51 A total of eight species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 20 (**Table 3.31**), with a total of **13495** passes recorded for the combined assemblage across the survey period.
- 3.2.52 Common pipistrelle is the most recorded species, with a peak of activity occurring in May, followed by soprano pipistrelle with a peak in activity occurring in August. Barbastelle is the third most abundant with a peak in activity occurring in August for this species. The majority of other species were recorded intermittently.
- 3.2.53 A summary of the total number of passes per species, each month, at Location 20 is provided in **Table 3.31**.

**Table 3.31: Summary of Bat Activity at Location 20.**

Location 20 – 7K/7L								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	2	86	24	14	327	102	32	587
Brown Long-eared bat			1	6	47	20	2	76
Common Pipistrelle	11	4346	466	899	3653	1783	349	11507
Daubenton's Bat					8	2		10
Leisler's Bat								0
<i>Myotis</i> species	7	5	4					16
Nathusius Pipistrelle		1	1				1	3
Natterer's bat				1	27	16	3	47

Location 20 – 7K/7L								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Noctule			7	42	36	55	1	141
<i>Nyctalus</i> species			9					9
<i>Pipistrellus</i> species								0
Serotine								0
Soprano Pipistrelle	1	323	17	32	422	249	55	1099
Whiskered bat						102		0
<b>Total</b>	21	4761	529	994	4520	2227	443	<b>13495</b>

Location 21 (8A)

- 3.2.54 A total of 10 species (plus *Myotis* spp.) were recorded at Location 21 (**Table 3.32**), with a total of **7988** passes recorded for the combined assemblage across the survey period.
- 3.2.55 Common pipistrelle is the most recorded species, followed by soprano pipistrelle with a peak in activity occurring in October for both species. Relatively high numbers of barbastelle and noctule were also recorded, with a peak of activity occurring in July for barbastelle and July and August for noctule. The majority of other species were recorded intermittently, with low activity across the season.
- 3.2.56 A summary of the total number of passes per species, each month, at Location 21 is provided in **Table 3.32**.

**Table 3.32: Summary of Bat Activity at Location 21.**

Location 21 – 8A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle		2	29	218	56	85	17	407
Brown Long-eared bat			6	42	15	20		83
Common Pipistrelle	15	435	143	656	579	136	1573	3537
Daubenton's Bat				2	7	3	1	13
Leisler's Bat								0
<i>Myotis</i> species	3	12	58		2			75
Nathusius Pipistrelle	2							2
Natterer's bat		1		15		4		20
Noctule		7	37	471	370	27	17	929
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine			11	23	17			51
Soprano Pipistrelle	2	33	345	692	251	338	1209	2870
Whiskered bat				1				1
<b>Total</b>	22	490	629	2120	1297	613	2817	<b>7988</b>

Location 22 (8B)

- 3.2.57 A total of nine species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 22 (**Table 3.33**), with a total of **2765** passes recorded for the combined assemblage across the survey period.
- 3.2.58 Common pipistrelle is the most recorded species, with a peak in activity occurring in June, followed by soprano pipistrelle with a peak of activity occurring in July. The majority of other species are recorded intermittently, including barbastelle, with low levels of passes each month for these species. Barbastelle activity was recorded highest in October, with no passes in April.
- 3.2.59 A summary of the total number of passes per species, each month, at Location 23 is provided in **Table 3.33**.

**Table 3.33: Summary of Bat Activity at Location 22.**

Location 22 - 8B								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle		11	6	6	12	10	14	59
Brown Long-eared bat		1	3	5	22	5	1	37
Common Pipistrelle		126	544	398	87	28	11	1194
Daubenton's Bat		4			5			9
Leisler's Bat								0
<i>Myotis</i> species	1	2	88	16				107
Nathusius Pipistrelle						3		3
Natterer's bat		47			4	3		54
Noctule		5	12	14	23	40	7	101
<i>Nyctalus</i> species			1	7				8
<i>Pipistrellus</i> species								0
Serotine		1		4	4			9
Soprano Pipistrelle		87	286	588	126	62	35	1184
Whiskered bat								0
<b>Total</b>	1	284	940	1038	283	151	68	2765

Location 23 (9)

- 3.2.60 A total of nine species (plus *Myotis* spp.) were recorded at Location 23 (**Table 3.34**), with a total of **3458** passes recorded for the combined assemblage across the survey period.
- 3.2.61 Common pipistrelle is the most recorded species, with a peak in activity occurring in June. Followed by soprano pipistrelle, with a peak in activity occurring in October. The majority of other species are recorded intermittently with relatively low numbers of passes each month. Barbastelle is the third most abundant, with a peak in activity occurring in October for this species.
- 3.2.62 A summary of the total number of passes per species, each month, at Location 23 is provided in **Table 3.34**.

**Table 3.34: Summary of Bat Activity at Location 23.**

Location 23 - 9								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	4	21	12	56	20	19	124	256
Brown Long-eared bat		12	13	7	10	16	2	60
Common Pipistrelle	85	107	517	303	270	231	257	1770
Daubenton's Bat	1			1	5	2	3	12
Leisler's Bat								0
<i>Myotis</i> species	6							6
Nathusius Pipistrelle						1		1
Natterer's bat						8	14	22
Noctule		16	14	28	18	47	7	130
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine				5				5
Soprano Pipistrelle		30	292	197	50	242	385	1196
Whiskered bat								0
<b>Total</b>	96	186	848	597	373	566	792	<b>3458</b>

Location 24 (9)

- 3.2.63 A total of 10 species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 24 (**Table 3.35**), with a total of **3277** passes recorded for the combined assemblage across the survey period.
- 3.2.64 Common pipistrelle is the most recorded species, with a peak in activity occurring in August, followed by soprano pipistrelle, with a peak of activity occurring October. The majority of other species were recorded intermittently, including barbastelle with relatively low numbers of passes each month and a peak of activity in October.
- 3.2.65 A summary of the total number of passes per species, each month, at Location 24 is provided in **Table 3.35**.

**Table 3.35: Summary of Bat Activity at Location 24.**

Location 24 - 9								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle			1	8	8	17	37	71
Brown Long-eared bat		2	1	1	9	9	2	24
Common Pipistrelle	373	12	251	239	579	275	389	2118
Daubenton's Bat	1	2			9	4	1	17
Leisler's Bat	3							3
<i>Myotis</i> species	1	1		3				5
Nathusius Pipistrelle						1		1

Location 24 - 9								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Natterer's bat					2	8	31	41
Noctule		7	8	18	12	64	1	110
<i>Nyctalus</i> species				8				8
<i>Pipistrellus</i> species								0
Serotine			1	2	2			5
Soprano Pipistrelle	101	16	129	81	65	135	347	874
Whiskered bat								0
<b>Total</b>	479	40	391	360	686	513	808	<b>3277</b>

Location 25 (10A)

- 3.2.66 A total of ten species (plus *Myotis* spp.) were recorded at Location 25 (**Table 3.36**), with a total of **4572** passes recorded for the combined assemblage across the survey period.
- 3.2.67 Common pipistrelle is the most recorded species, with a peak in activity occurring in October, followed by soprano pipistrelle with a peak of activity occurring in July. The majority of other species were recorded intermittently, including barbastelle, with activity recorded only between August and October, and no recorded activity from April to July inclusive.
- 3.2.68 A summary of the total number of passes per species, each month, at Location 25 is provided in **Table 3.36**.

**Table 3.36: Summary of Bat Activity at Location 25.**

Location 25 - 10A								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle					2	11	18	31
Brown Long-eared bat	3		3	1	37	6	6	56
Common Pipistrelle	3	174	199	658	579	516	1785	3914
Daubenton's Bat					1		2	3
Leisler's Bat								0
<i>Myotis</i> species	6	1						7
Nathusius Pipistrelle							2	2
Natterer's bat				4	26	5	5	40
Noctule		7	20	12	21	4		64
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine			1					1
Soprano Pipistrelle	2	4	16	216	69	10	136	453
Whiskered bat						1		1
<b>Total</b>	14	186	239	891	735	553	1954	<b>4572</b>

Location 26 (10B)

- 3.2.69 A total of eight species (plus *Myotis* spp. and *Nyctalus* Spp.) were recorded at Location 26 (**Table 3.37**), with a total of **9997** passes recorded for the combined assemblage across the survey period.
- 3.2.70 Soprano pipistrelle is the most recorded species, followed by common pipistrelle, with a peak of activity occurring in August for both species. Relatively high numbers of activity were recorded for barbastelle, with a peak of activity in July. The majority of other species are recorded intermittently, with relatively low numbers of passes each month.
- 3.2.71 A summary of the total number of passes per species, each month, at Location 26 is provided in **Table 3.37**.

**Table 3.37: Summary of Bat Activity at Location 26.**

Location 26 – 10B								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	33		16	487	243	284	56	1119
Brown Long-eared bat	3	3	17	9	15	9	17	73
Common Pipistrelle	15	168	74	577	2678	190	45	3747
Daubenton's Bat		2			2	5		9
Leisler's Bat								0
<i>Myotis</i> species	53		2	8	2			65
Nathusius' Pipistrelle								0
Natterer's bat					1	93	3	97
Noctule		1	21	14	26	5		67
<i>Nyctalus</i> species				4				4
<i>Pipistrellus</i> species								0
Serotine			1	1				2
Soprano Pipistrelle	4	10	16	267	4110	148	259	4814
Whiskered bat								0
<b>Total</b>	108	184	147	1367	7077	734	380	<b>9997</b>

Location 27 (10C)

- 3.2.72 A total of nine species (plus *Myotis* spp. and *Pipistrellus* Spp.) were recorded at Location 27 (**Table 3.38**), with a total of **3919** passes recorded for the combined assemblage across the survey period.
- 3.2.73 Common pipistrelle is the most recorded species, with a peak of activity occurring in September, followed by soprano pipistrelle, with a peak of activity occurring in October. The majority of other species are recorded intermittently, including barbastelle, with the highest recorded activity recorded in September for this species.
- 3.2.74 A summary of the total number of passes per species, each month, at Location 27 is provided in **Table 3.38**.

**Table 3.38: Summary of Bat Activity at Location 27.**

Location 27 – 10C								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	1		2	7	26	116	36	188
Brown Long-eared bat			2	3	12	10	1	28
Common Pipistrelle		19	37	542	300	855	96	1849
Daubenton's Bat					2	5		7
Leisler's Bat								0
<i>Myotis</i> species	6	2		10				18
Nathusius Pipistrelle				2		1		3
Natterer's bat					100	5		105
Noctule	7		12	14	89	13	2	137
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species	3							3
Serotine			2	7				9
Soprano Pipistrelle			5	101	11	339	1116	1572
Whiskered bat								0
<b>Total</b>	17	21	60	686	540	1344	1251	<b>3919</b>

Location 28 (10E)

- 3.2.75 A total of eight species (plus *Myotis* spp.) were recorded at Location 28 (**Table 3.39**), with a total of **19904** passes recorded for the combined assemblage across the survey period.
- 3.2.76 Common pipistrelle is the most recorded species, with high levels of activity recorded, and a peak of activity occurring in August. Followed by soprano pipistrelle with a peak of activity in August. Barbastelle was the third most abundant with a peak of activity in August. The majority of other species were recorded intermittently.
- 3.2.77 A summary of the total number of passes per species, each month, at Location 28 is provided in **Table 3.39**.

**Table 3.39: Summary of Bat Activity at Location 28.**

Location 29 – 10E								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Barbastelle	1	27	1	1	212	24	3	269
Brown Long-eared bat					28	17		45
Common Pipistrelle	223	693	545	1506	10397	2678	154	16196
Daubenton's Bat	10	1			20	2	1	34
Leisler's Bat								0
<i>Myotis</i> species	22							22
Nathusius' Pipistrelle					2	4	1	7

Location 29 – 10E								
Species	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
Natterer's bat			9	16	32	11		68
Noctule	7	1		76	143	8	12	247
<i>Nyctalus</i> species								0
<i>Pipistrellus</i> species								0
Serotine					8			8
Soprano Pipistrelle	33	148	74	55	2250	428	20	3008
Whiskered bat								0
<b>Total</b>	296	870	629	1654	13092	3172	191	19904

## 4 Evaluation and Conclusion

### 4.1 Evaluation

4.1.1 A total of 10 bat species were recorded with the Order Limits during the NBW transect surveys and 11 during the automated static detector surveys (the additional species being occasional detections of Whiskered bat). These are as follows (in order of highest to lowest species BAI):

- Common pipistrelle
- Soprano pipistrelle
- Barbastelle bat
- Noctule
- Brown long-eared bat
- Natterer's bat
- Serotine
- Daubenton's bat
- Nathusius' pipistrelle
- Leisler's
- Whiskered bat (statics only)

4.1.2 In addition, a number of calls attributed to species groups, but which could not be identified to species level, were recorded for *Myotis*, *Nyctalus* and *Pipistrellus* species.

4.1.3 Common pipistrelle was the most abundant recorded species, with a high BAI of 516.38 pph, constituting 73.70% of total bat passes. This indicates high levels of activity and a strong presence across the Order Limits. Soprano pipistrelle has the second highest BAI of 144.78 pph, followed by barbastelle and noctule with BAI values of 23.12 pph and 6.01 pph, respectively.

4.1.4 Species distribution and activity levels across the Order Limits was fairly consistent, with between seven and 10 species recorded at each location. Five species; Barbastelle, brown long-eared bat, common pipistrelle, soprano pipistrelle and noctule were recorded at every location. *Myotis* spp. were also recorded at each location with recordings identified to species level recorded for Daubenton's bat and Natterer's bat at all but one location each.

4.1.5 Location 11 (Site 6) had the highest BAI with 71.28 pph, indicating high activity levels, and potentially favourable habitats. Habitats present at this location include a small woodland copse and arable field. Location 19 (Sub-Site 7J) and Location 2 (Sub-Site 1A) had the next highest BAI with 53.28 pph and 45.04 pph, respectively.

4.1.6 Sites with the lowest BAI were Location 5 (Sub-Site 2C) scoring 4.69 pph, Location 22 (Sub-Site 8B) which scored 5.49 pph and Location 14 (Sub-Site 7C) which scored 6.13 pph. There is no immediate explanation for this pattern given that Sub-Site 7C is located close to 7J where the second highest levels of activity occurred. Location 5 and 14 were comparatively close to the main

- A140 road; however, other recording Locations also adjacent to the road and in close proximity to the well-lit roundabout (Location 7 and 8, Sub-Sites 4A and 4B) scored more highly (35.82 pph and 11.40 pph, respectively).
- 4.1.7 The less commonly occurring species; Nathusius' pipistrelle, whiskered bat, serotine and Leisler's bat showed no specific distribution within the Order Limits occurring within a range of different Sub-Sites spread throughout the Order Limits
- 4.1.8 All bat species within the Order Limits are known to occur in East Anglia, with barbastelle being the 'rarest' bat in the UK (Reason & Wray, 2025). However, East Anglia is known to support a highly significant population of barbastelle bat on a national scale. Norfolk is considered a stronghold for this species and has subsequently been identified as one of the core areas suitable for the implementation of the species recovery programme (Harris, 2020). As such, it is not unexpected that barbastelle was recorded across all sample locations within the Order Limits.
- 4.1.9 Barbastelle activity across the Order Limits was high, with this species being the third most abundant, based on species BAI. Barbastelle were detected at every location throughout the survey area with peaks in activity occurring in July, August, September, and October. This indicates higher levels of activity later in the season and may be due to the high number of roost sites known to occur within 2km of the Order Limits all of which have CRZ overlapping the survey area.
- 4.1.10 Temporal analysis suggests that bat activity was most frequent in August and October with 1417.65pph and 127.21pph, respectively. April had the lowest mean BAI with 6.97pph, indicating different levels of activity throughout the year due to seasonal factors or important ecological events such as breeding, or an increase in prey availability.
- 4.1.11 The species most frequently detected within their typical emergence times were Common pipistrelle and soprano pipistrelle which is reflective of the fact that they are the most common species (locally and nationally). Location 13 (Sub-Site 7C) had a noticeably higher number of potential emergence registrations than the other survey areas (predominantly common pipistrelle) including five different species (common pipistrelle, soprano pipistrelle, noctule, Brown long-eared bat and barbastelle). This location is adjacent to an off-site woodland block and close to Hempnall Beck with its associated woodland habitats that could offer tree roosting opportunities. There are also a number of farms which may offer building roosts. Whilst this location itself lacks roosting features it is likely that the more diverse habitats in this area (woodland and wetland habitats) provide an important foraging opportunities for a range of bat species following emergence.
- 4.1.12 Detectors located in parcel 4A and 10B also recorded high numbers of call within their emergence times. Parcel 4A had good connectivity with the river corridor around Hempnall Beck which may offer tree roosting opportunities and also with the village of Tasburgh which will provide numerous building

- roost opportunities. The habitats around 10B, located at the opposite (western) side of the Order Limits include woodland blocks, strips of woodland and an area of parkland associated with Hedenham Hall which are all likely to provide roosting opportunities as well as providing connectivity with Sub-Site 10B.
- 4.1.13 Soprano pipistrelle was the most common species detected within its emergence times in several of the detector locations; Location 7 (Sub-Site 4A), Location 18 (Sub-Site 7H), Location 19 (Sub-Site 7J) and Location 26 (Sub-Site 10B). as noted above, Sub-Sites 4A and 10B had high numbers of calls overall and soprano pipistrelle made up the greatest proportion of the emergence time calls detected at these locations. Sub-Site 7H is adjacent to a woodland block and 7J is 200m further east.
- 4.1.14 Noctule were most commonly recorded within their emergence times in Location 21 (8A) which is adjacent to a block of woodland and may indicate the presence of a roost next to the Order Limits. As with several other species it was also recorded at Location 7 (Sub-Site 4A) and additionally at Location 28 (10E) which is close to a large (c.65ha) area of ancient woodland (Brooke Wood) which would likely offer numerous roosting opportunities for this species and is located less than 100m from this Sub-Site
- 4.1.15 Barbastelle were most frequently detected within their emergence times at Location 18 (7H) on edge of woodland block less than 1km from Saxlingham Grove where there is a known roost; Location 6 (Sub-Site 3) adjacent to Spring Wood, Hempnall CWS (known barbastelle roost site and foraging area) and Location 13 (7C) which had the most diverse and highest number of species at and is located c.2km west of Saxlingham Grove. All of these locations are within the known foraging areas associated with roosts that have been monitored although so are many of the other locations. It is possible that features (likely trees) located within or adjacent to these locations provide roosts for individuals of this species and may support the main maternity populations as it is known that tree roosts are not used as faithfully as those in buildings.

## Geographic Assessment

- 4.1.16 **Table 4.1** presents the evaluation of the importance of the bat assemblage across the Order Limits, based on the relevant regions bat guidance (East Anglia to the Wash) (Collins, 2023). Overall, the Order Limits was assessed as having **national importance**. Species distribution and abundance across the Sub-Sites was consistent, with no significant variation in numbers of species present at each static location. Notably, barbastelle activity was recorded at every location across the survey area.

**Table 4.1: Evaluation of the Importance of the Bat Assemblage Present Across the Order Limits, as per Reason & Wray (2023).**

Species	Importance of commuting and foraging (summary)	Importance of assemblage (Table 2.5)
<b>Widespread – 1 point per species</b> Common pipistrelle Soprano pipistrelle Brown long-eared bat	On-site habitats include arable fields, native hedgerows, woodland, scattered trees, ditches, and waterbodies.  Woodland parcels within proximity to or immediately adjacent to the Order Limits provide roosting, foraging, and commuting for a number of tree dwelling bat species. Vegetated habitats within and adjacent to the Order Limits are likely to provide abundant foraging and commuting opportunities for bats, further connecting the Order Limits to suitable habitats in the wider landscape.  The on-site habitat represents moderate quality foraging and commuting habitat when assessed against Bat Survey Guidelines (Collins, 2023). The habitats within the red line boundary are widespread in terms of characteristics. However, the activity levels of the above assemblages show a high level of usage from a diverse range of bat species. Taking this into account, the habitats within the Order Limits are of up to national level importance.	3 points
<b>Widespread but not as abundant in all geographies – 2 points per species</b> Natterer’s bat Noctule Daubenton’s bat		6 points
<b>Rare or Restricted in Southern England -3 points per species</b> Serotine Leisler’s bat Nathusius’ pipistrelle		9 points
<b>Rarest Annex II species and very rare -4 points per species</b> Barbastelle		4 points
<b>Total</b>		<b>22</b>
<b>Maximum possible (Threshold)</b>		<b>28</b>
<b>Percentage of Maximum Threshold</b>		<b>78%</b>
<b>Importance Threshold Crossed</b>		<b>National</b>

## 4.2 Conclusion

- 4.2.1 Given the level of activity within the Order Limits, across each location, it can be concluded that the Order Limits provide good foraging and commuting resources for bats above what would generally be expected for the moderate quality value habitats present within the Order Limits.
- 4.2.2 Key ecological features and variety of habitats within the Order Limits, ranging from arable fields to woodland likely contribute to high levels of bat activity due to good connectivity and prey abundance for commuting and foraging bats.
- 4.2.3 The presence of less abundant species Noctule, Natterer’s bat and Daubenton’s bat highlights the presence of species with more specific habitat requirements, indicating the occurrence of more specialised and significant habitats surrounding Order Limits, though none were frequently detected and

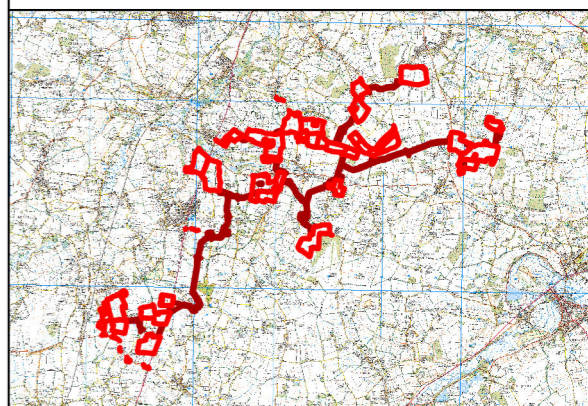
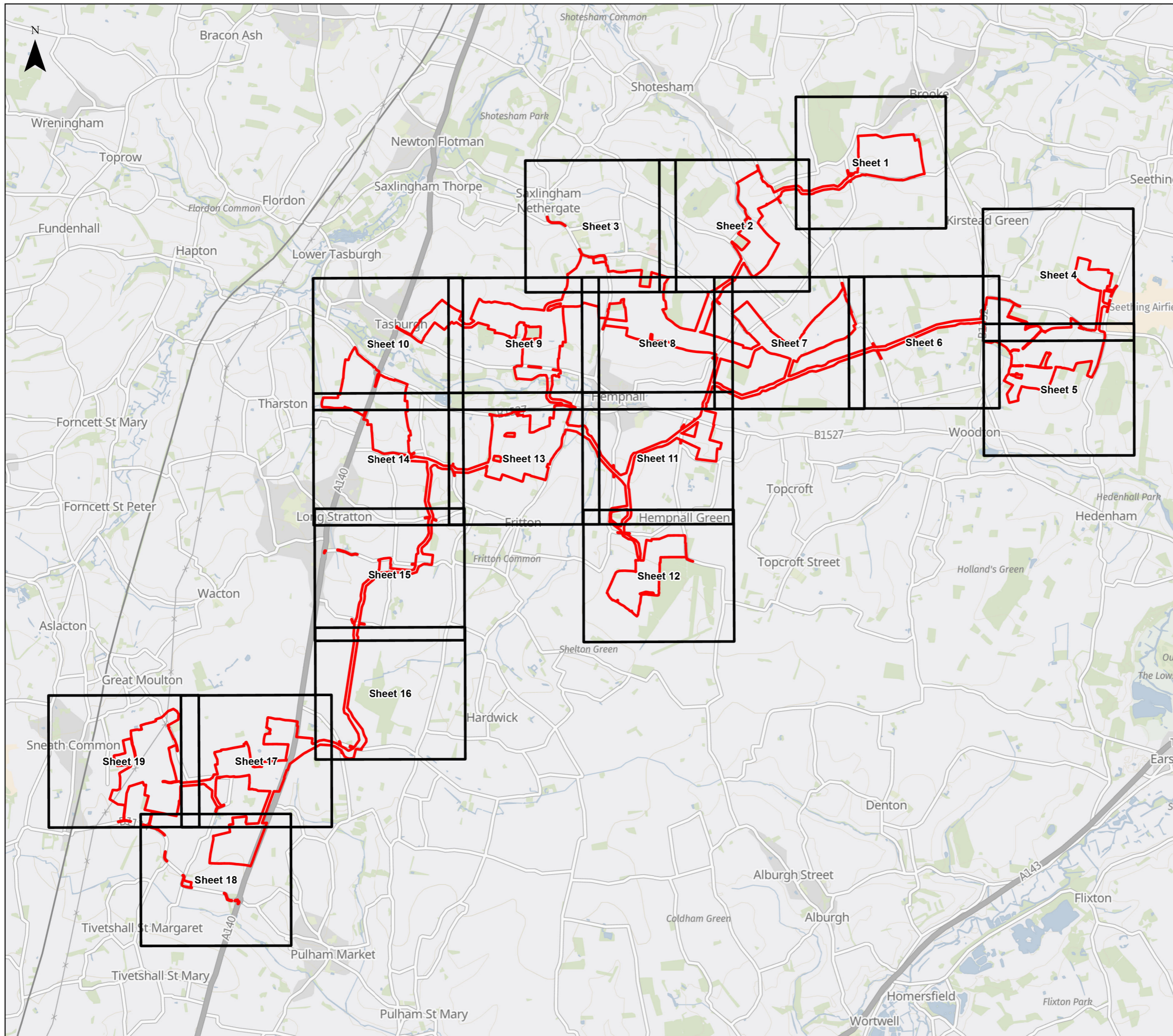
as such it is unlikely that the Order Limits represent a stronghold for any of these species. Additionally, in the case of Noctule their loud call volume means that this species can be detected from some distance, such as from a bat commuting over the Order Limits at height and may not necessarily indicate use of the Order Limits or its specific habitats.

