

Appendix 8-4: Bat Survey Report

Calderdale Energy Park

PEIR Volume 3

PINS Reference: EN0110023

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations
2009 – Reg 5 (2) (a).

7 April 2026



CALDERDALE ENERGY PARK

CALDERDALE WIND FARM

BAT ACTIVITY SURVEY REPORT

APRIL 2026

DATE ISSUED: April 2026
JOB NUMBER: LD11276
REPORT NUMBER: 002
VERSION: V1.2
STATUS: Final V1.2

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CALDERDALE WIND FARM

BAT ACTIVITY SURVEY REPORT

APRIL 2026

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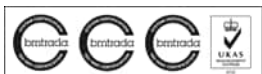
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DRAWINGS	TITLE	SCALE
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LD11276 003	Static Detector Locations & Transect Routes	1:50,000@A3
LD11276 004	Spring Night-time Bat Walkover Heat Map	1:50,000@A3
LD11276 005	Summer Night-time Bat Walkover Heat Map	1:50,000@A3

LD11276 006	Autumn Night-time Bat Walkover Heat Map	1:50,000@A3
LD11276 007	Overall Night-time Bat Walkover Heat Map	1:50,000@A3

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 In 2025, Wardell Armstrong LLP (Part of SLR Consulting) was commissioned by Calderdale Energy Park to undertake a programme of bat activity surveys to inform a proposed wind farm development. The project is located on land within the Walshaw Moor Estate, north of Hebdon Bridge, Calderdale, centred on approximate National Grid Reference (NGR) SD96668 33818 (refer to Drawing LD11276 001 Site Location), and hereafter termed the 'Site'.

1.2 Objectives

1.2.1 The objective of the survey and reporting is to establish the importance of the Site for bat activity. This report provides a summary, for the given timeframe, of bat activity on Site, including the species of bat present. It also identifies spatial patterns i.e. areas of high and low bat activity across the Site and provides an initial evaluation of importance of the Site for bats.

1.2.2 An assessment of impacts, consideration of site design and mitigation/compensation requirements are not considered within this report as they are expected to be included within the Preliminary Environmental Information Report (PEIR) and Environmental Statement (ES).

1.3 Proposed Development

1.3.1 The Calderdale Wind Farm is a proposed new wind farm development located over 2,352 ha of the Walshaw Moor Estate in Calderdale which includes (subject to detailed design proposals that are ongoing) the construction of up to 35 turbines.

1.4 Background Information

1.4.1 A suite of acoustic monitoring surveys was undertaken at two locations at the Site by Natural Power Consultants Anneli England between August 2024 and January 2025. The surveys identified 2256 passes from at least nine bat species. These are summarised below:

- Common pipistrelle *Pipistrellus pipistrellus* (1732 passes accounting for 76.8% of activity);
- *Myotis* spp. (374 passes accounting for 16.6% of activity);
- Noctule *Nyctalus noctula* (28 passes accounting for 1.2% of activity);

- Nathusius pipistrelle *Pipistrellus nathusii* (25 passes accounting for 1.1% of activity);
- Soprano pipistrelle *Pipistrellus pygmaeus* (4 passes accounting for 0.2% of activity);
- Brown long-eared bat *Plecotus auritus* (1 pass accounting for <0.1% of activity);
- Unknown bat *Chiroptera* species (1 pass, accounting for <0.1% of activity);
- Unknown *Nyctalus* species (1 pass, accounting for <0.1% of activity); and
- Unknown *Pipistrellus* species (1 pass, accounting for <0.1% of activity).

1.5 Site Context

1.5.1 The planning boundary encompasses 2,352 hectares (ha) of the Walshaw Moor Estate, currently run and managed as a grouse shooting estate. Habitats are typical of upland moorland and include dry heathland, acid grassland, blanket bog, wet heath and rush pasture. Some agricultural fields are present in the southern part of the site. A full analysis of the habitat composition is provided within the National Vegetation Classification Report (Wardell Armstrong, part of SLR Consulting, 2025). A mosaic of watercourses lead and run from large reservoirs to the centre of the site. The wider areas offers opportunities for roosting bats including buildings and other structures such as bridges and culverts.