- 4.2.4 The Order Limits are shown to support rare species including serotine, Leisler's bat, and Nathusius' pipistrelle, which contribute to the overall ecological value of the Order Limits and indicate that the ecological features are of high importance for bats though no clear distribution or significant areas/habitats were evident from the data.
- 4.2.5 The high abundance of and ubiquitous distribution of barbastelle bats throughout the Order Limits is significant and ties in with the desk study data that confirmed the presence of multiple roosts in the vicinity of the Order Limits. This is classified as a very rare species and indicator of habitat quality. Whilst the Order Limits itself does not support notably significant areas of high quality habitat it is well connected with off-site woodland and wetland habitats that are an important resource for this species and is likely to provide supporting habitats and features (e.g. grassland, hedgerows, tree lines, mature trees) that could be used for smaller roost sites (day/night roosts) as well as foraging and commuting habitats.
- 4.2.6 Habitats within the Order Limits are shown to support both common and rarer bat species, as well as the very rare barbastelle, and is considered to be of significant importance for bats given the presence of moderate quality habitat, and location within the wider landscape.

## 5 Figures

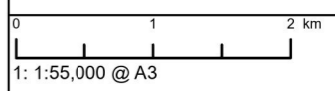
Figure 1: Bat Activity Survey Layout Plan

Figure 2: Bat Activity Survey Results Plan



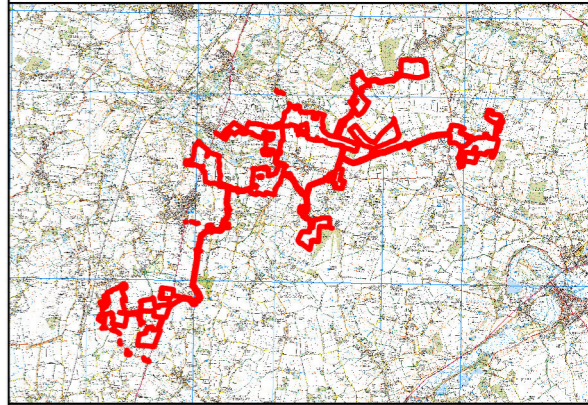
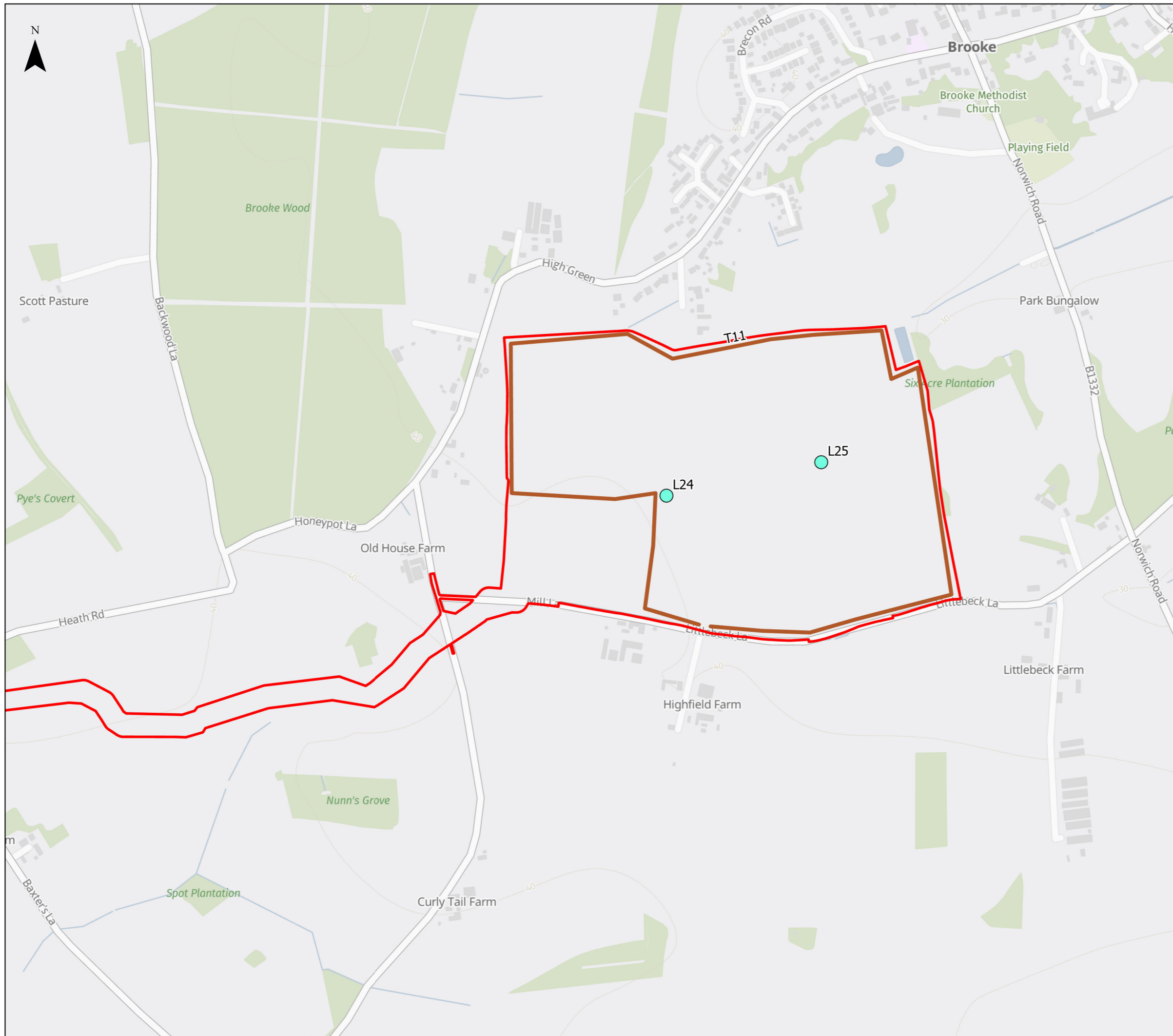
**Legend**  
 Order Limits  
 Sheet Index

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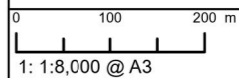
**Figure 1: Bat Survey Layout Overview**  
 Revision A



**Legend**

- Order Limits
- Static Monitoring Location
- Bat Transect**
- T11

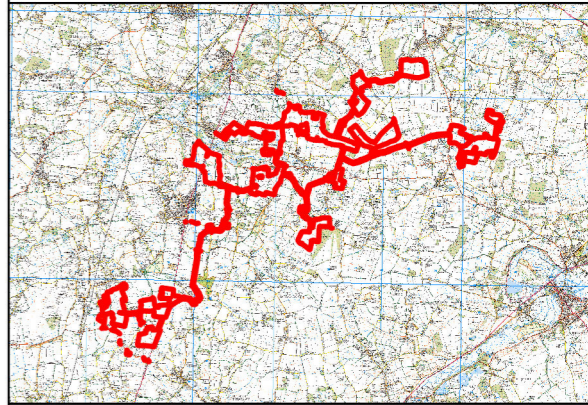
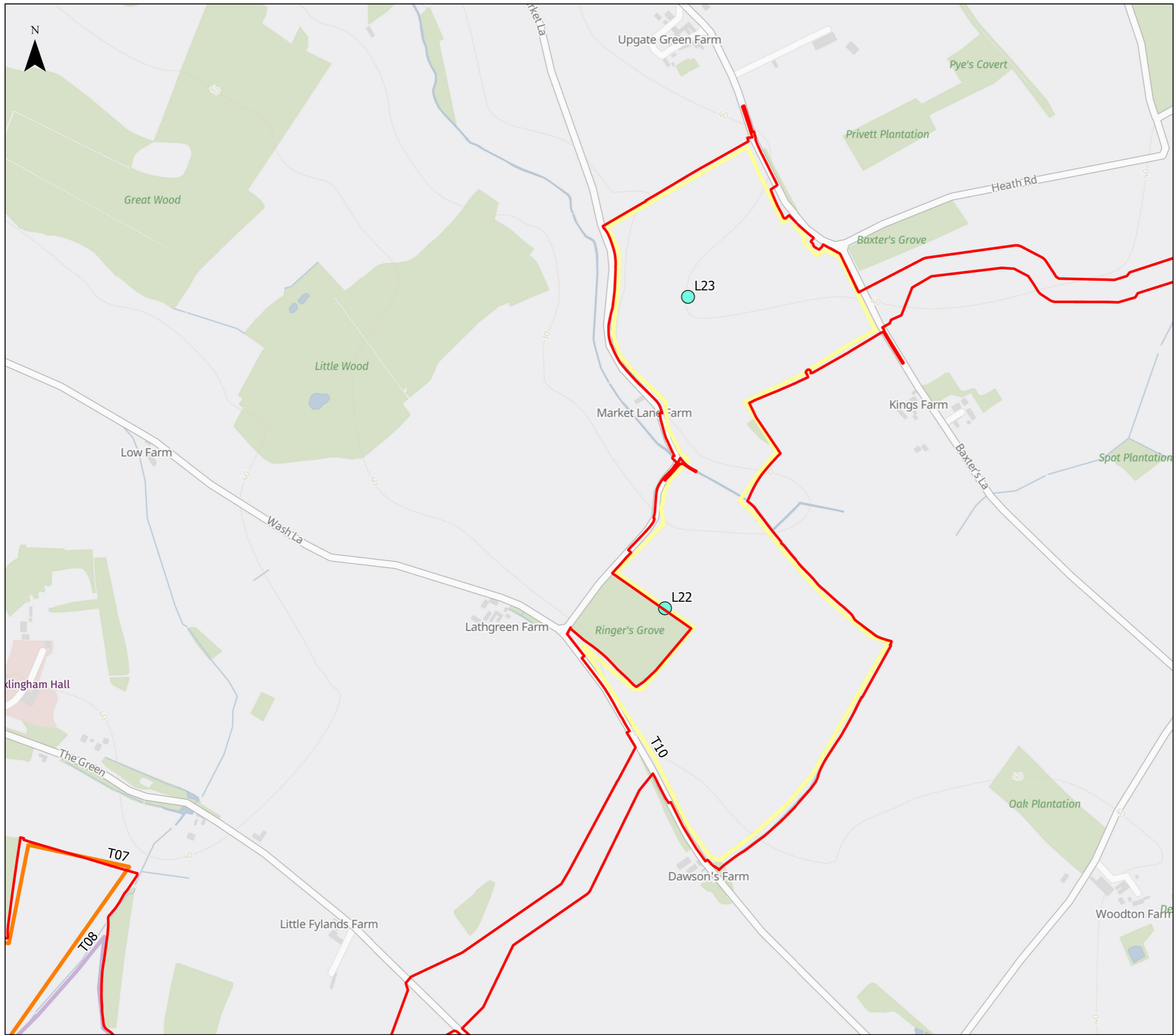
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**Figure 1: Bat Survey Layout Plan**

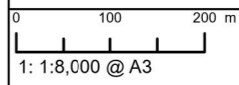
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**Legend**

- ▭ Order Limits
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- Bat Transect**
- T07
- T08
- T10

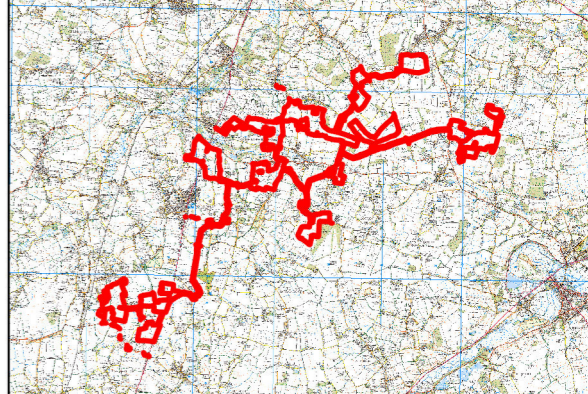
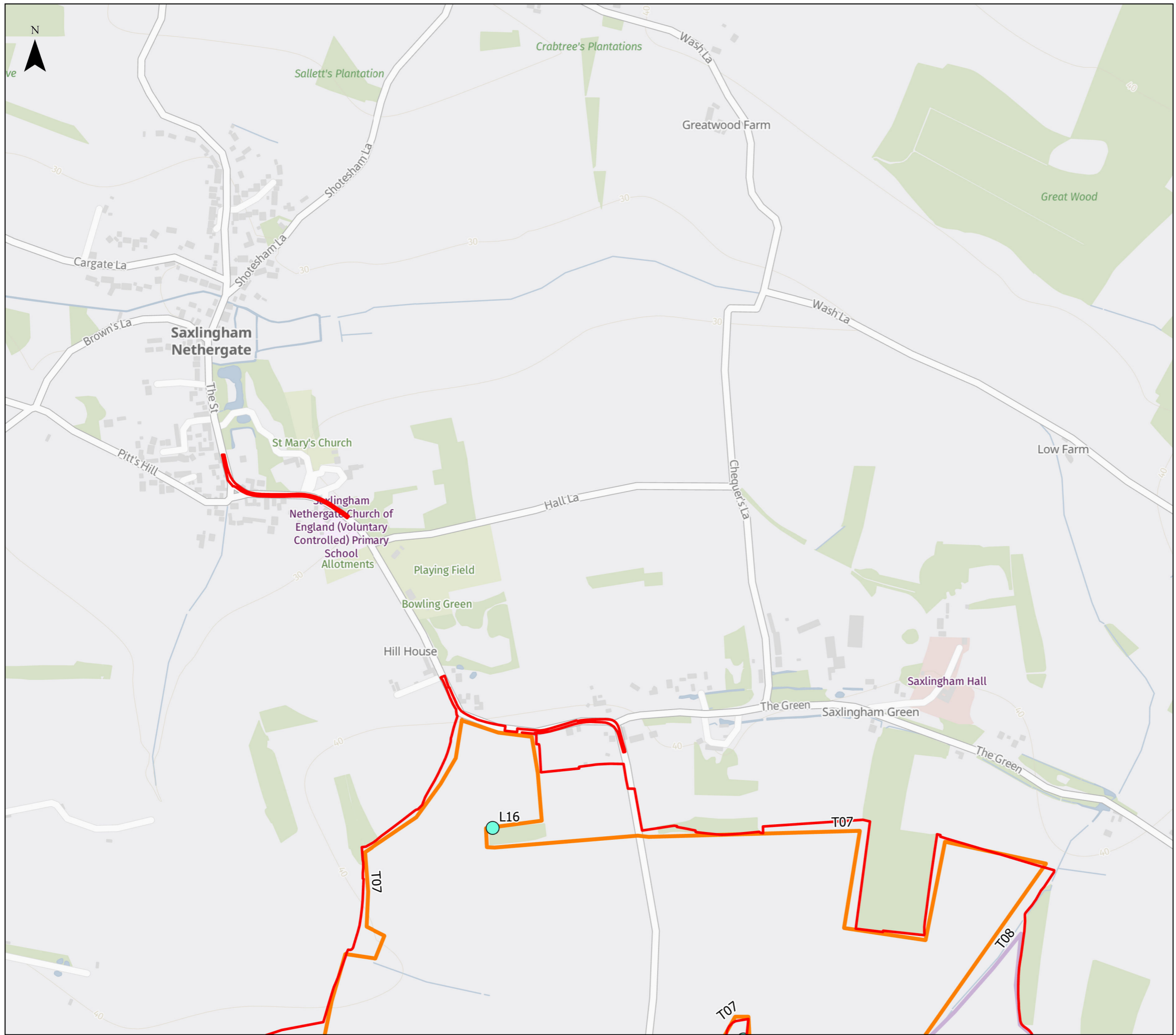
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**Figure 1: Bat Survey Layout Plan**

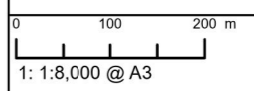
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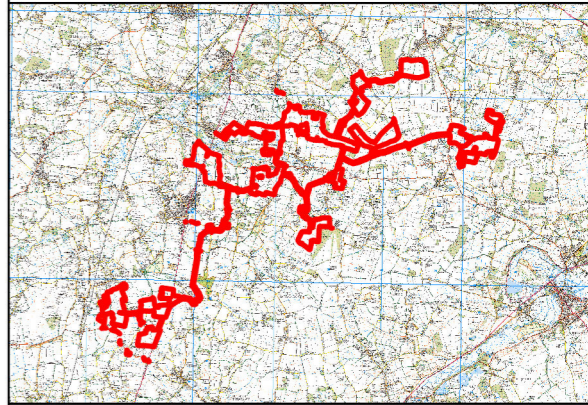
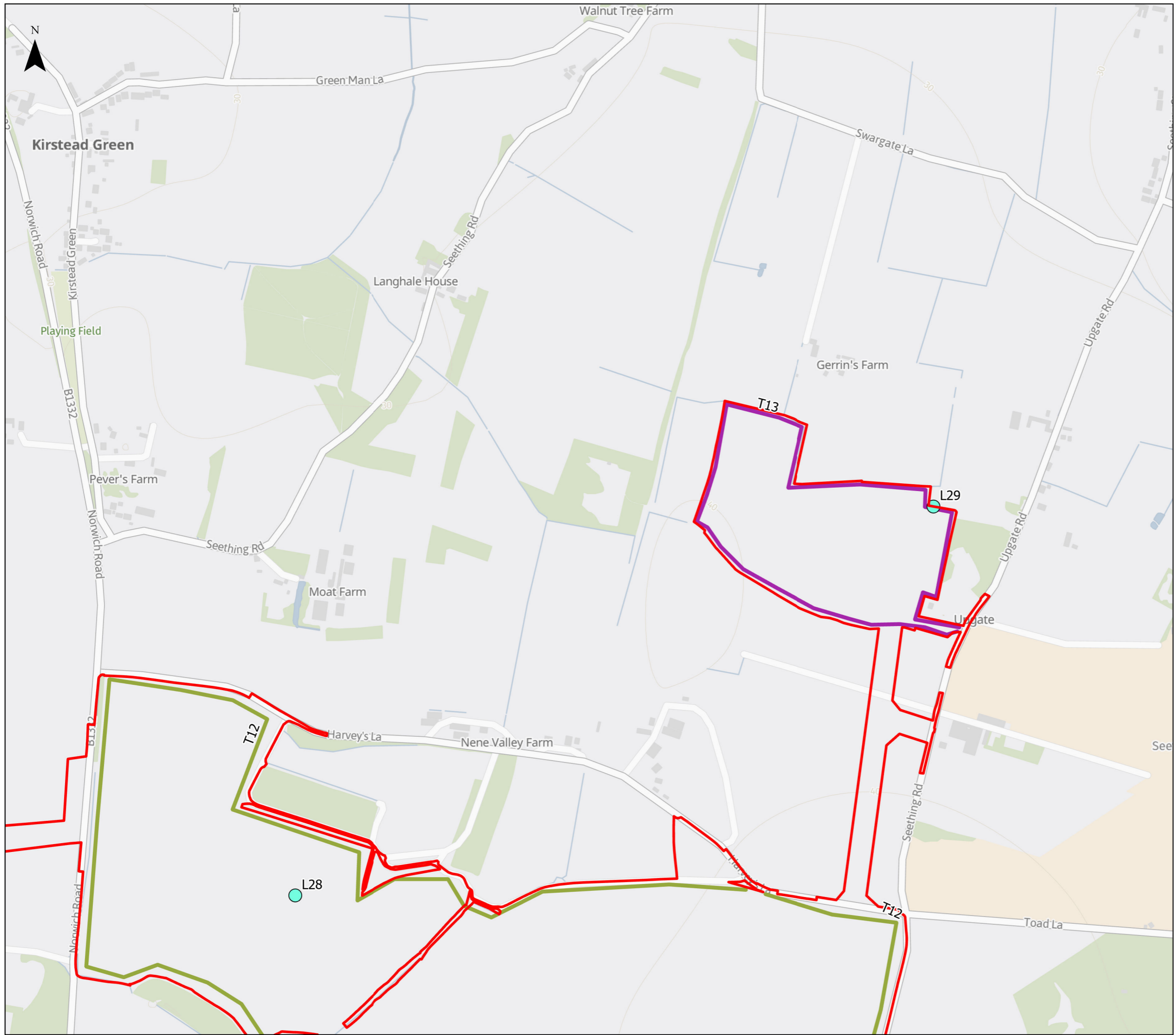
- Order Limits
- Static Monitoring Location
- Bat Transect**
- T07
- T08

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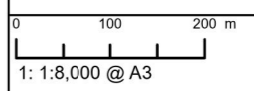
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**Figure 1: Bat Survey Layout Plan**  
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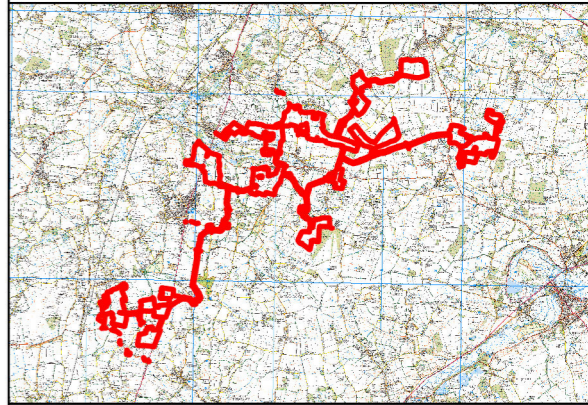
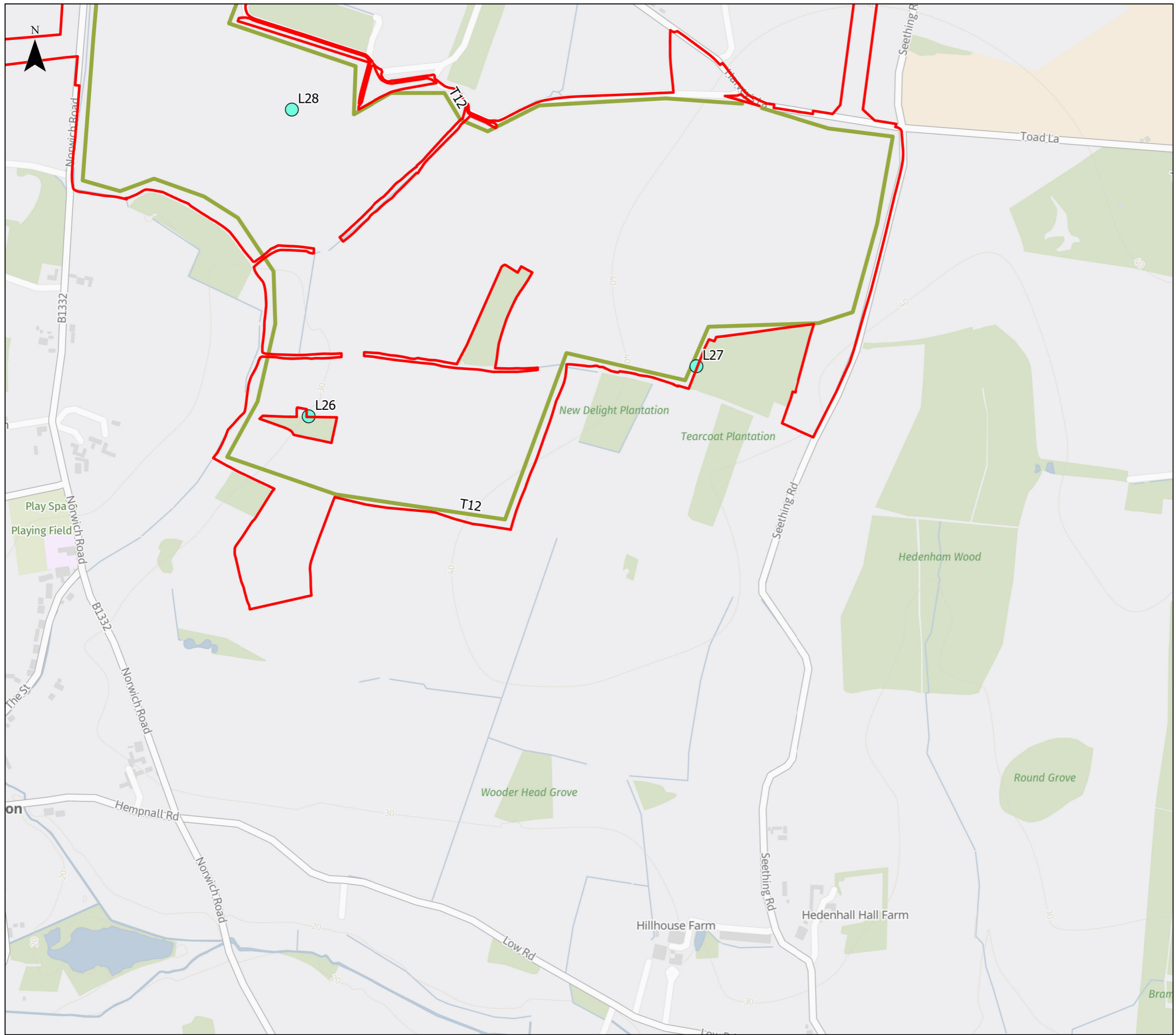
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- Order Limits
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  - T13

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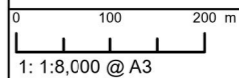
**Figure 1: Bat Survey Layout Plan**  
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**Legend**

- Order Limits
- Static Monitoring Location
- Bat Transect**
- T12

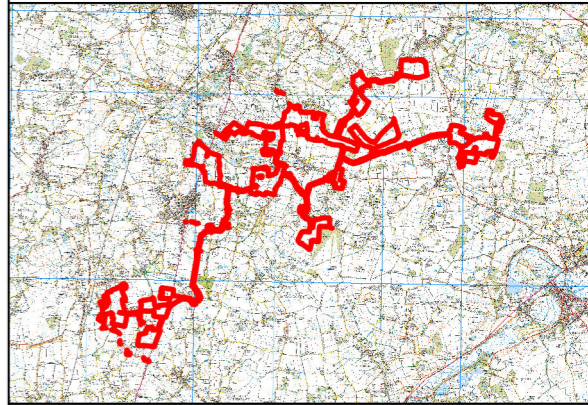
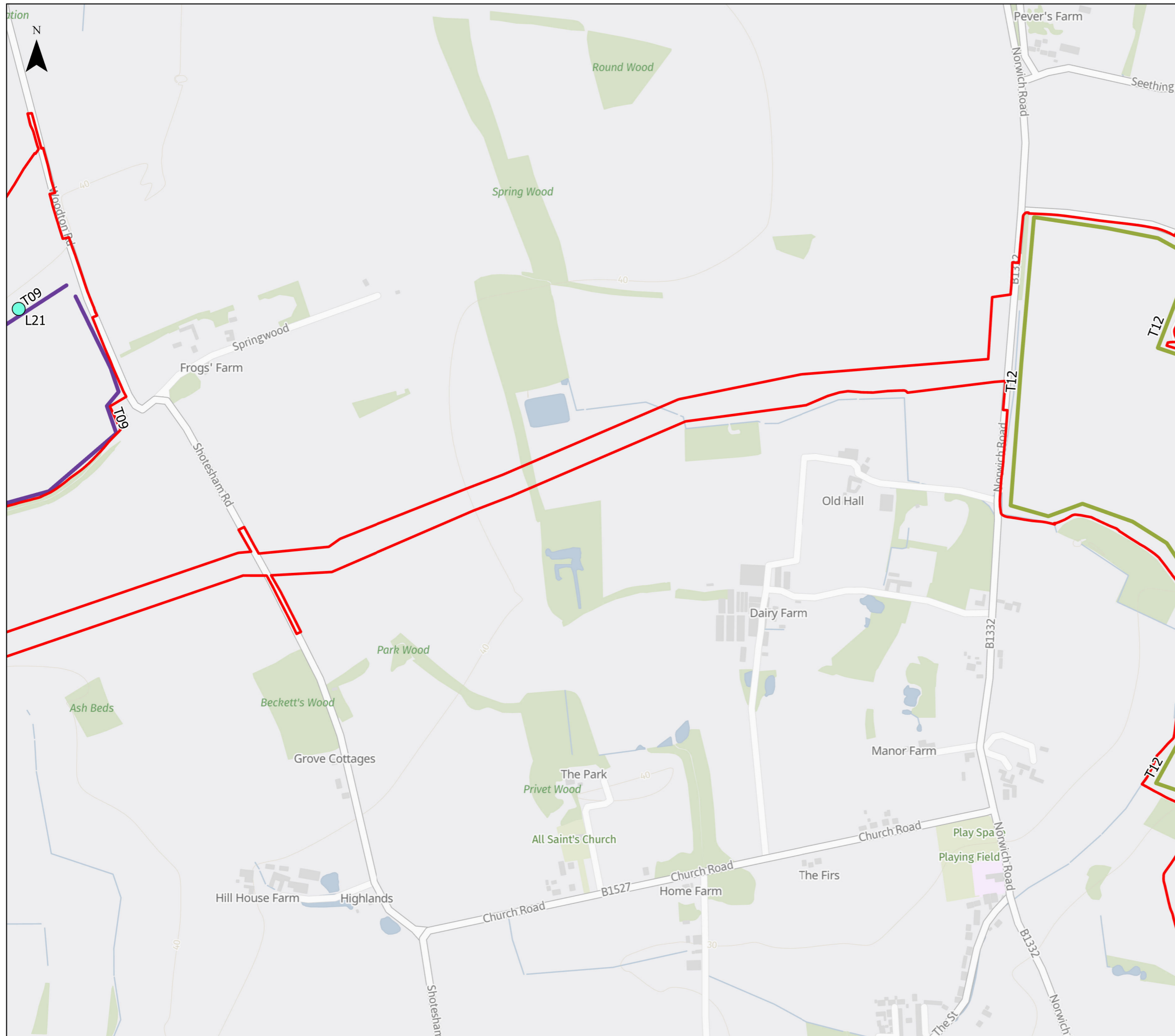
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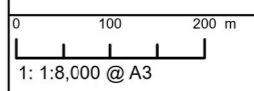
**Figure 1: Bat Survey Layout Plan**

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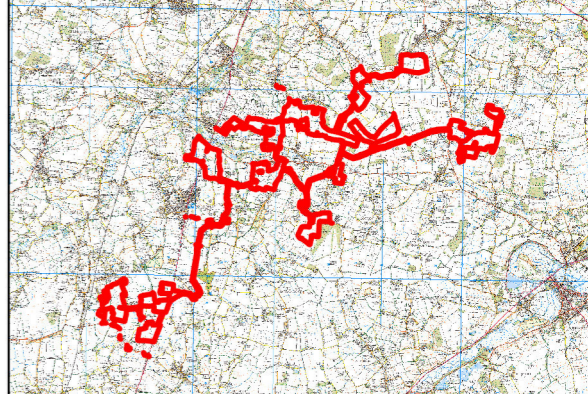
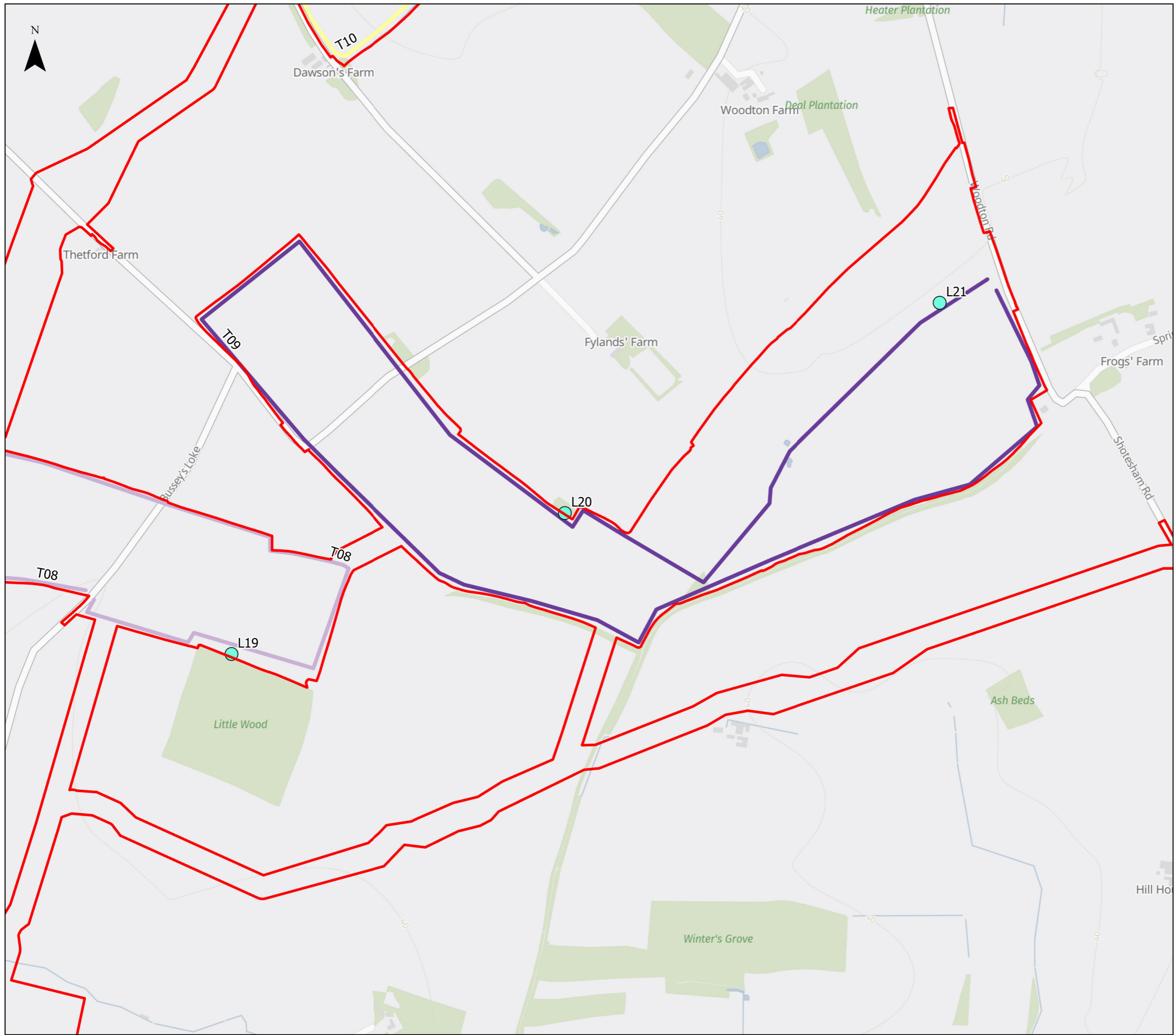
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- Order Limits
  - Static Monitoring Location
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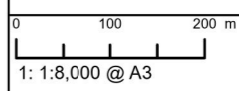
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**Figure 1: Bat Survey Layout Plan**  
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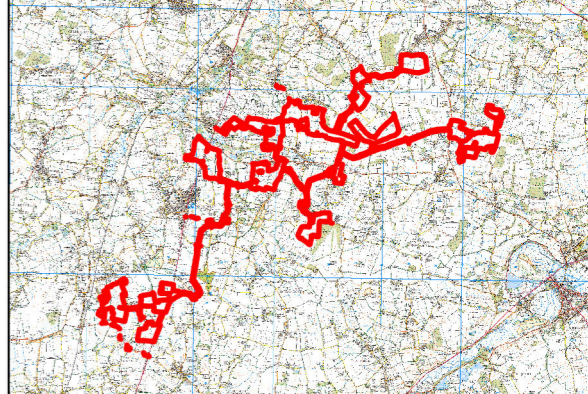
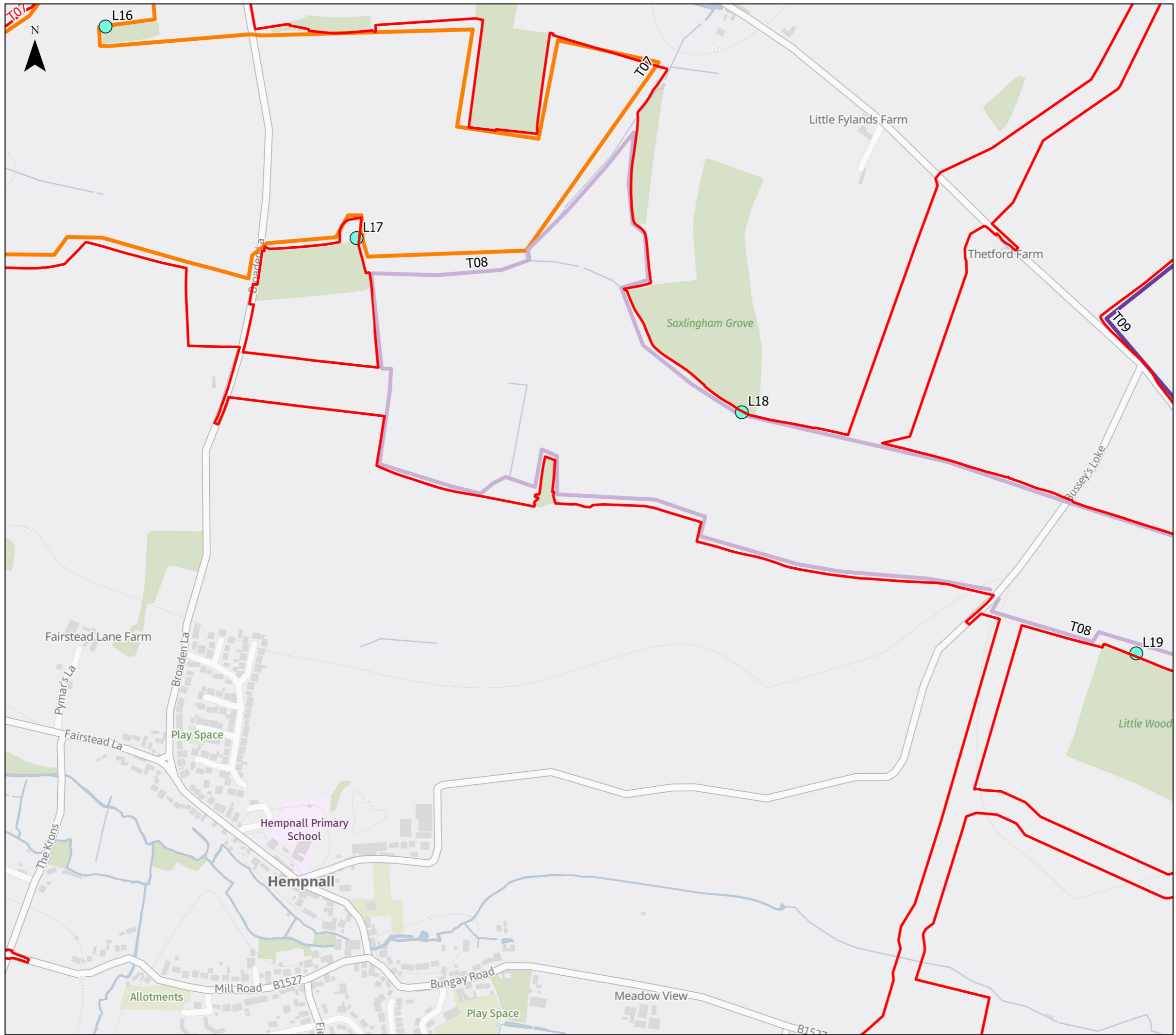
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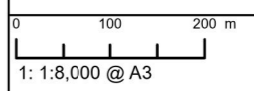
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**Figure 1: Bat Survey Layout Plan**  
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- Legend**
- Order Limits
  - Static Monitoring Location
- Bat Transect**
- T07
  - T08
  - T09

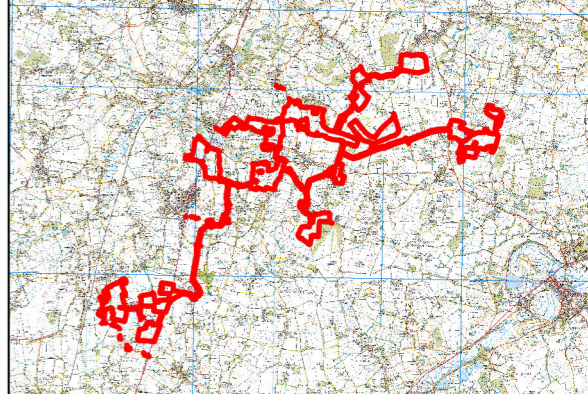
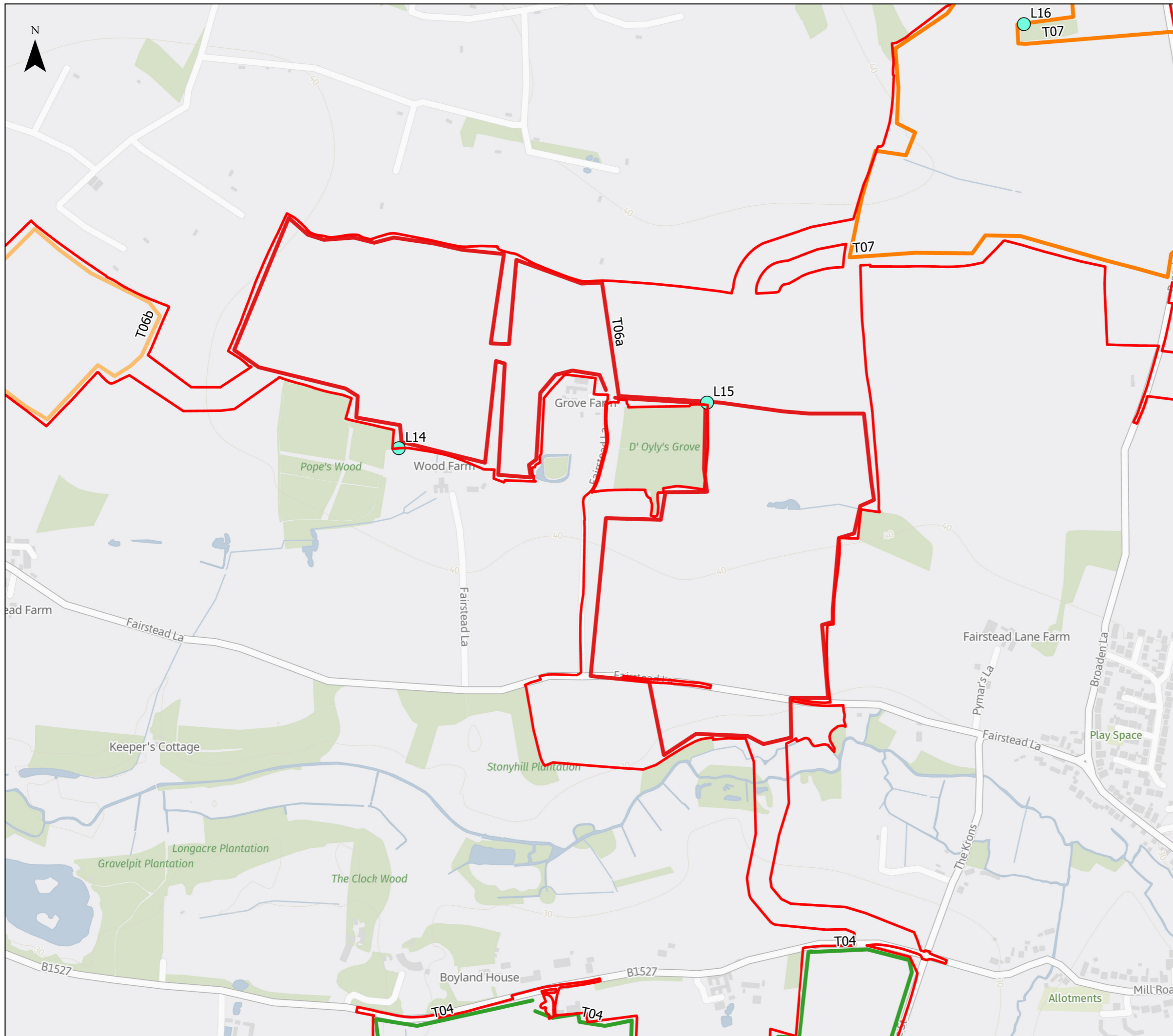
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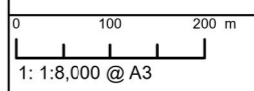
**Figure 1: Bat Survey Layout Plan**

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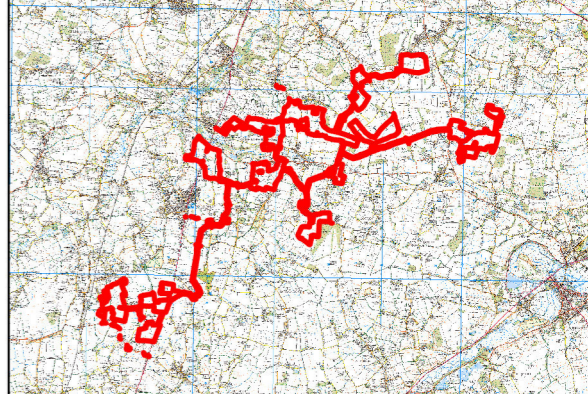
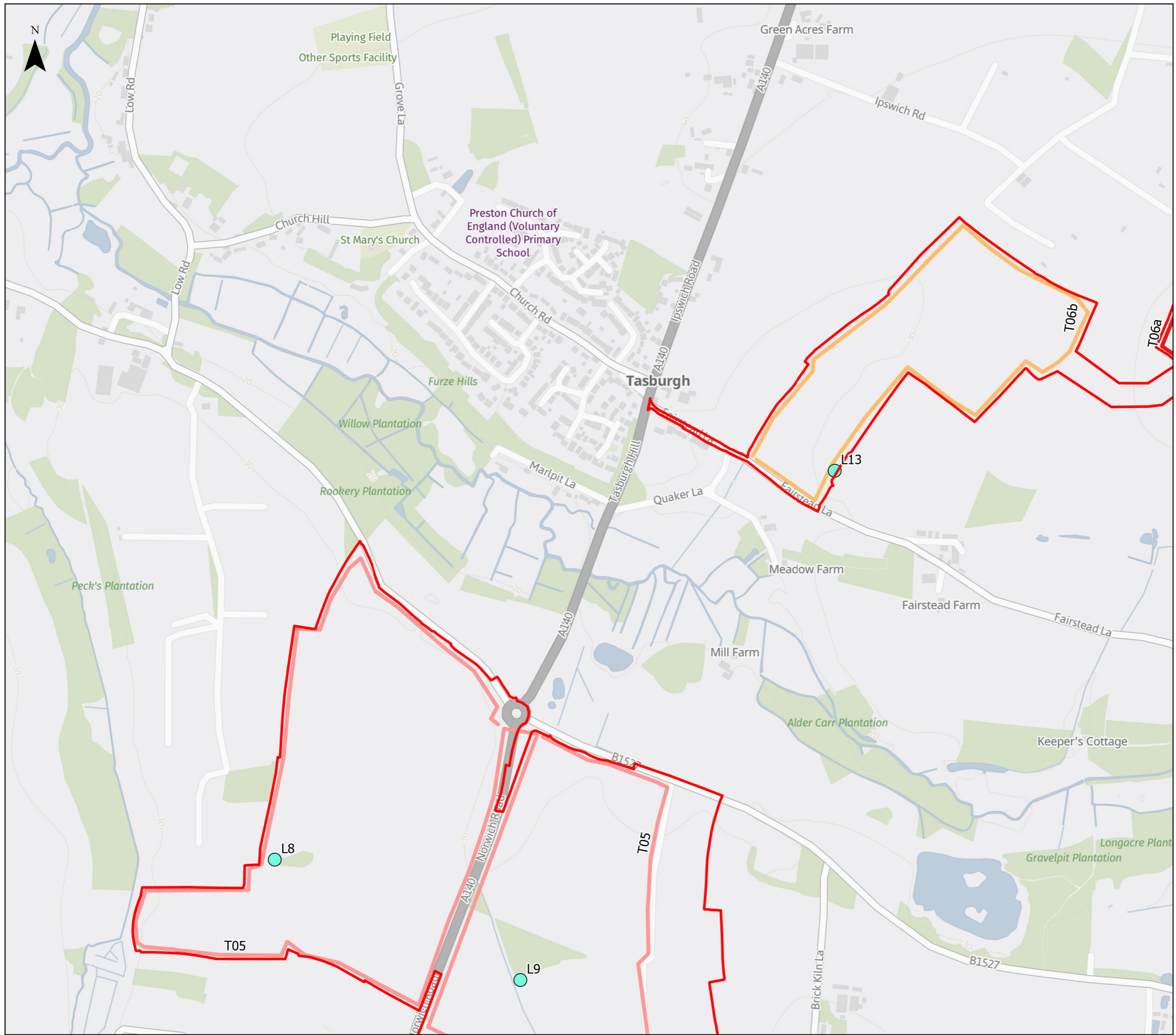
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- Order Limits
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- Bat Transect**
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  - T06a
  - T06b
  - T07

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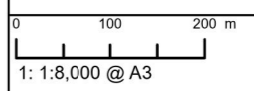
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Revision A



**Legend**

- Order Limits
- Static Monitoring Location
- Bat Transect**
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- T06a
- T06b