1.5.2 The Site is located in Calderdale, West Yorkshire and is within the South Pennine Moor Site of Special Scientific Interest (SSSI), Special Protection Area (SPA) and Special Area of Conservation (SAC). Qualifying features include protected habitats and birds.

1.6 Quality Assurance & Environmental Management

1.6.1 All Ecologists employed by SLR are members of CIEEM and are bound by its code of professional conduct. All surveys and assessments have been undertaken with reference to the recommendations given in BS 42020.

2 METHODOLOGY

2.1 Survey Design

2.1.1 The bat activity survey methodology has been carried out in accordance with the scope of works supplied by Logika (Document reference 16617A-30-S01-01) and was designed with reference to Bat Conservation Trust's Bat Survey Guidelines (Collins, 2023) and NatureScot (2021) Bats and Onshore Wind Turbines guidance. This involves a combination of seasonal automated detector surveys and night-time bat walkovers (NBW)(formerly known as bat transects), as per the below.

2.2 Automated Bat Detector Survey

2.2.1 Static monitoring of bat activity is undertaken to identify the species assemblage and the spatial/temporal distribution of activity across the Site.

2.2.2 Current guidance states that automated/static bat detectors should be placed within the developable area at ten potential turbine locations, plus a third of additional potential turbine locations. Due to the size of the site and distance between potential turbine locations, one automated/static bat detector was placed at each proposed wind turbine location (or as close as feasible given access constraints and avoidance of sensitive breeding bird areas). Refer to Drawing LD11276 003 Static Detector Locations & Transect Routes for static detector locations.

2.2.3 Automated/static detectors used were the Song Meter SM4 Ultrasonic Recorder (Wildlife Acoustics, Inc.); in line with guidance these were deployed for a minimum of ten consecutive nights per season comprising spring (June), summer (August) and autumn (October), in suitable weather conditions (NatureScot, 2021). When weather conditions were sub-optimal, statics detectors were left for as long as was feasible.

2.2.4 The devices were attached to a stake, with the microphone being raised and pointing upwards at an angle of approximately 45 degrees, without significant impediment from overhanging vegetation. The recording period was 30 minutes prior to local sunset to 30 minutes after local sunrise.

2.2.5 Automated survey dates, times and weather conditions are detailed within Appendix 2. A summary of the survey times, weather conditions, and sunset and sunrise range, for each sampling period, are provided in Table 1 below.

Table 1: Summary of Timings and Weather Conditions during Automated Detector Deployment.

Period	Average temp. at sunset (°C)	Average min. temp (°C)	Average wind speed (mph)	Average precipitation	Sunset (range)	Sunrise (range)
18th June - 2nd July 2025	17	13	7.35	Dry	21:42 – 21:40	4:36 – 4:42
12th - 27th August 2025	16	13	5.40	Dry	20:43 – 20:09	5:41 – 6:08
24th September – 14 th October 2025	12	9	6.30	Dry	19:01 – 18:13	6:57 – 7:33

2.3 Night-Time Bat Walkover (NBW)

2.3.1 Manual transects (known as NBW) are undertaken to provide a ‘snapshot’ of bat activity across the site, with the aim to highlight foraging areas and identify key commuting pathways.

2.3.2 Manual transects were undertaken in June, August and September 2025 to represent spring, summer and autumn survey periods (NatureScot, 2021). Three transects were designed using existing tracks and pathways to minimise risk of impact to sensitive habitats, and to ensure safe walking access at night (see LD11276 003 Static Detector Locations & Transect Routes for activity transect routes).

2.3.3 The survey began at 30 minutes prior to sunset with a Vantage Point (VP) survey. The VP was located at the start of the transect routes. The VP survey commenced 30 minutes prior to local sunset and continued for a minimum of 30 minutes after local sunset, monitoring all emergence, commuting and foraging activity.