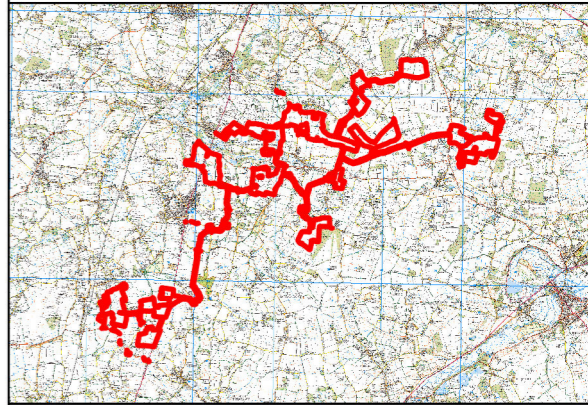
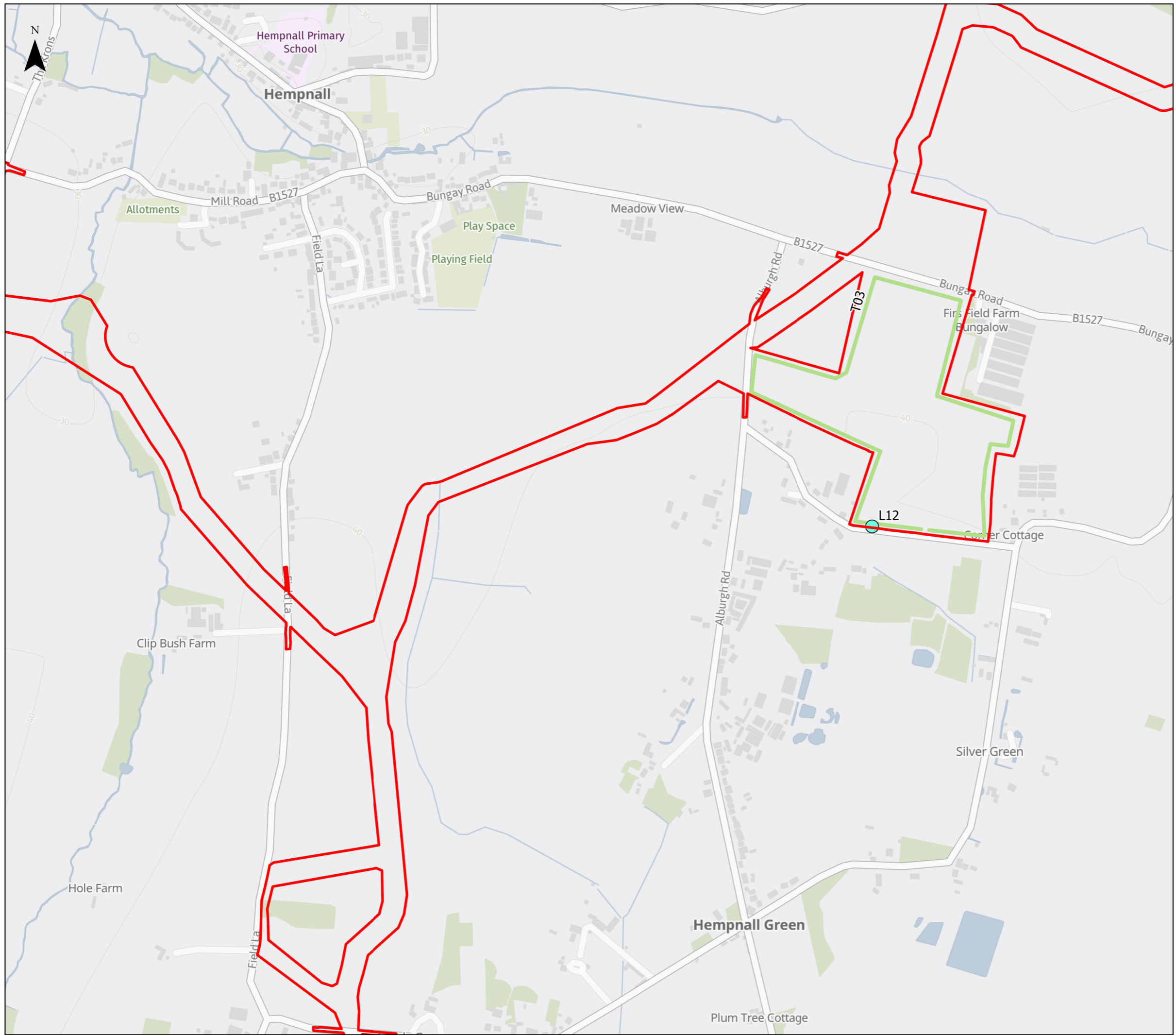
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APFP Regulation: 5(2)(a)	Application Doc No. APP/6.3.8.6
Ref: Appendix 8.6	Date: 25/02/2026
Drawn: CM	Checked: DF

**Figure 1: Bat Survey Layout Plan**

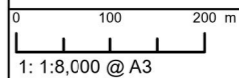
Sheet 10 of 19  
Revision A



**Legend**

- ▭ Order Limits
- Static Monitoring Location
- Bat Transect**
- ▬ T03

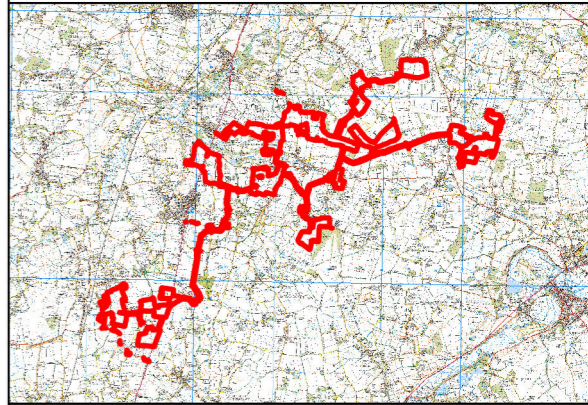
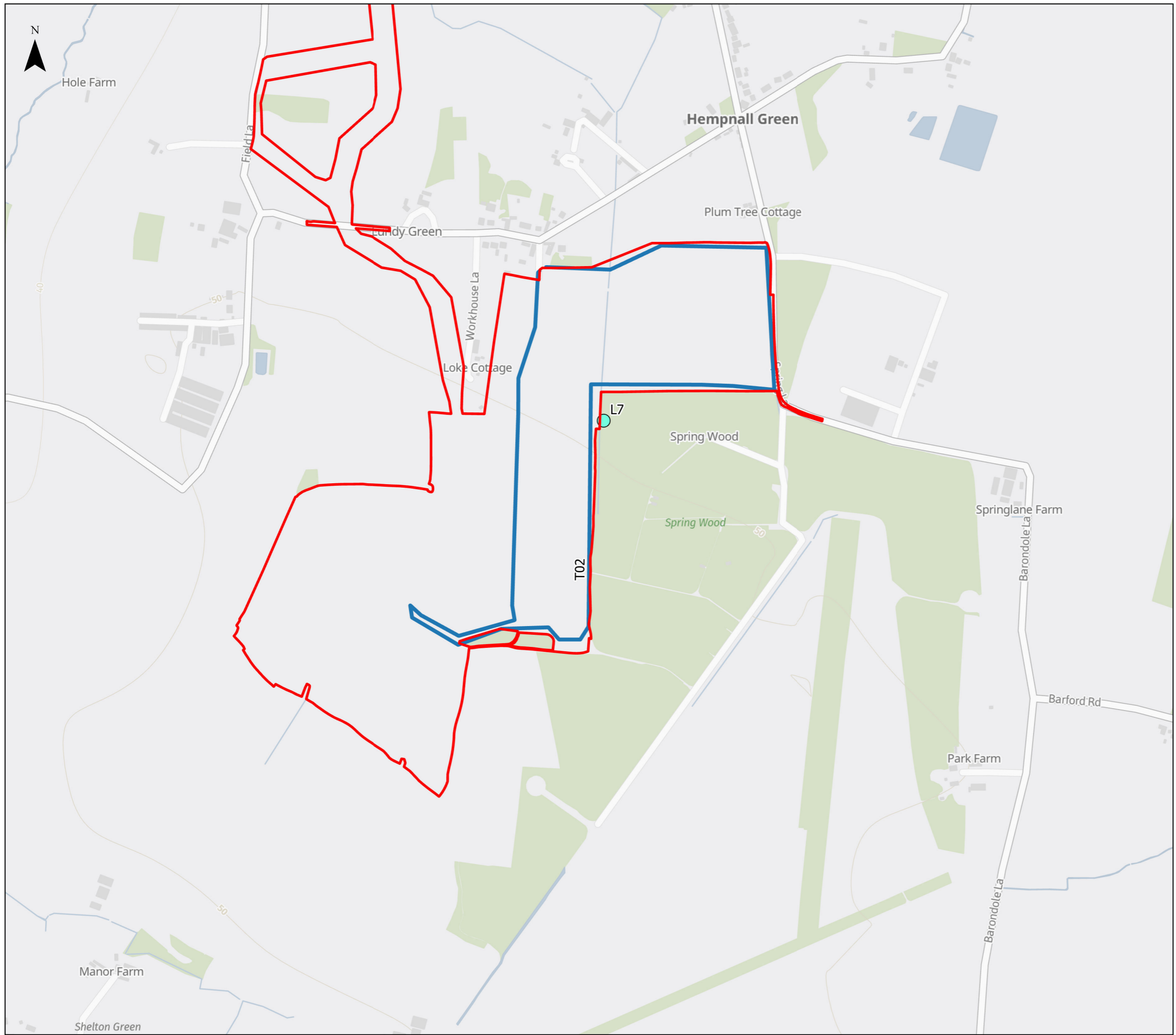
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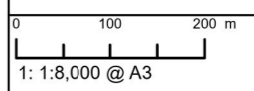
**Figure 1: Bat Survey Layout Plan**

Sheet 11 of 19  
Revision A



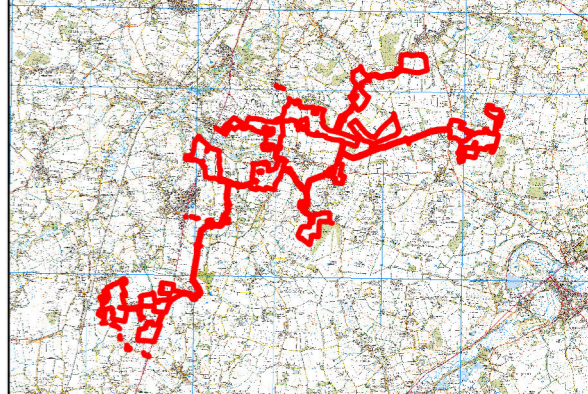
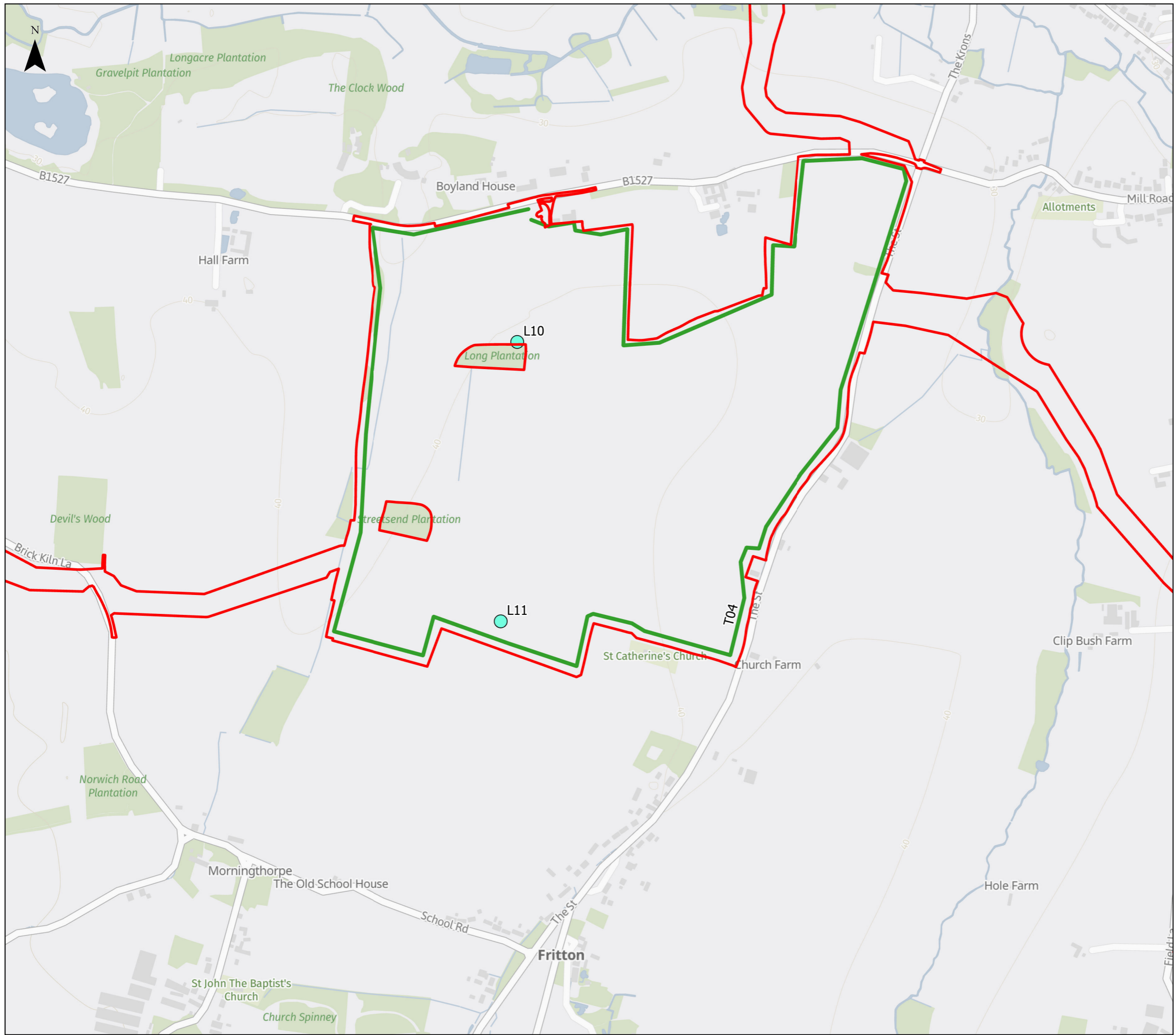
- Legend**
- Order Limits
  - Static Monitoring Location
- Bat Transect**
- T02

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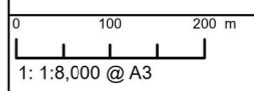
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Ref: Appendix 8.6	Date: 25/02/2026
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**Figure 1: Bat Survey Layout Plan**  
 Sheet 12 of 19  
 Revision A



- Legend**
- ▭ Order Limits
  - Static Monitoring Location
  - Bat Transect**
  - T04

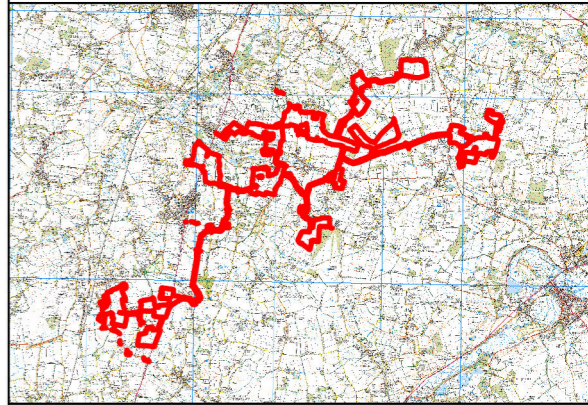
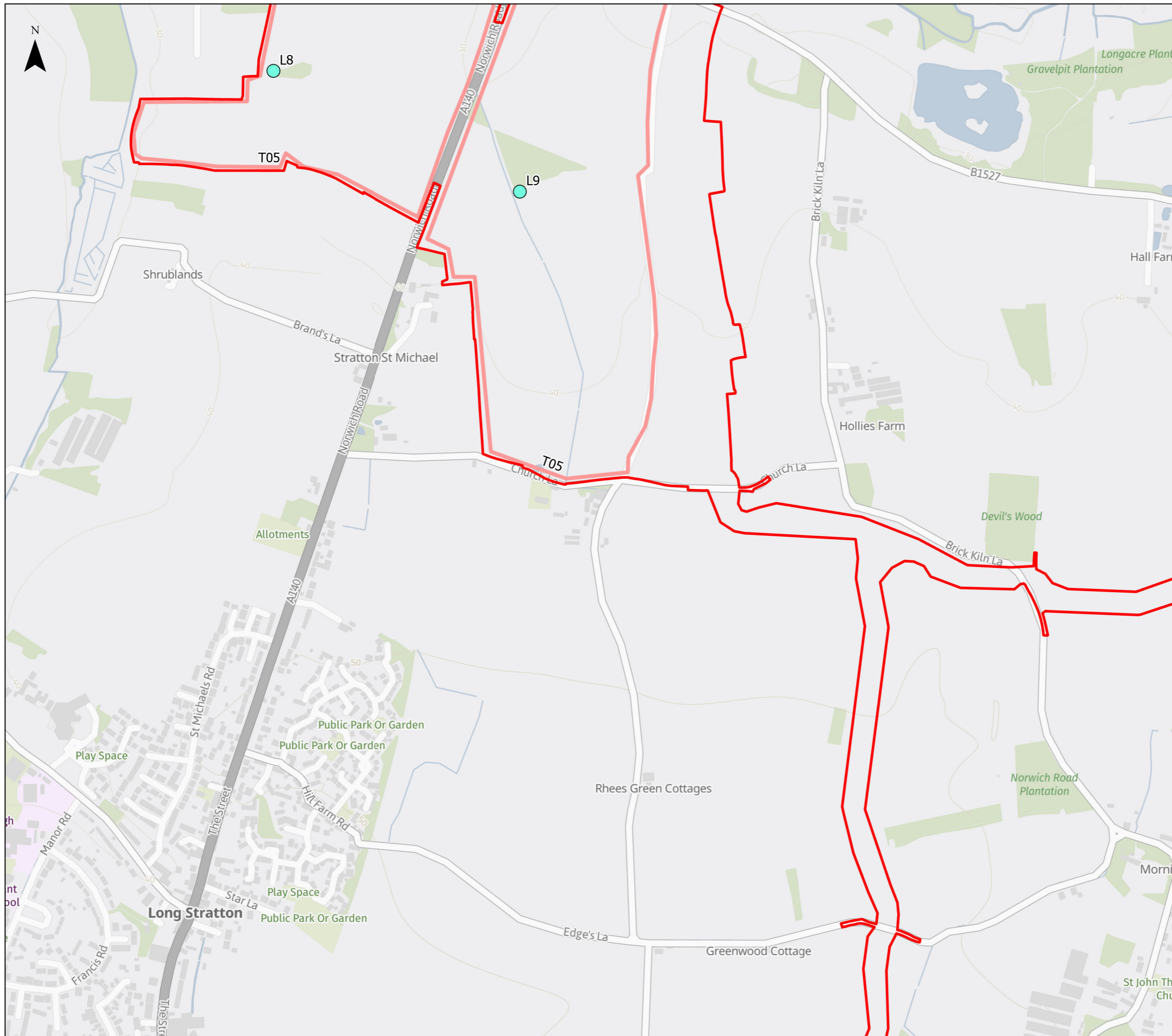
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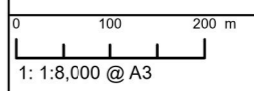
**Figure 1: Bat Survey Layout Plan**

Sheet 13 of 19  
Revision A



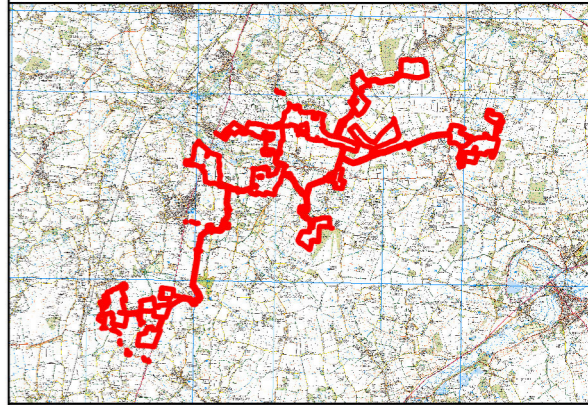
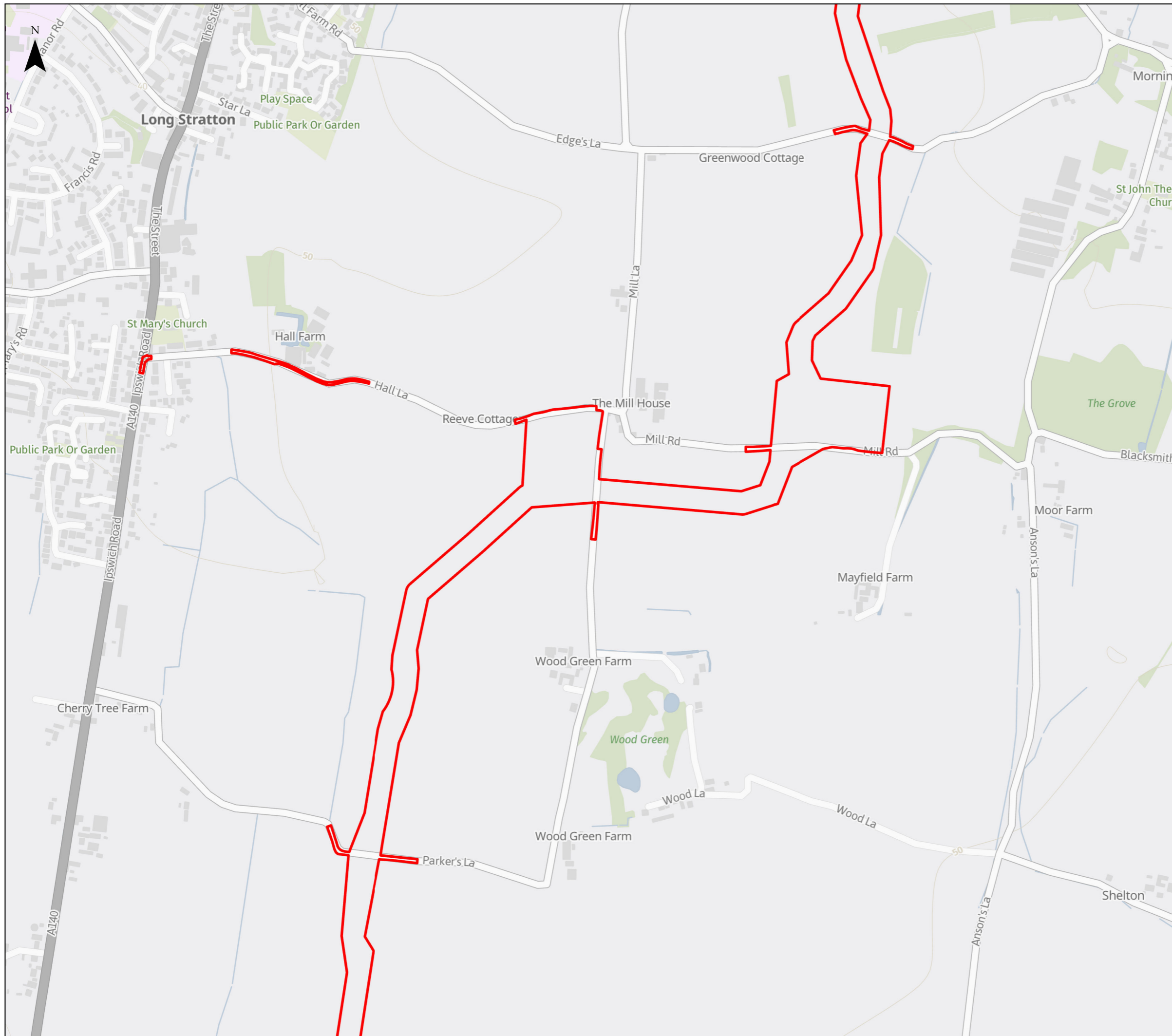
- Legend**
- Order Limits
  - Static Monitoring Location
- Bat Transect**
- T05

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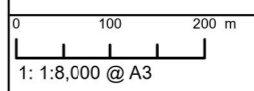
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**Figure 1: Bat Survey Layout Plan**  
 Sheet 14 of 19  
 Revision A



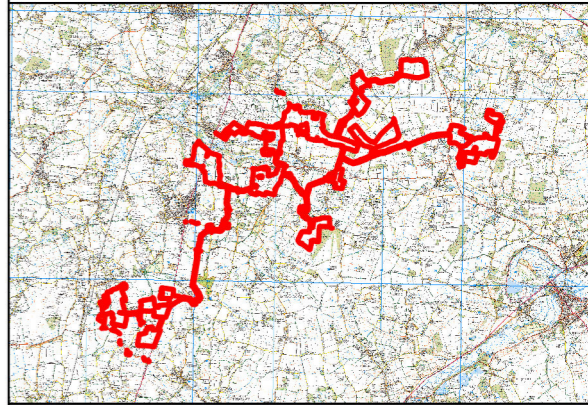
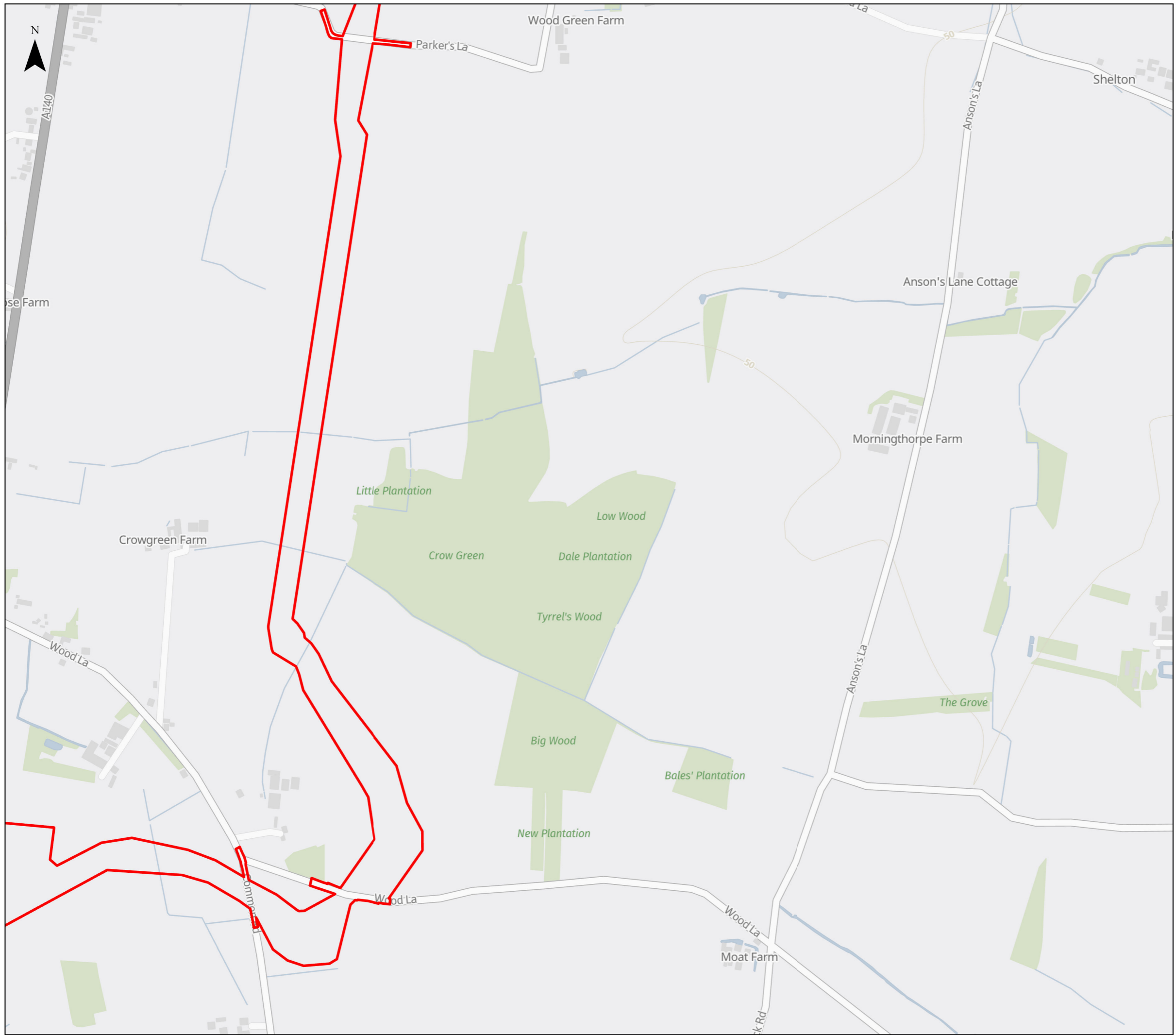
- Legend**
- ▭ Order Limits
  - Static Monitoring Location

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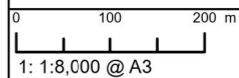
**Figure 1: Bat Survey Layout Plan**  
 Sheet 15 of 19  
 Revision A



**Legend**

- ▭ Order Limits
- Static Monitoring Location

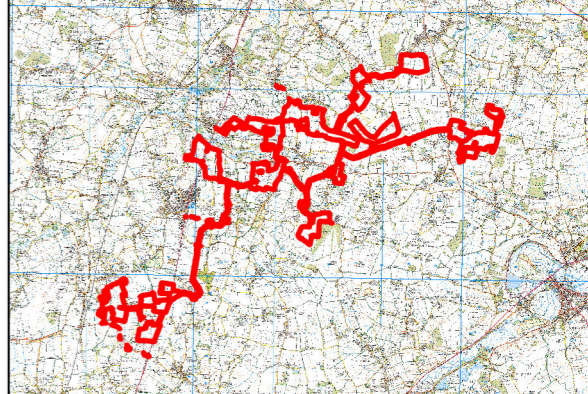
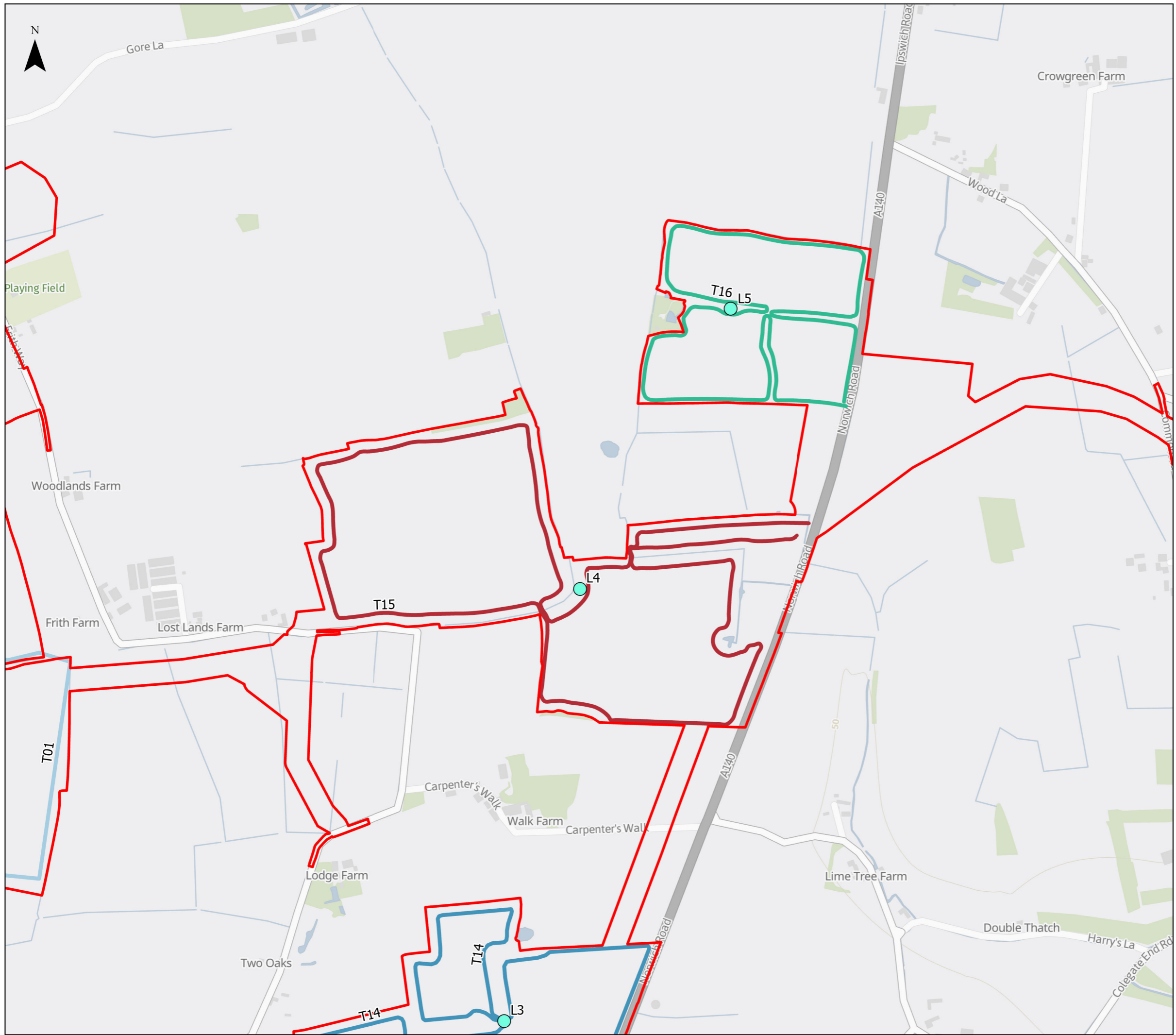
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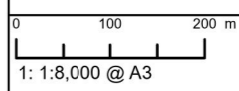
**Figure 1: Bat Survey Layout Plan**

Sheet 16 of 19  
Revision A



- Legend**
- Order Limits
  - Static Monitoring Location
- Bat Transect**
- T01
  - T14
  - T15
  - T16

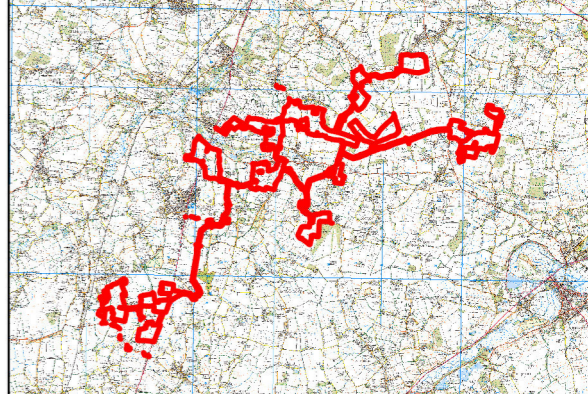
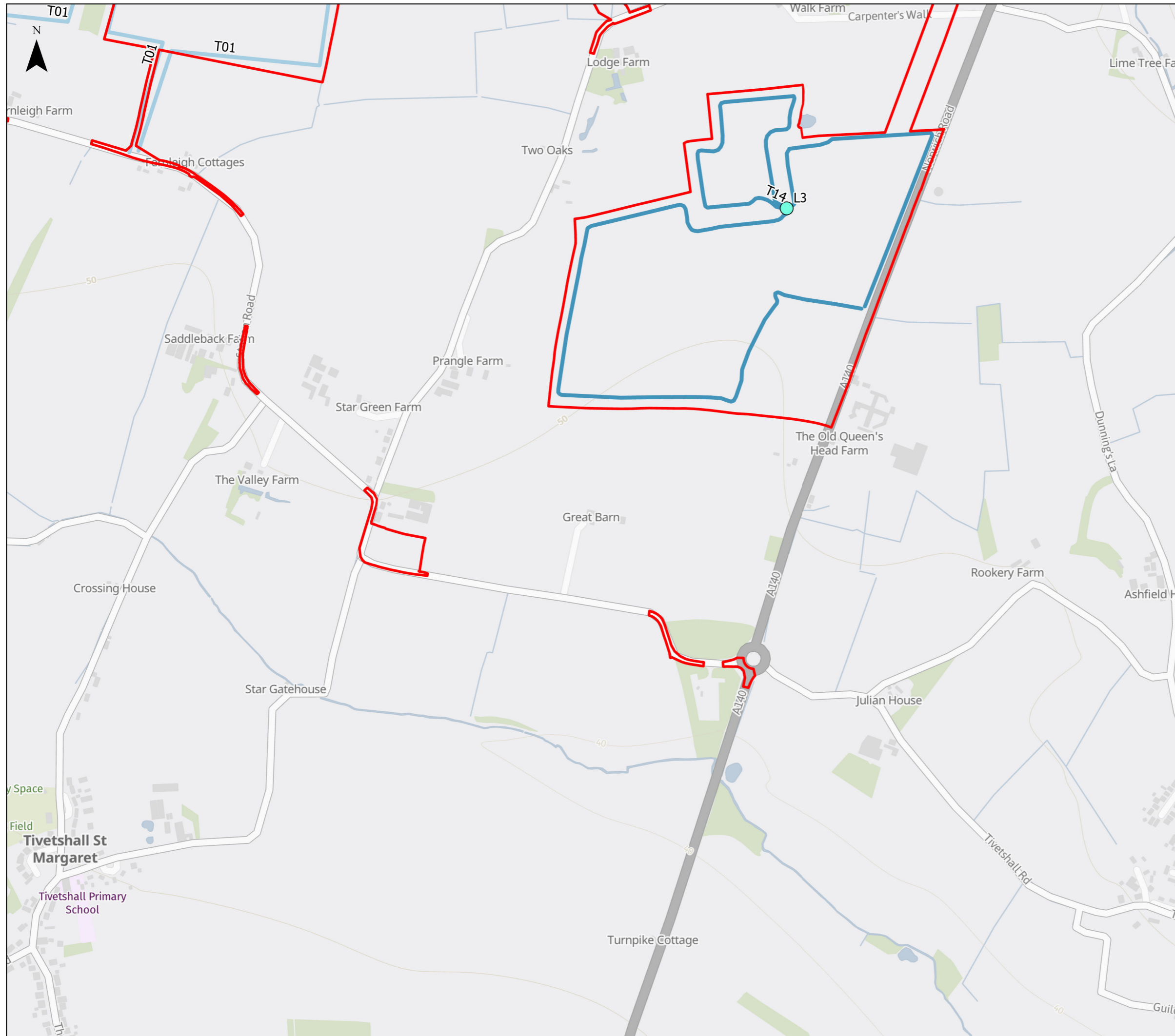
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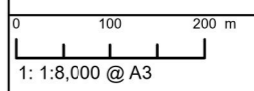
**Figure 1: Bat Survey Layout Plan**

Sheet 17 of 19  
Revision A



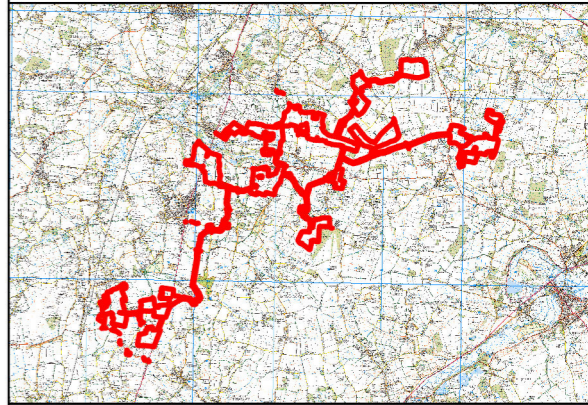
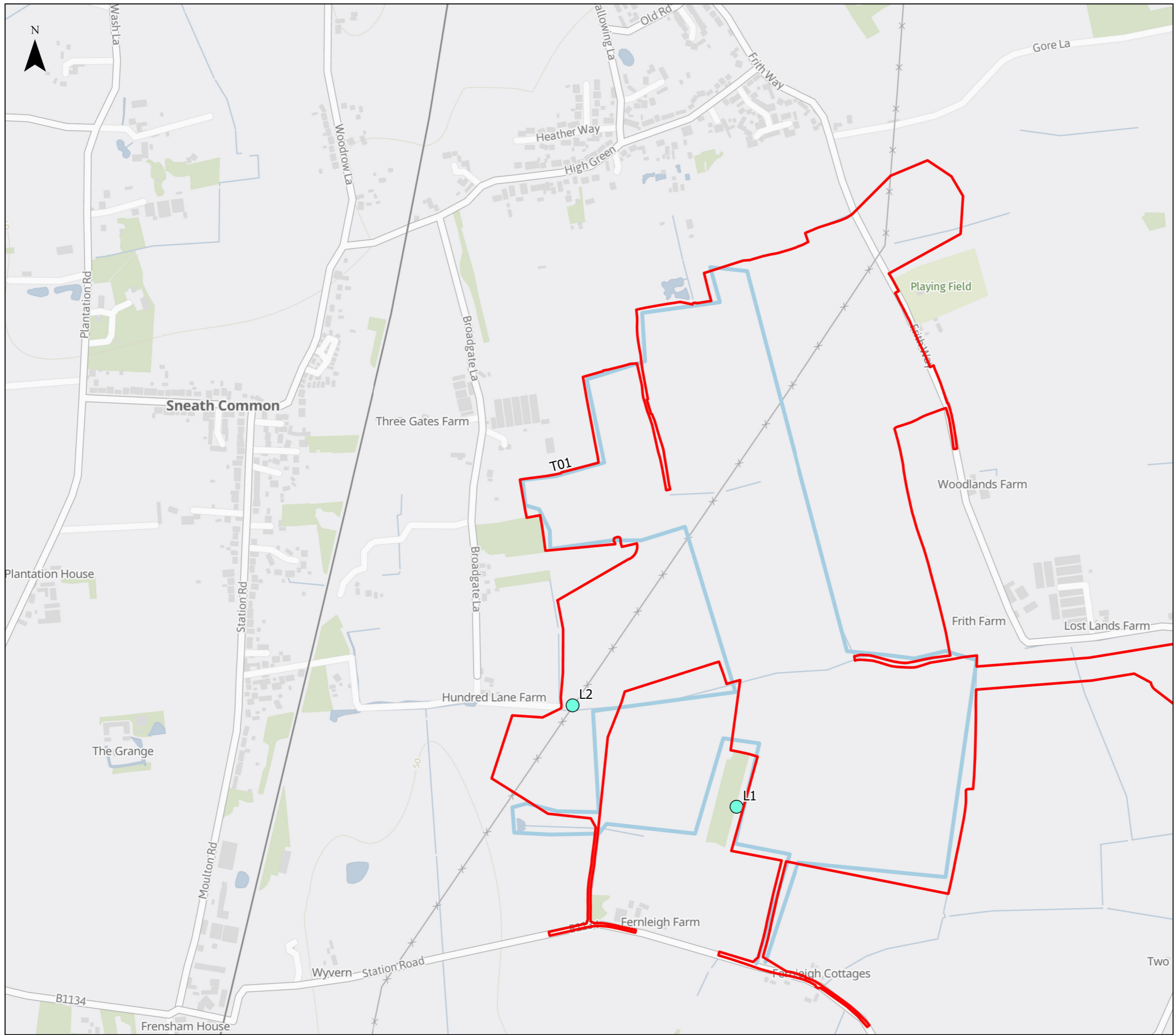
- Legend**
- Order Limits
  - Static Monitoring Location
- Bat Transect**
- T01
  - T14

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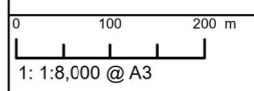
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**Figure 1: Bat Survey Layout Plan**  
Sheet 18 of 19  
Revision A



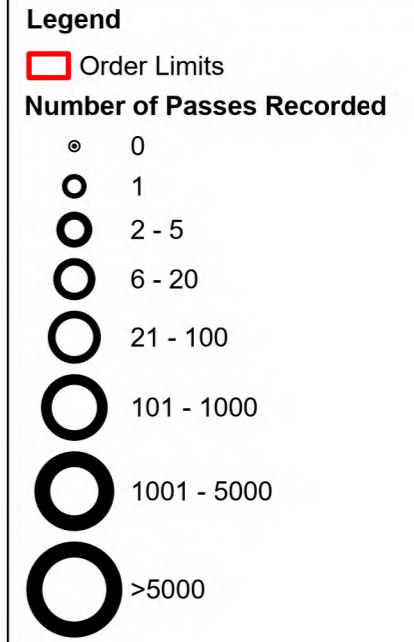
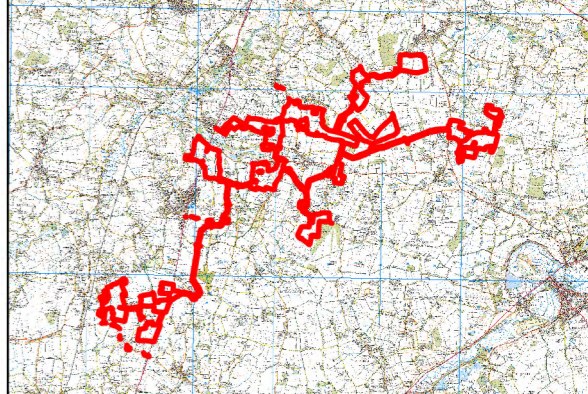
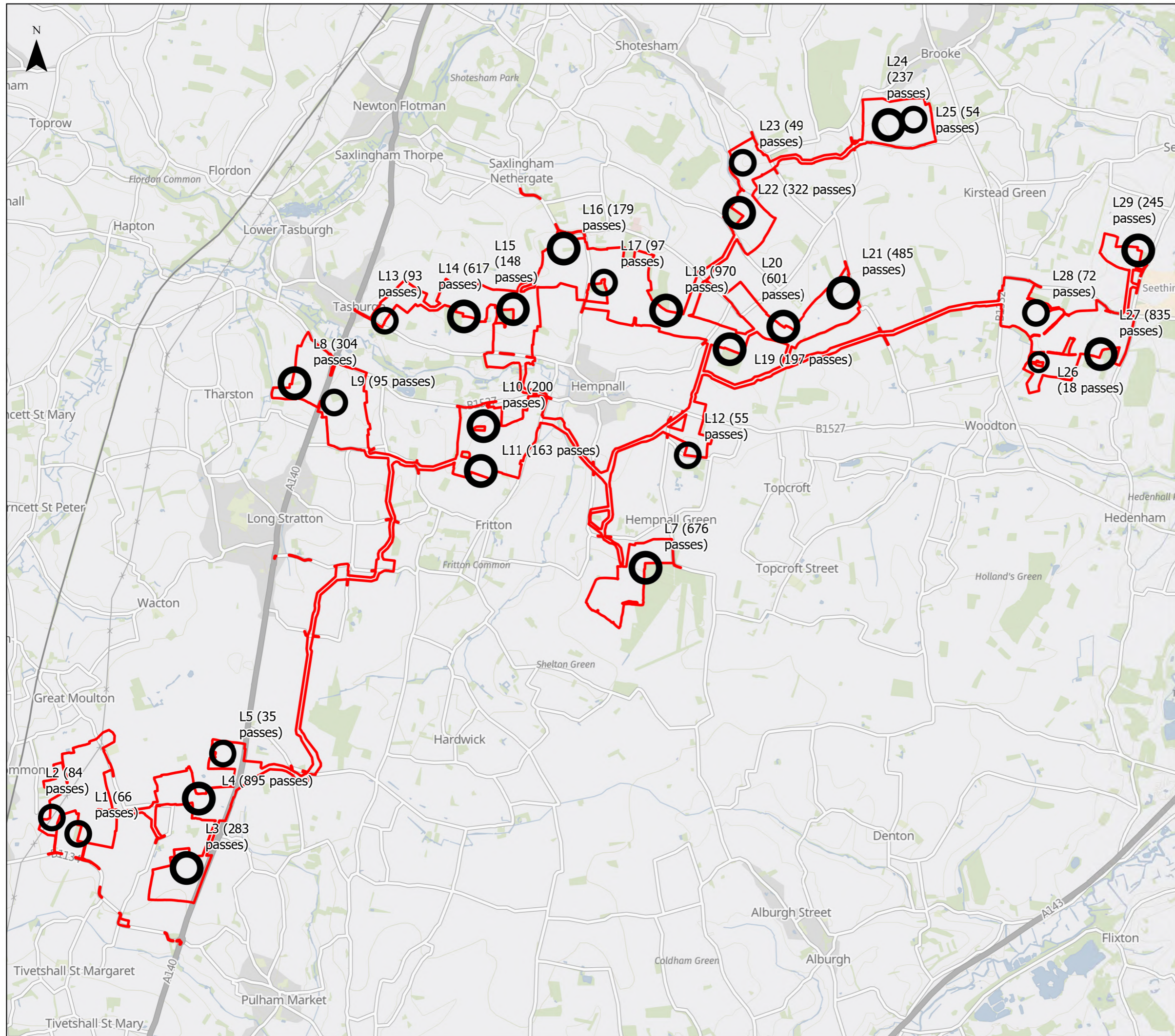
- Legend**
- ▭ Order Limits
  - Static Monitoring Location
  - Bat Transect**
  - T01

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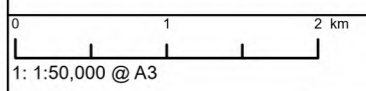


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**Figure 1: Bat Survey Layout Plan**  
 Sheet 19 of 19  
 Revision A

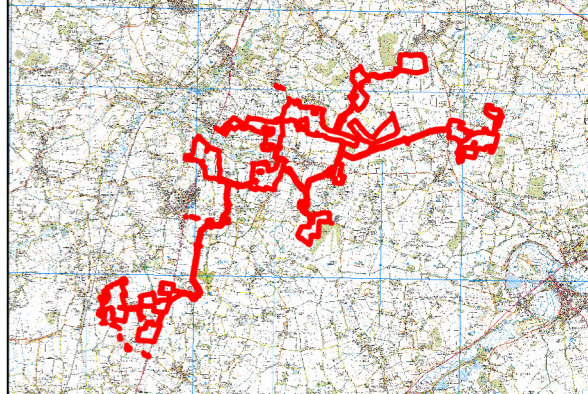
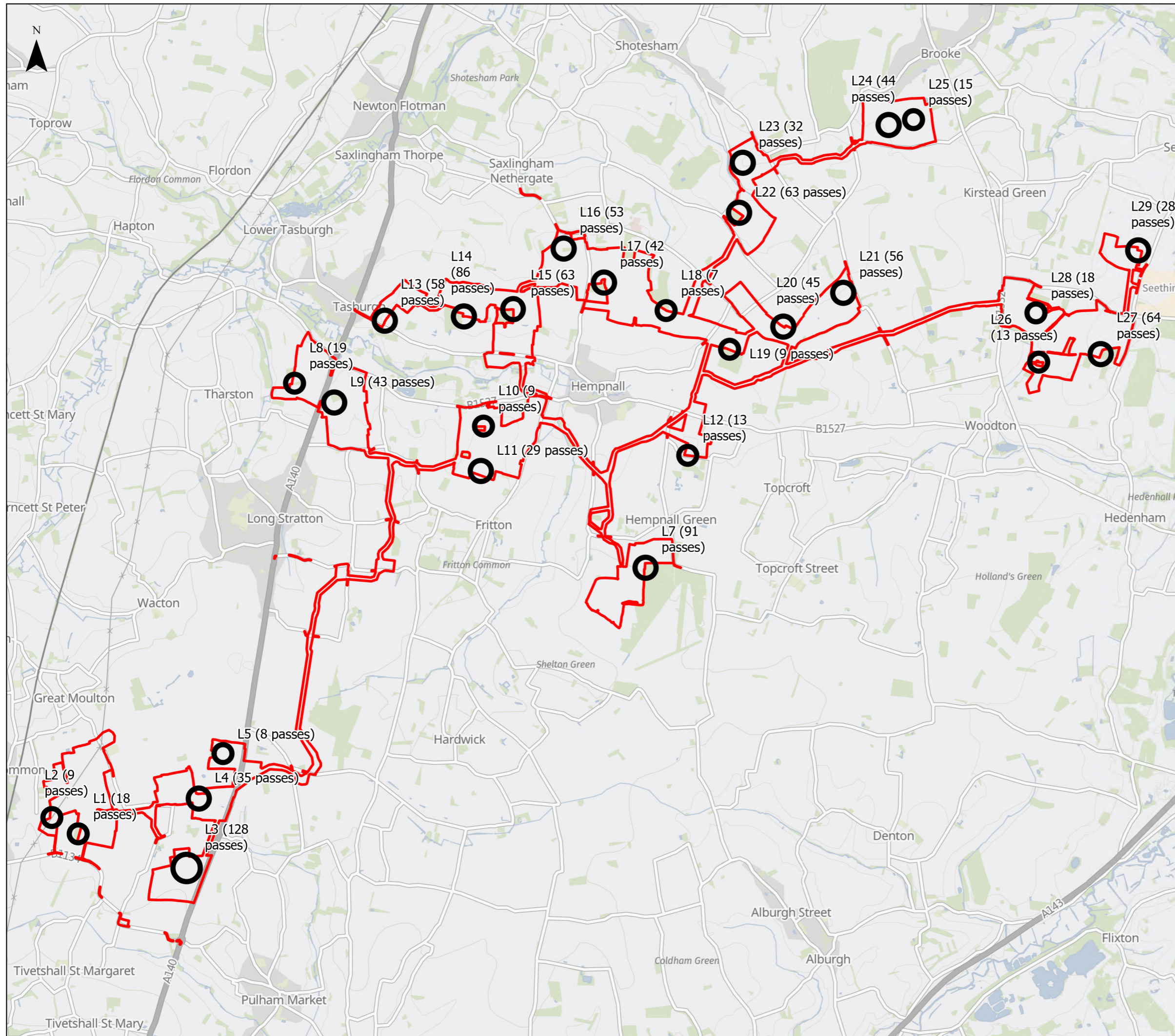


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**Figure 2: Bat Activity Survey Results Barbastelle**  
Revision A



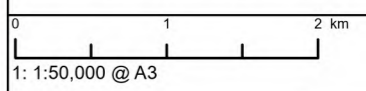
**Legend**

Order Limits

**Number of Passes Recorded**

- 0
- 1
- 2 - 5
- 6 - 20
- 21 - 100
- 101 - 1000
- 1001 - 5000
- >5000

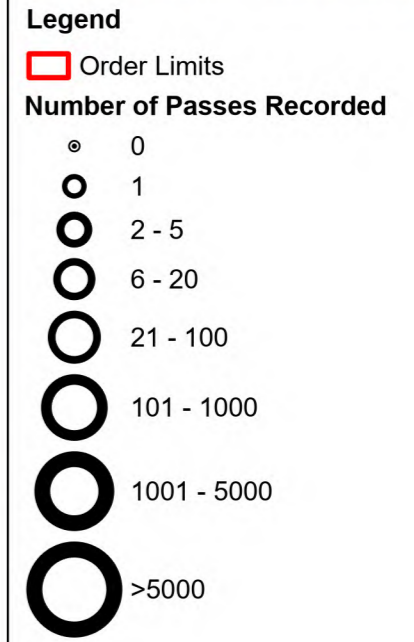
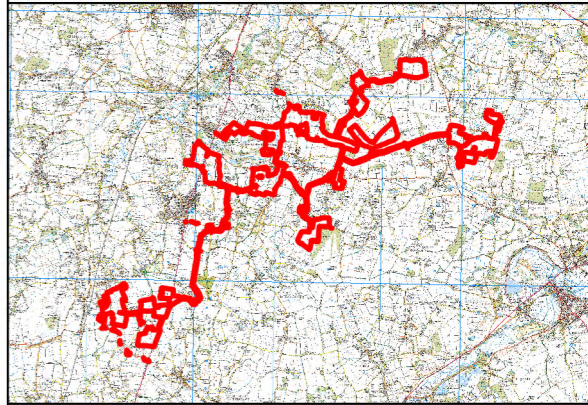
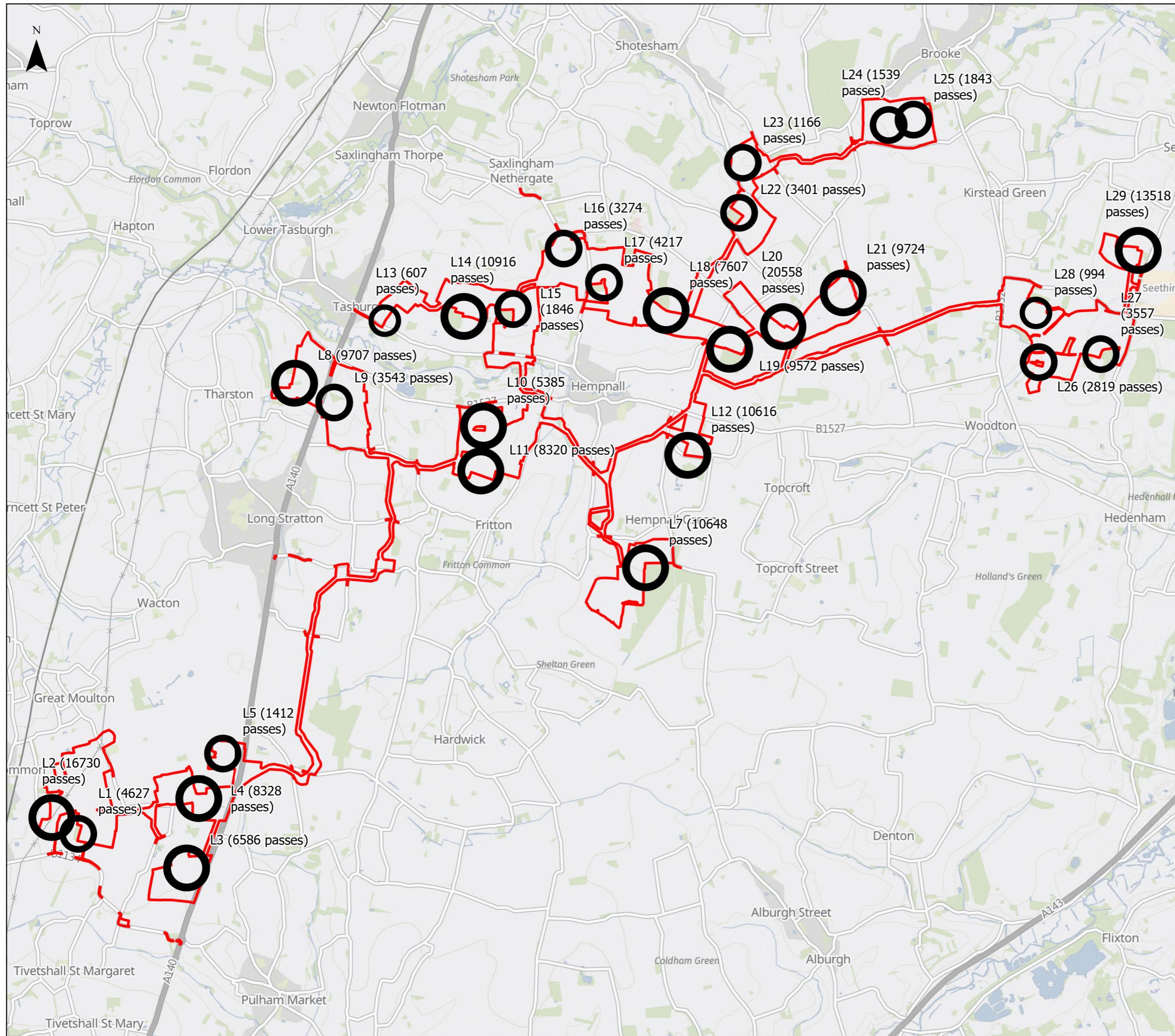
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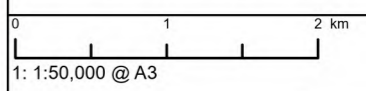
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**Figure 2: Bat Activity Survey Results  
Brown Long-Eared Bat**

Revision A



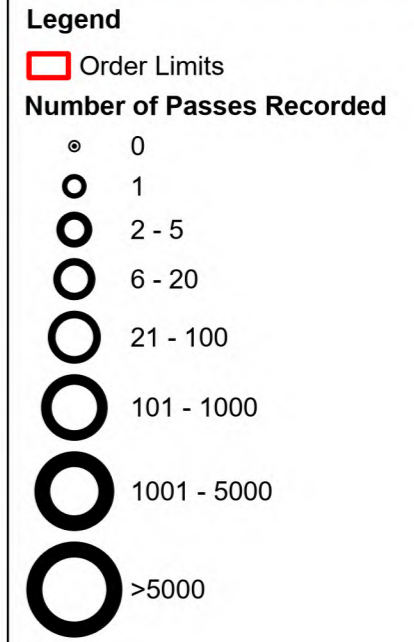
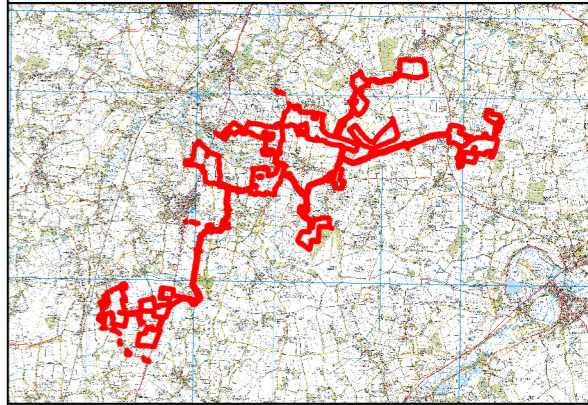
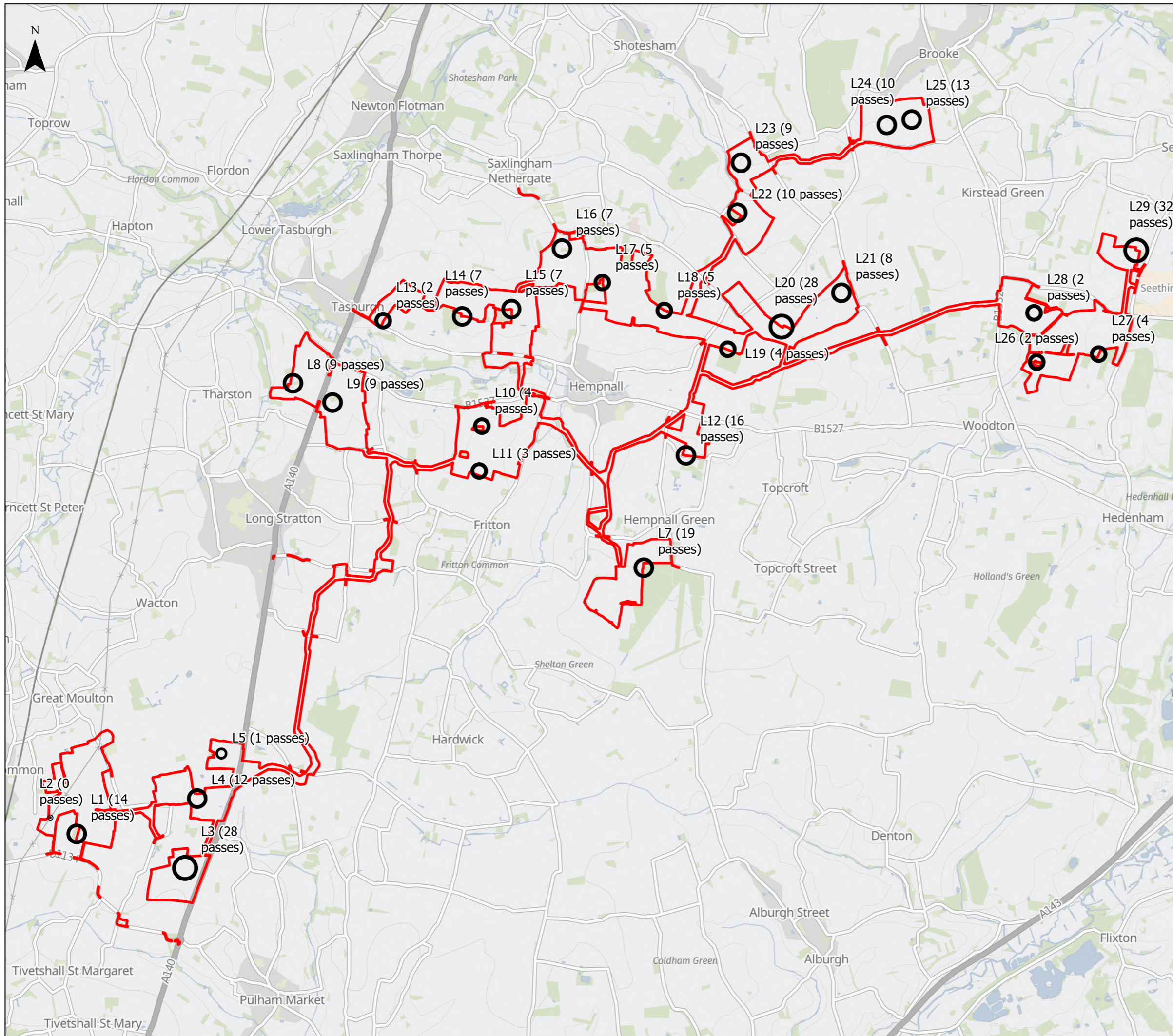
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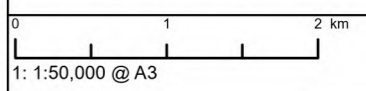
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**Figure 2: Bat Activity Survey Results  
Common Pipistrelle**

Revision A

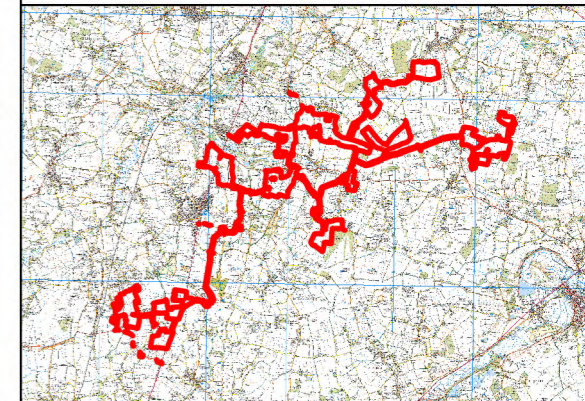
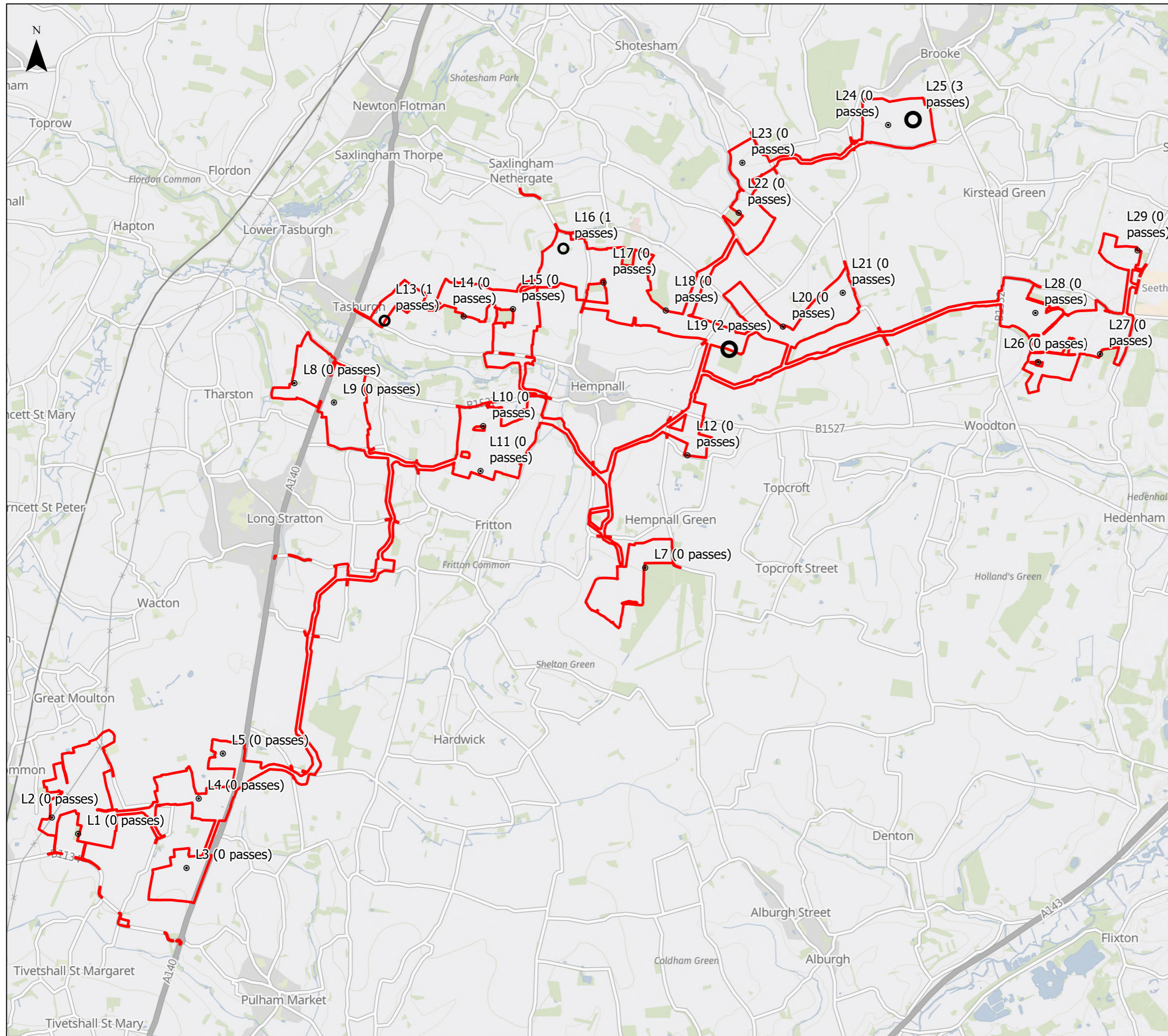


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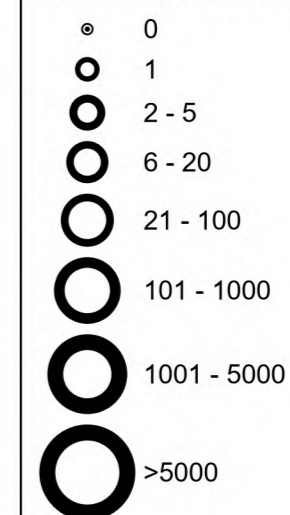
**Figure 2: Bat Activity Survey Results Daubenton's Bat**  
Revision A



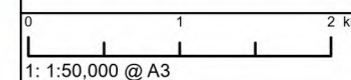
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Order Limits

**Number of Passes Recorded**



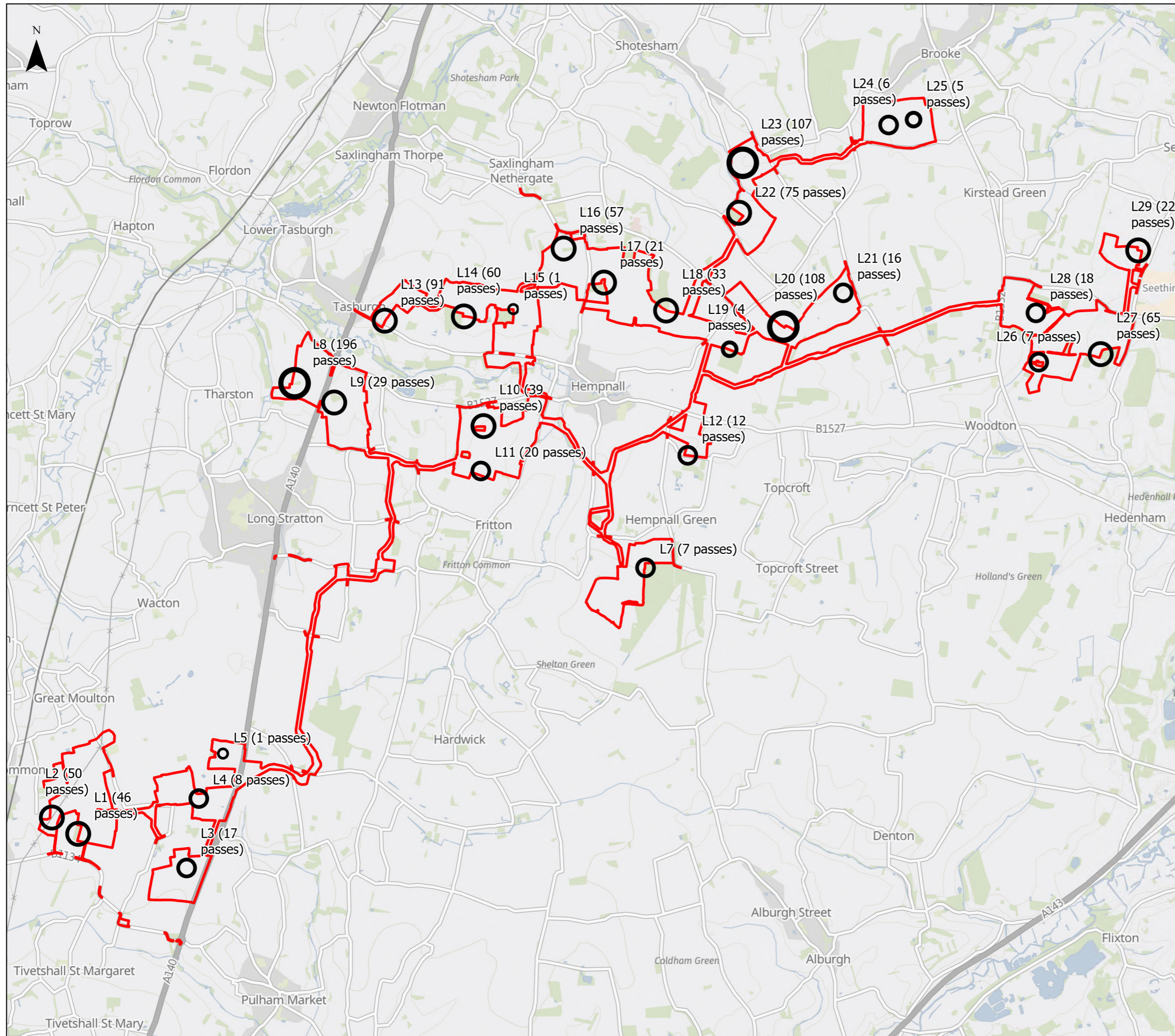
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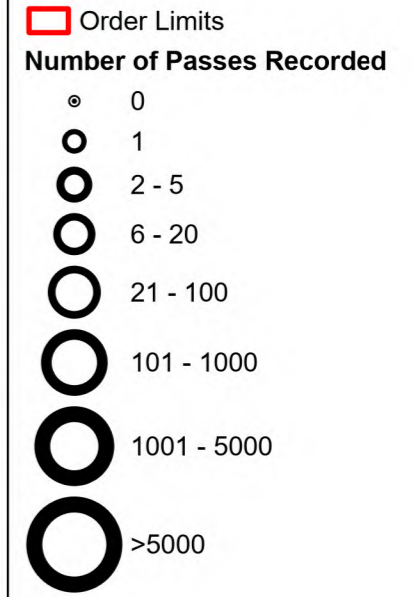
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**Figure 2: Bat Activity Survey Results  
Leisler's Bat**

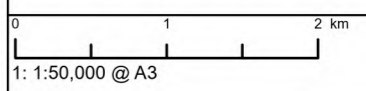
Revision A



**Legend**



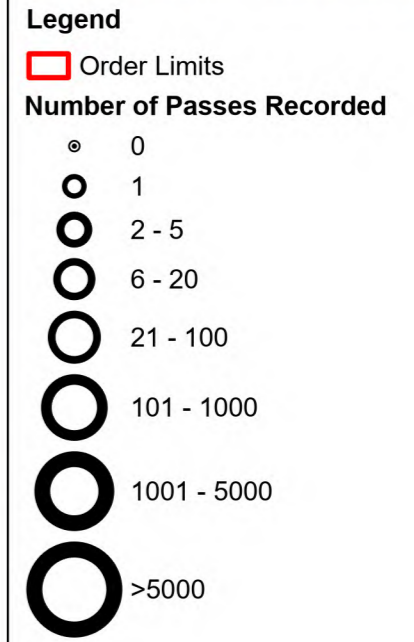
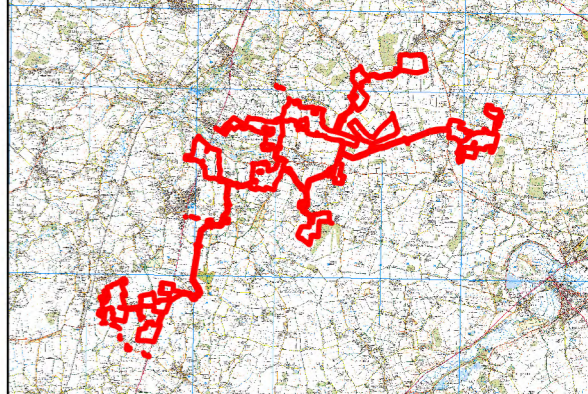
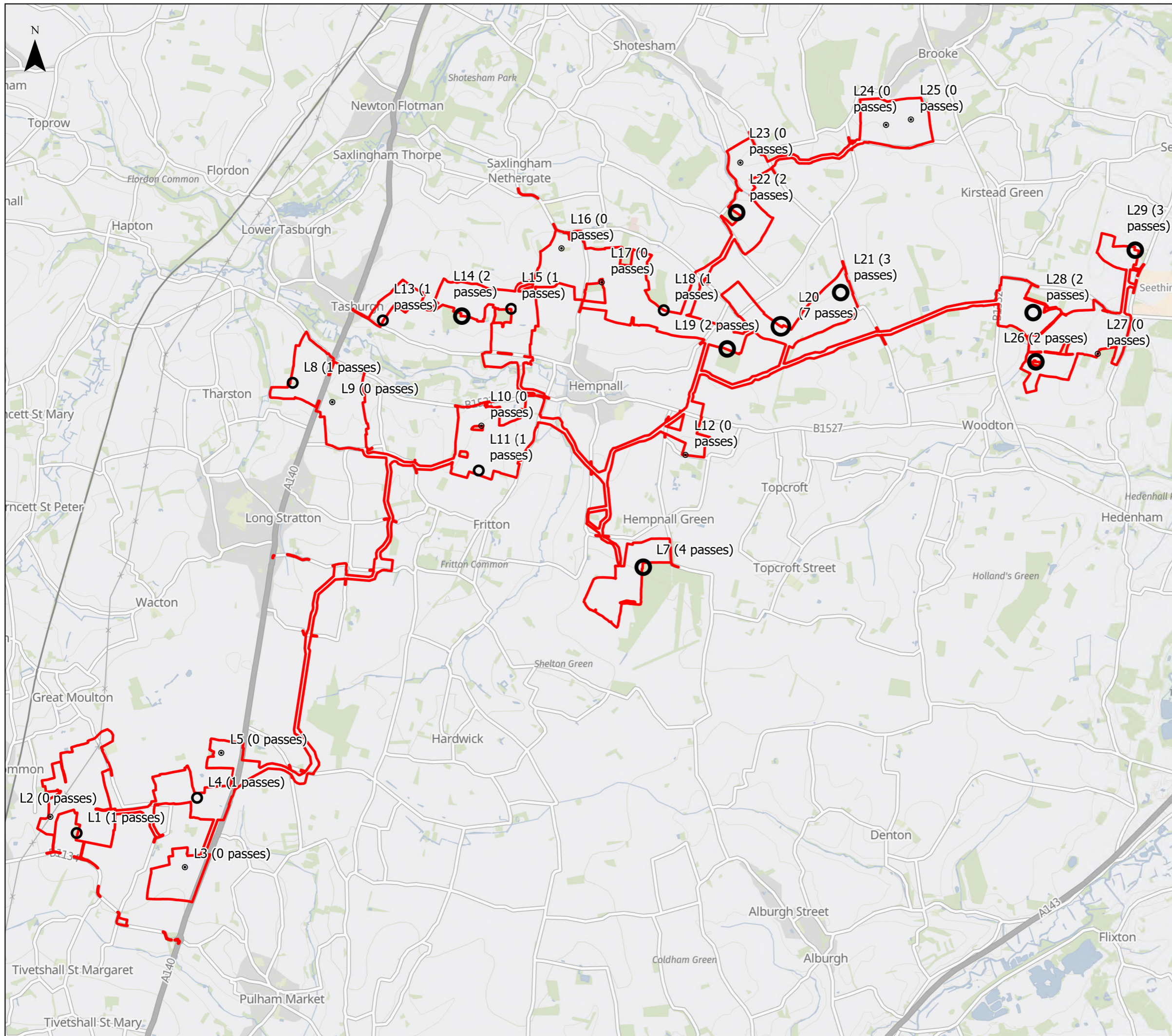
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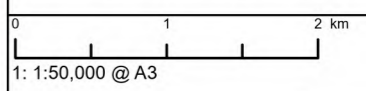
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**Figure 2: Bat Activity Survey Results Myotis Species**

Revision A



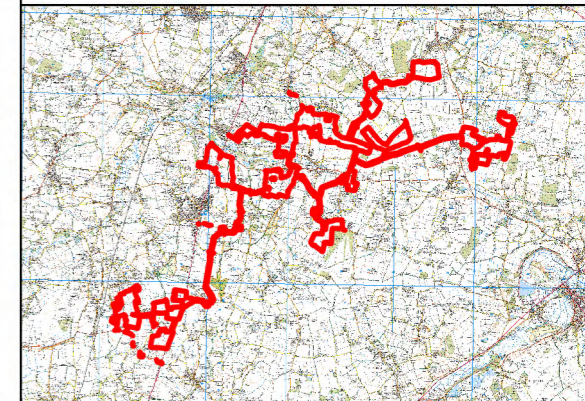
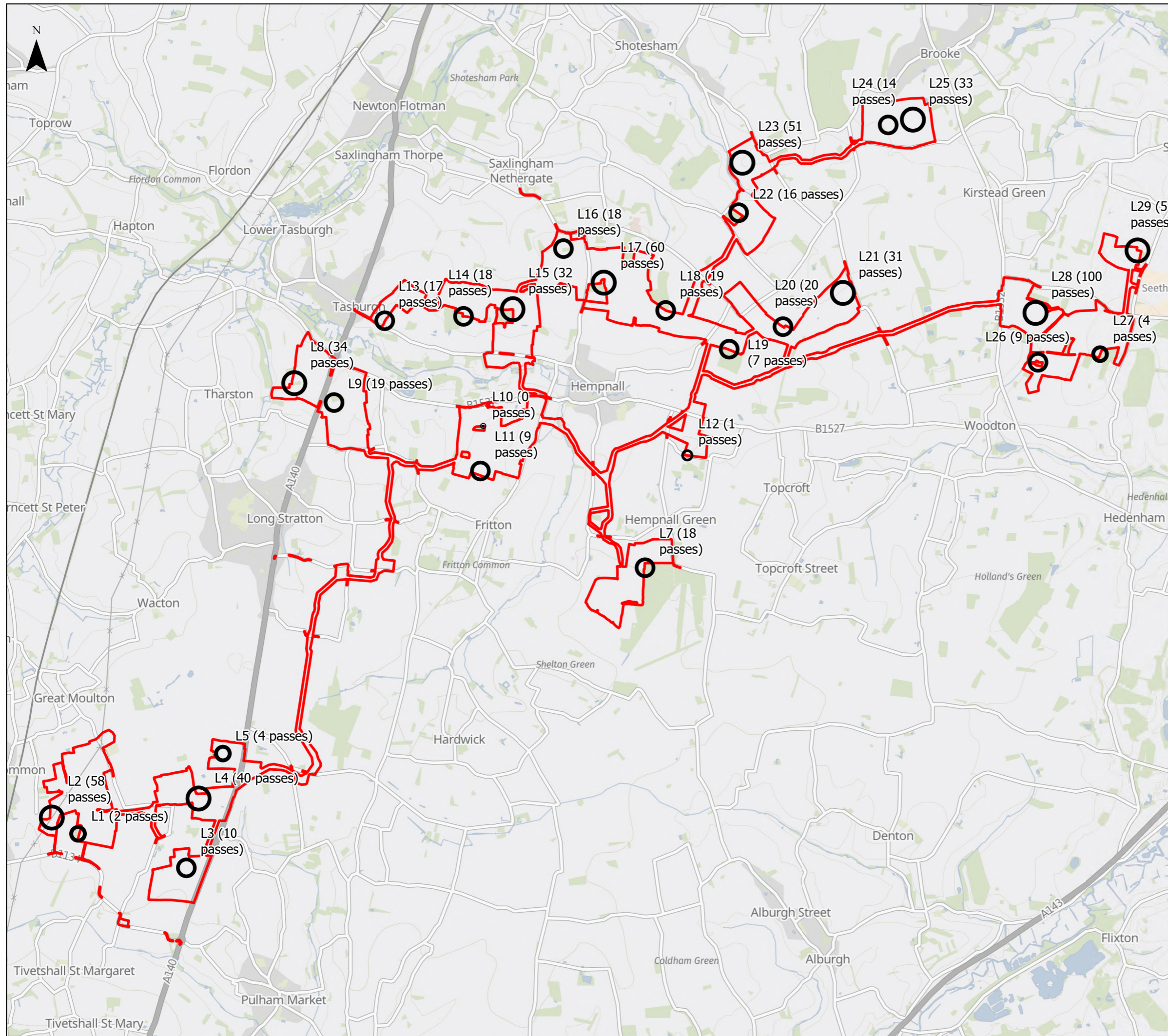
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**Figure 2: Bat Activity Survey Results Nathusius Pipistrelle**

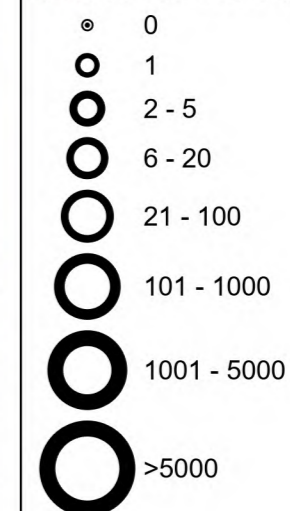
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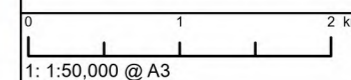
**Legend**

Order Limits

**Number of Passes Recorded**



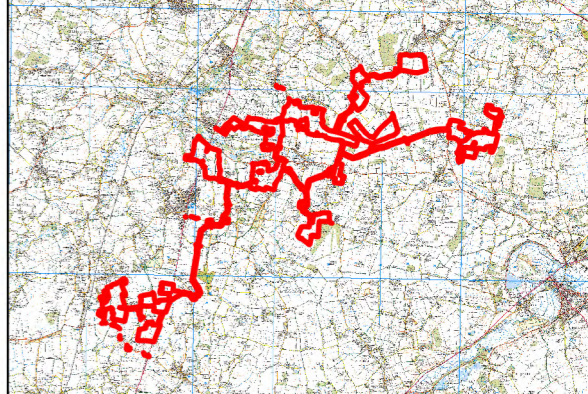
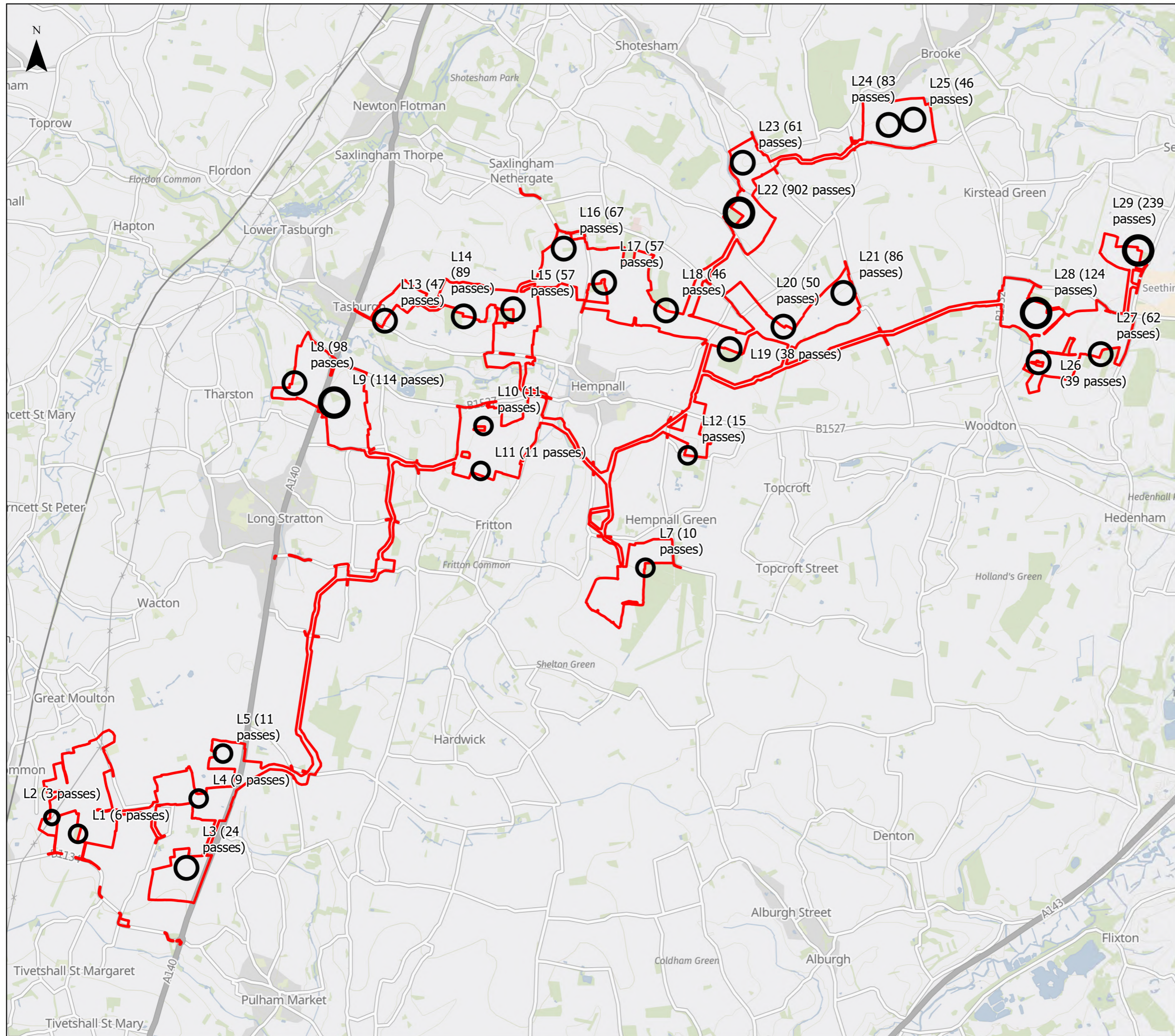
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**Figure 2: Bat Activity Survey Results  
Natterer's Bat**

Revision A



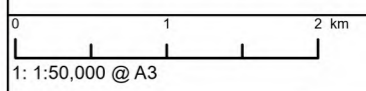
**Legend**

Order Limits

**Number of Passes Recorded**

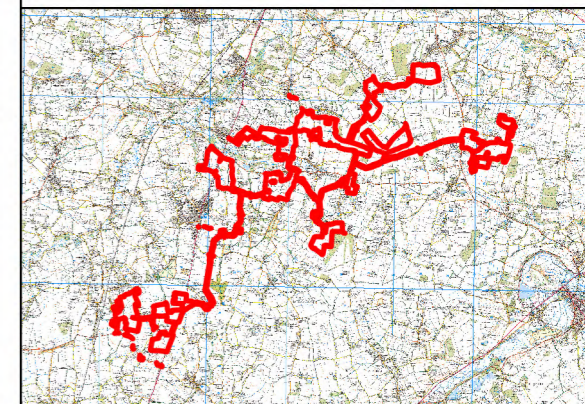
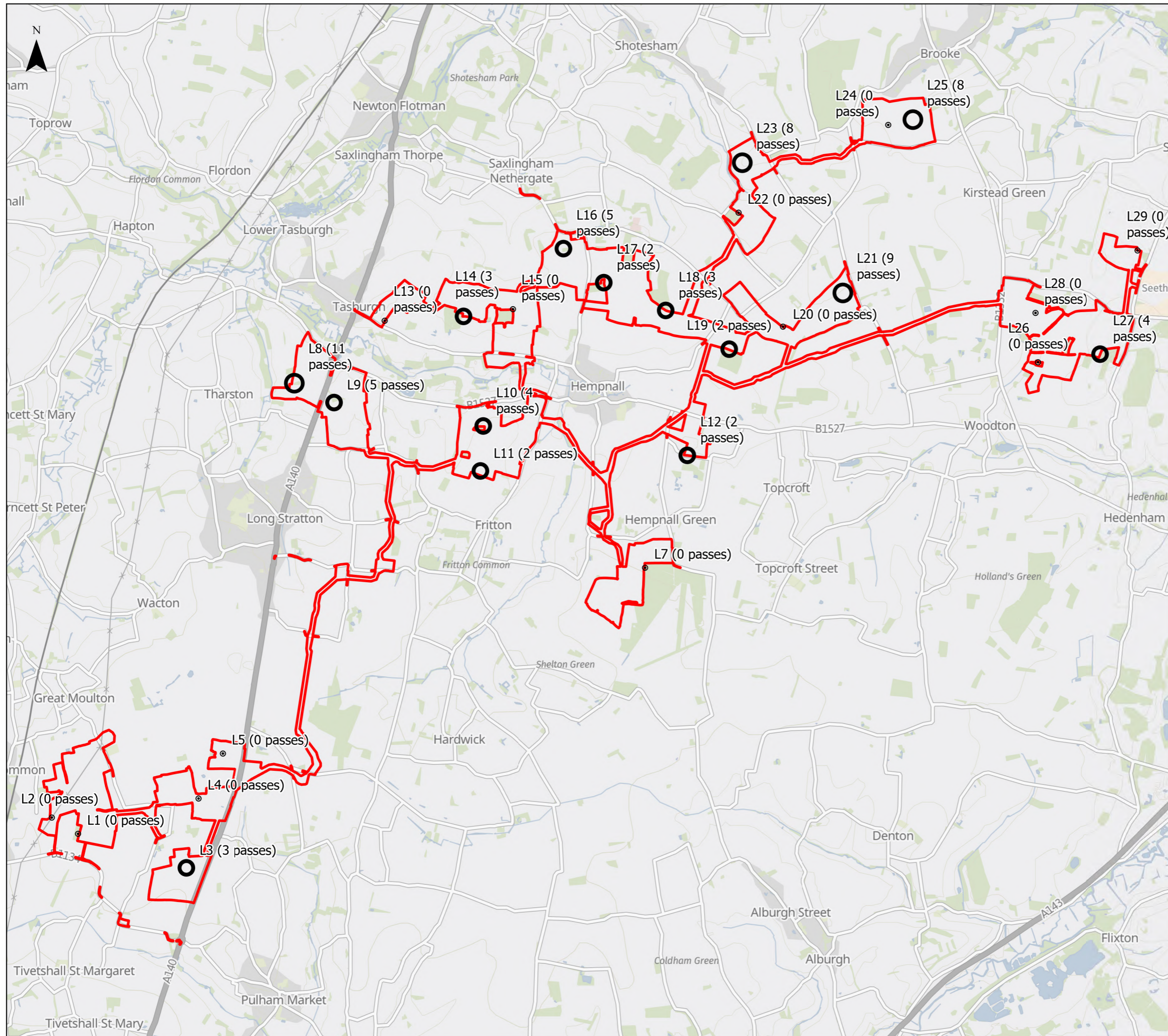
- 0
- 1
- 2 - 5
- 6 - 20
- 21 - 100
- 101 - 1000
- 1001 - 5000
- >5000

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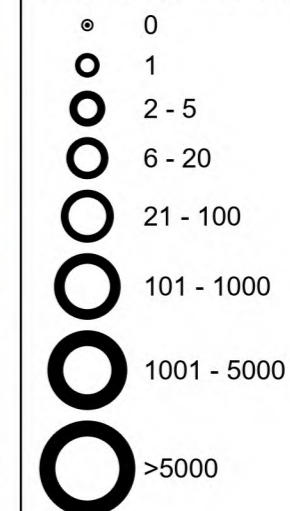
**Figure 2: Bat Activity Survey Results Noctule**  
Revision A



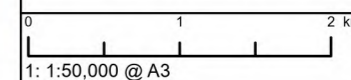
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Order Limits

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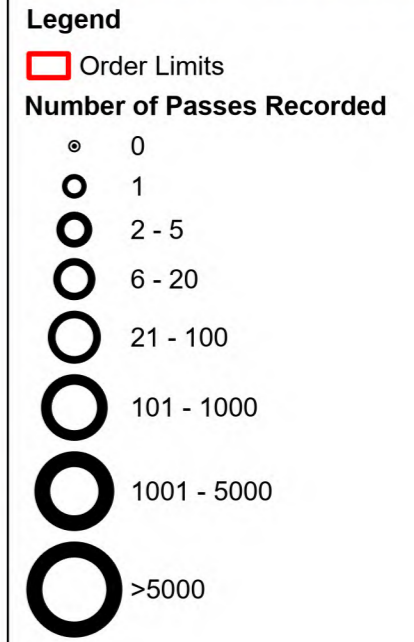
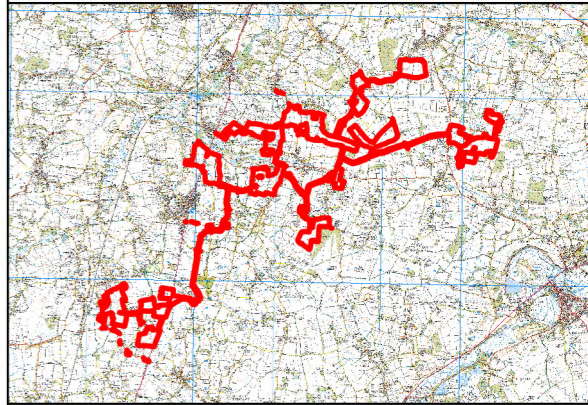
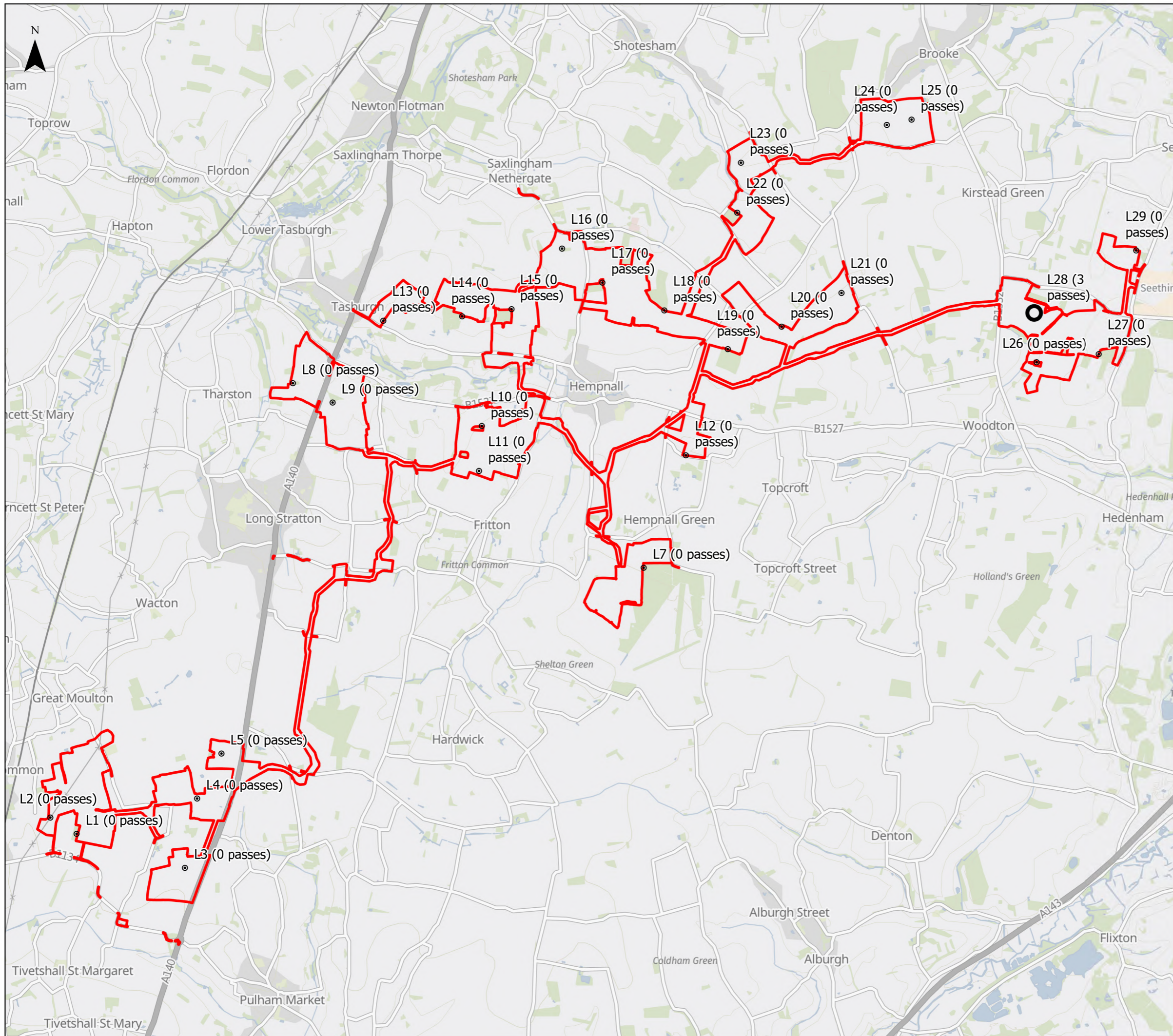
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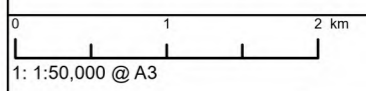
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**Figure 2: Bat Activity Survey Results  
Nyctalus Species**

Revision A

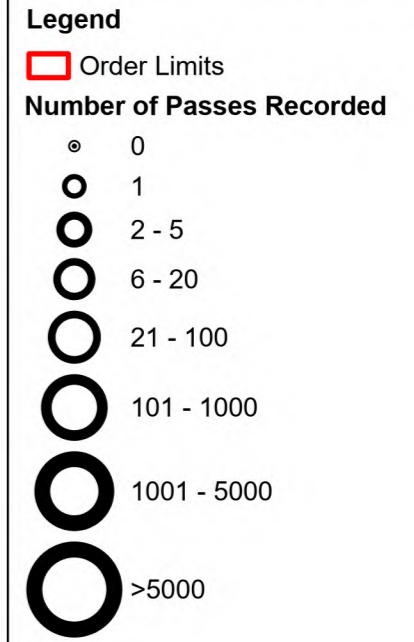
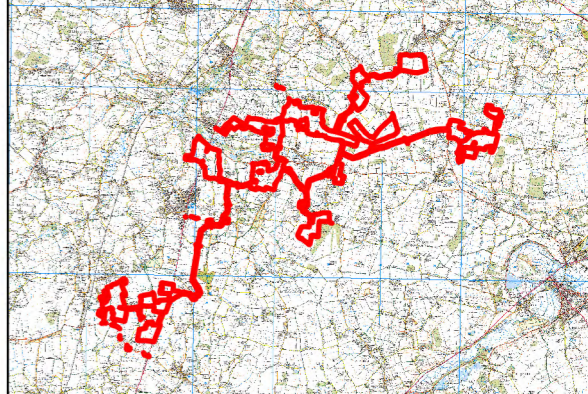
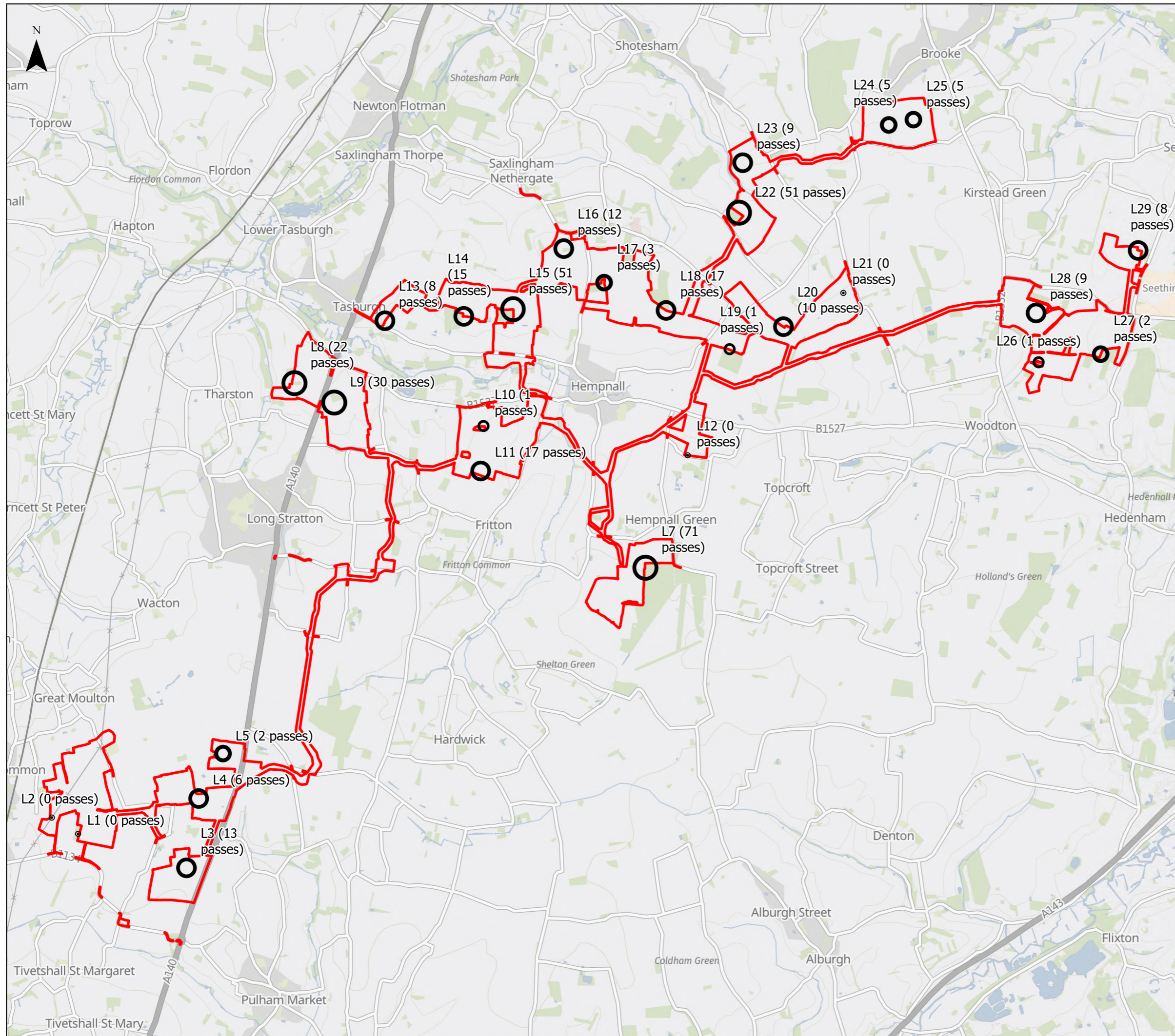


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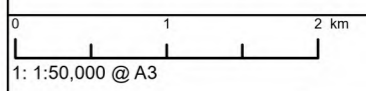


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**Figure 2: Bat Activity Survey Results Pipistrellus Species**  
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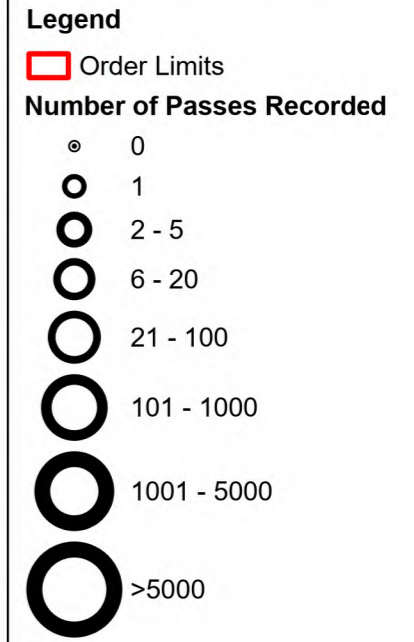
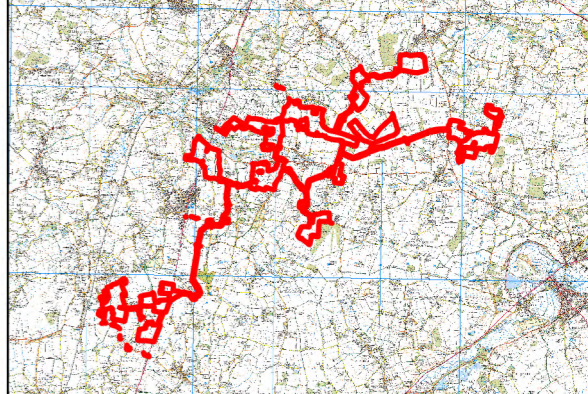
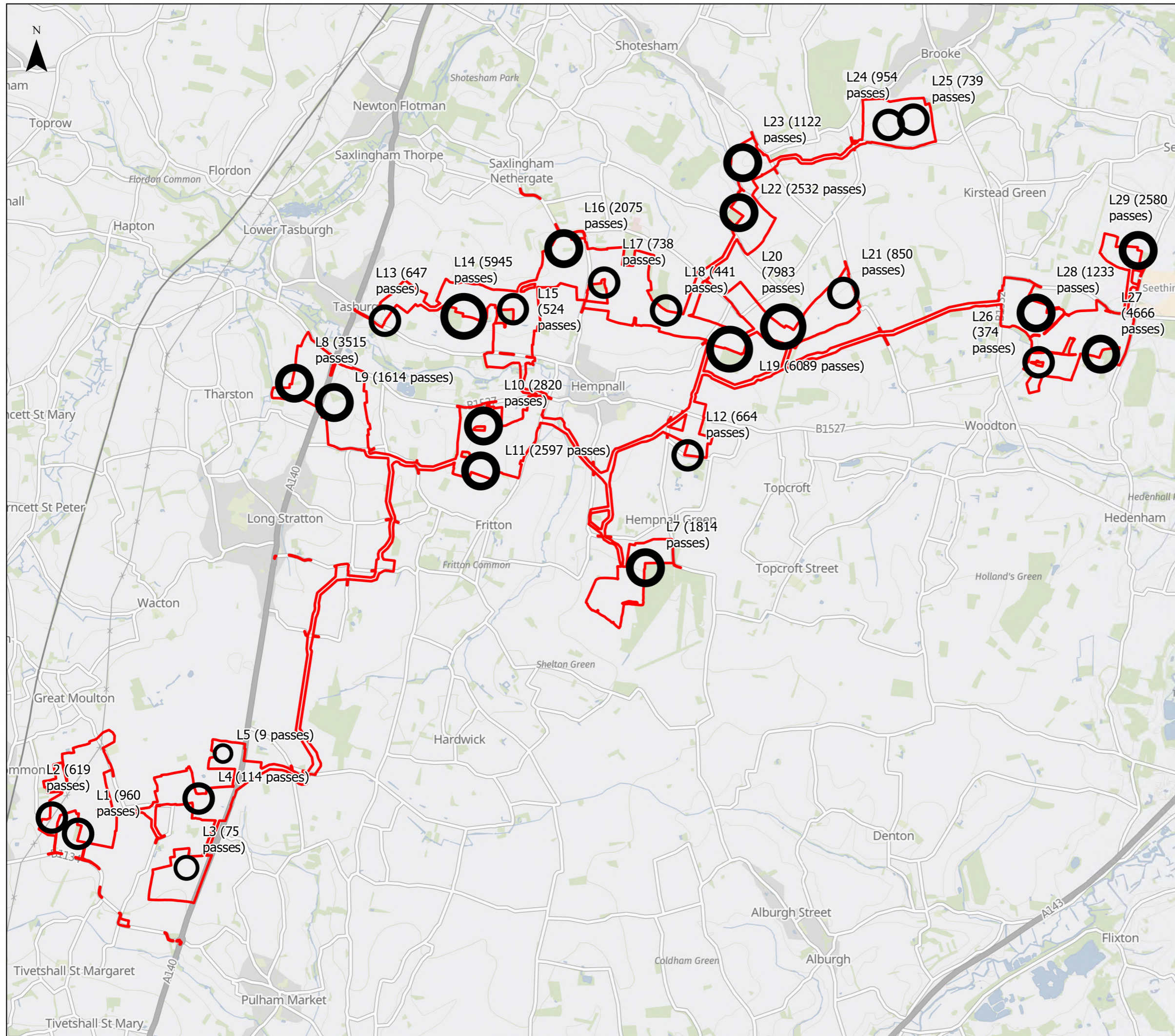


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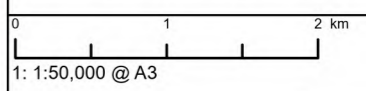


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**Figure 2: Bat Activity Survey Results Serotine**  
Revision A

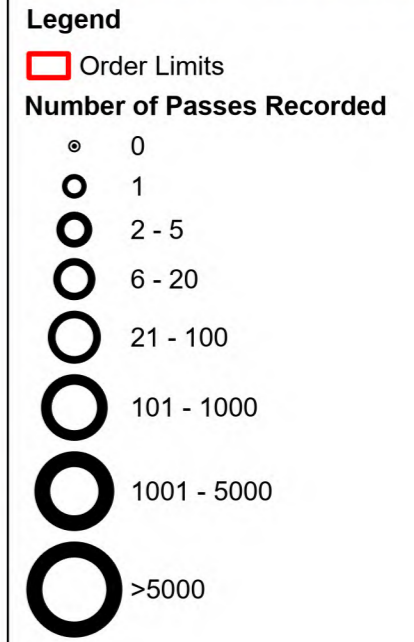
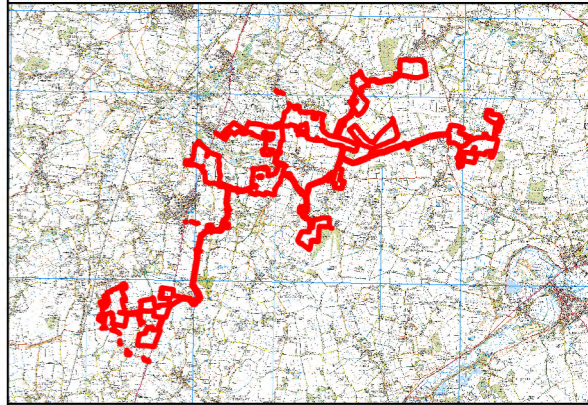
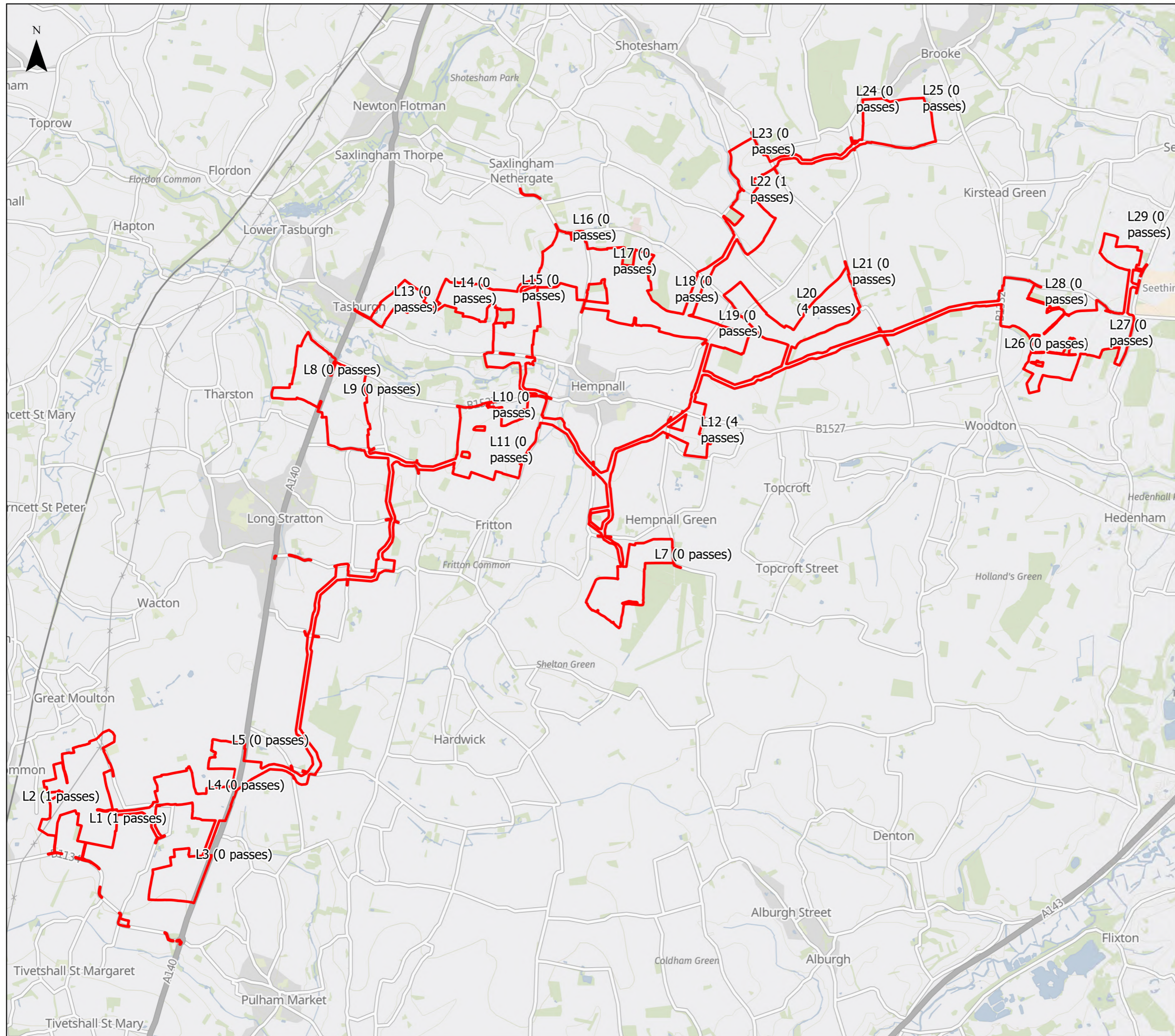


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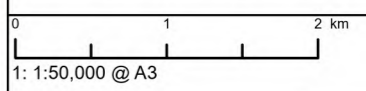


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**Figure 2: Bat Activity Survey Results Soprano Pipistrelle**  
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**Figure 2: Bat Activity Survey Results Whiskered Bat**  
Revision A

## Annex A: Legislation

### A.1 Legislation Afforded to Species

- A.1.1 The objective of the EC Habitats Directive<sup>14</sup> is to conserve the various species of plant and animal which are considered rare across Europe. The Directive is transposed into UK law by **The Conservation of Habitats and Species Regulations 2017 (as amended)** and the **'Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended)**.
- A.1.2 Various amendments to the 2017 Regulations in England and Wales have been made through the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. These changes came into effect on the 1 January 2021 following the UK's departure from the EU and the end of the Transition Period. The changes are largely limited to 'operability changes' that will ensure the Regulations can continue to have the same working effect as before.
- A.1.3 **The Wildlife and Countryside Act 1981 (as amended)** is a key piece of national legislation which implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection obligations of Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.
- A.1.4 Since the passing of the Wildlife & Countryside Act 1981, various amendments have been made, details of which can be found on [www.opsi.gov.uk](http://www.opsi.gov.uk). Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000).
- A.1.5 As well as delivering long-term targets to reduce waste and improve resource efficiency and improve air and water quality targets, the **Environment Act 2021** aims to halt the decline of nature by 2030, mandates Biodiversity Net Gain for developments in England and amends the Wildlife and Countryside Act 1981 (as amended) to introduce an additional purpose for granting a protected species licence in relation to development which is 'for reasons of overriding public interest'. The Act also introduces the Office for Environmental Protection (OEP), which will be a new public body intended to hold government and public authorities to account, although the government will be able to issue guidance to the OEP on how it enforces policies and legislation.
- A.1.6 Some of the key biodiversity elements in the Act that will have a bearing on species protection in the UK include:

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<sup>14</sup> Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora

- A.1.7 A strengthened biodiversity duty on Local Planning Authorities;
- Biodiversity net gain to ensure developments, including Nationally Significant Infrastructure Projects (NSIP), deliver at least 10% increase in biodiversity;
  - Local Nature Recovery Strategies to support a Nature Recovery Network;
  - Duty upon Local Authorities to consult on street tree felling;
  - Strengthen woodland protection enforcement measures;
  - Conservation Covenants;
  - Protected Site Strategies and Species Conservation Strategies to support the design and delivery of strategic approaches to deliver better outcomes for nature;
  - Introduces the power for the Habitats Regulations to be amended or 'refocused' to 'to deliver creative public policy thinking that delivers results'.
- A.1.8 This section does not provide further detail on the Environment Act 2021 as, at the time of writing (November 2021), the Act, in its final form, has not been published and it remains to be seen how and when the various elements will be enacted at a national and local level.
- A.1.9 Other legislative Acts affording protection to wildlife and their habitats include:
- Salmon and Freshwater Fisheries Act 1975;
  - Deer Act 1991;
  - Protection of Badgers Act 1992;
  - Wild Mammals (Protection) Act 1996;
  - Countryside and Rights of Way (CROW) Act 2000;
  - Natural Environment & Rural Communities (NERC) Act 2006;
  - The Eels (England and Wales) Regulations 2009; and
  - Environment (Wales) Act 2016.
- A.1.10 Species and species groups that are protected or otherwise regulated under the aforementioned legislation, and that are most likely to be affected by development activities, include herpetofauna (amphibians and reptiles), badger, bats, birds, dormouse, invasive species, otter, plants, red squirrel, water vole and white clawed crayfish.
- A.1.11 Explanatory notes relating to species protected under The Conservation of Habitats and Species Regulations 2017 (as amended), which include smooth snake, sand lizard, great crested newt, natterjack toad, all bat species, otter, dormouse and some plant, invertebrate and fish species, are given below. **These should be read in conjunction with the relevant species sections that follow.**

- A.1.12 In the Habitats Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.
- A.1.13 The Conservation of Habitats and Species Regulations 2017 (as amended) does not define the act of 'migration' and therefore, as a precaution, it is recommended that short-distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered where relevant.
- A.1.14 In order to obtain a mitigation licence for species protected under the Conservation of Habitats and Species Regulations 2017 (as amended), the application must demonstrate that it meets all of the following three 'tests': i) the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment; ii) that there is no satisfactory alternative and iii) that the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

### Bats

- A.1.15 All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2. Regulation 43 prohibits:
- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats);
- Deliberate disturbance of bat species as:
- a) to impair their ability:
- to survive, breed, or reproduce, or to rear or nurture young; or
- to hibernate or migrate.
- b) to affect significantly the local distribution or abundance of the species.
- Damage or destruction of a breeding site or resting place; and
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.
- A.1.16 Bats are also protected under the Wildlife and Countryside Act 1981 (as amended) in respect to sub-sections 9 (4) (b) and (c) and 9 (5) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:
- Intentional or reckless disturbance while in their place of shelter (at any level)

- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

How is the legislation pertaining to bats liable to affect development works?

- A.1.17 The appropriate licence issued by the relevant countryside agency (e.g. Natural England, Natural Resources Wales) will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to derogate from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.
- A.1.18 Though there is no case law to date, the legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost<sup>15</sup>.

**Birds**

- A.1.19 All wild birds, their nests and eggs are protected under Sections 1-8 of the Wildlife and Countryside Act 1981 (as amended). A wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Among other things, the legislation makes it an offence to:
- Intentionally kill, injure or take any wild bird;
  - Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
  - Intentionally take or destroy an egg of any wild bird; or
  - Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- A.1.20 Certain species of bird, for example the barn owl *Tyto alba*, black redstart *Phoenicurus ochruros*, hobby *Falco subbuteo*, bittern *Botaurus stellaris* and kingfisher *Alcedo atthis* receive additional special protection under Schedule 1 of the Act. This affords them protection against:
- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young.
  - Intentional or reckless disturbance of dependent young of such a bird.

How is the legislation pertaining to birds liable to affect development works?

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<sup>15</sup> Garland and Markham (2008) Is important bat foraging and commuting habitat legally protected? Mammal News, No. 150. The Mammal Society, Southampton.

- A.1.21 To avoid contravention of the Wildlife and Countryside Act 1981 (as amended), works should be planned to avoid the possibility of killing or injuring any wild bird or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction is to undertake work outside the main bird nesting season which typically runs from March to August<sup>16</sup>. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.
- A.1.22 Those species of bird listed on Schedule 1 are also protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest. It should be noted that there is no threshold under which disturbance is not an offence, that is to say that disturbance need not be 'significant' for an offence to be committed.
- A.1.23 While it is possible to obtain a licence to permit some activities that would otherwise constitute an offence, these can only be issued for specific purposes set out in the Act. This includes damage to crops, to preserve public health or safety and to preserve air safety, but does not include development, some land management and recreational activities and damage to property.

## A.2 Planning Policy

### National Planning Policy Framework

- A.2.1 The National Planning Policy Framework (2023) emphasises the need for sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and priority species (see Section D below). An emphasis is also made for the need for ecological networks via preservation, restoration and re-creation. The protection and recovery of priority species is also listed as a requirement of planning policy. In determining planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

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<sup>16</sup> It should be noted that this is the main breeding period. Breeding activity may occur outside this period (depending on the particular species, geographical location of the site and vagaries of the season in any particular year) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

## The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

- A.2.2 Section 40 of The Natural Environment and Rural Communities (NERC) Act requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.
- A.2.3 Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

### Local Plans

- A.2.4 The North Norfolk District Council's Core Strategy (2008) is a Local Development Framework (LDF) document which provides the overarching approach for development in North Norfolk. It sets out a long-term spatial vision, objectives and policies to guide public and private sector investment up to 2021. Key environmental policies are summarised below.

### Policy SS 4: Environment

- A.2.5 All development proposals will contribute to the delivery of sustainable development, ensure protection and enhancement of natural and built environmental assets and geodiversity. Opportunities to improve river water quality and minimise air, land and water pollution will be taken where possible. Open spaces and areas of biodiversity interest will be protected from harm, and the restoration, enhancement, expansion and linking of these areas to create green networks will be encouraged through a variety of measures such as:
- maximising opportunities for creation of new green infrastructure and networks in sites allocated for development;
  - creating green networks to link urban areas to the countryside; the designation of Local Nature Reserves and County Wildlife Sites;
  - appropriate management of valuable areas, such as County Wildlife Sites;
  - minimising the fragmentation of habitats, creation of new habitats and connection of existing areas to create an ecological network as identified in the North Norfolk ecological network report;
  - progress towards Biodiversity Action Plan targets;
  - and conservation and enhancement of Sites of Special Scientific Interest (SSSI) in accordance with the Wildlife and Countryside Act

A.2.6 New development will incorporate open space and high-quality landscaping to provide attractive, beneficial environments for occupants and wildlife and contribute to a network of green spaces.

A.2.7 The Norfolk Coast AONB Management Plan provides guidance for the conservation and enhancement of the areas special qualities and should be taken into consideration in all development proposals that could affect the area. National policy advises that major developments should not take place in nationally designated areas such as AONBs except in exceptional circumstances.

### **Policy EN 1: Norfolk Coast Area of Outstanding Natural Beauty and The Broads**

A.2.8 The impact of individual proposals, and their cumulative effect, on the Norfolk Coast AONB, The Broads, and their settings, will be carefully assessed. Development will be permitted where it;

- is appropriate to the economic, social and environmental well-being of the area or is desirable for the understanding and enjoyment of the area;
- does not detract from the special qualities of the Norfolk Coast AONB or The Broads;
- and seeks to facilitate delivery of the Norfolk Coast AONB management plan objectives.

A.2.9 Proposals that have an adverse effect will not be permitted unless it can be demonstrated that they cannot be located on alternative sites that would cause less harm and the benefits of the development clearly outweigh any adverse impacts. Development proposals that would be significantly detrimental to the special qualities of the Norfolk Coast AONB or The Broads and their settings will not be permitted.

### **Policy EN 9: Biodiversity & Geology**

A.2.10 All development proposals should:

- protect the biodiversity value of land and buildings and minimise fragmentation of habitats;
- maximise opportunities for restoration, enhancement and connection of natural habitats;
- and incorporate beneficial biodiversity conservation features where appropriate.

A.2.11 Development proposals that would cause a direct or indirect adverse effect to nationally designated sites or other designated areas or protected species will not be permitted unless;

- they cannot be located on alternative sites that would cause less or no harm;

- the benefits of the development clearly outweigh the impacts on the features of the site and the wider network of natural habitats;
  - and prevention, mitigation and compensation measures are provided.
- A.2.12 Development proposals that would be significantly detrimental to the nature conservation interests of nationally designated sites will not be permitted. Development proposals where the principal objective is to conserve or enhance biodiversity or geodiversity interests will be supported in principle. Where there is reason to suspect the presence of protected species applications should be accompanied by a survey assessing their presence and, if present, the proposal must be sensitive to, and make provision for, their needs.

### A.3 Biodiversity Action Plans (BAPs)

- A.3.1 Since the publication of the UK BAP in 1994, new strategies and frameworks have resulted in the development of biodiversity issues and changes in the terminology used to describe these habitats and species in England. This has been brought about through the replacement of the previous England Biodiversity Strategy with *Biodiversity 2020: A Strategy For England's Wildlife and Ecosystem Services* (2011) and the replacement of the UK BAP itself with the *UK Post-2010 Biodiversity Framework* (2012). All previous UK BAP species and habitats are still of material consideration in the planning process but are now referred to as Habitats and Species of Principal Importance (as described under the NERC Act 2006 above).
- A.3.2 The distribution of BAP/priority habitats has been used to identify Biodiversity Opportunity Areas at a regional scale through Biodiversity Strategies/Partnerships. They represent a strategic landscape scale approach to habitat creation, restoration or expansion. They represent regional priority areas of opportunity to restore and create key habitats. They are therefore a spatial representation of targets for Habitats of Principal Importance and are areas of opportunity, not constraint.