2.3.4 Following the VP survey a walked transect following the pre-determined route commences. The transect was designed to cover the majority of proposed turbine locations and a range of habitats across the site to gain a representative sample of bat activity. The transect lasted for a minimum of two hours, with surveyors walking continuously at an appropriate pace or repeating the transect where necessary.

2.3.5 All bat activity was recorded and summarised. Observations of bat behaviour, bat species, and number of bats and the direction of the flight path were also noted where possible.

2.3.6 Echo Meter Touch (Wildlife Acoustics, Inc., Massachusetts) bat detectors and iPads (Apple Inc., California) were used to detect bats and the built-in Kaleidoscope

classifiers were used to assist species identification. If required, the results were later analysed using BatSound sonogram analysis software (Version 3.31, Petterson Elektrik). All surveys were led by a Licensed Bat Ecologist (Natural England Class Licence CL18 (Bat Survey Level 2)).

2.3.7 NBW survey dates, times and weather conditions are detailed within Appendix 3.

2.4 Data Analysis

2.4.1 After retrieval of the recording devices the data files were downloaded as Waveform Audio File Format Files (WAV) and analysed via the British Trust of Ornithology (BTO) Acoustic Pipeline. Following analysis from the BTO Acoustic Pipeline, sound files matching the following parameters were manually analysed using Kaleidoscope audio conversion software for analysis (Version 1.1.19, Wildlife Acoustics, Inc.) and call parameters contained within Russ (2012):

- All calls with a probability less than 0.8 (this indicates the confidence in the analysis from the BTO Acoustic pipeline software);
- All sound files with unidentified bat species from the BTO Acoustic Pipeline analysis;
- All calls identified as Nathusius' pipistrelle *Pipistrellus nathusii*;
- All calls identified as species unlikely to be present on site, including Alcatthoe bat *Myotis alcatthoe*, barbastelle *Barbastelle barbastellus*, Bechstein's bat *Myotis bechsteinii*, greater horseshoe bat *Rhinolophus ferrumequinum*, lesser horseshoe bat *Rhinolophus hipposideros*, grey long-eared bat *Plecotus austriacus*, serotine and greater mouse-eared bat *Myotis myotis*.

2.4.2 The bat calls were then analysed to calculate the average number of bat passes per night, i.e. the Bat Activity Index (BAI) value, by dividing the total number of bat passes recorded at each turbine location by the number of recording nights at that location.

2.5 Evaluation

2.5.1 Assessment methods have been undertaken with reference to the Bat Mitigation Guidelines (2025). The site's foraging/commuting habitats were assigned a value using the following geographic frame of reference:

- National;
- Regional;
- County;

- 2.5.2 In this instance, rarity is assessed under the geographic region ‘Northern England’.
- 2.5.3 To determine the maximum possible score any site could achieve, a score is assigned to each species that could be present (as set out in Table in Appendix 4), where:
- widespread in (almost) 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]
- 2.5.4 Once the score for each has been calculated and summed to determine the maximum theoretical score, the threshold score needed for any assemblage to meet each geographic level of importance, can be calculated:
- Assemblage score meets or exceeds 45% of the maximum score: **County** importance
 - Assemblage score meets or exceeds 55% of the maximum score: **Regional** importance
 - Assemblage score meets or exceeds 70% of the maximum score: **National** importance
- 2.5.5 The assemblage score generated is based on the maximum score that can be achieved if the genus *Myotis* is not separated to species level.

2.6 Nomenclature

- 2.6.1 All flora and fauna names follow the National Biodiversity Network (NBN) Gateway (NBN, 2013). The common and scientific name of species/taxa is provided (if available) when first mentioned in the text, with only the vernacular name referred to thereafter.

2.7 Limitations

- 2.7.1 The results of the surveys undertaken by SLR are representative at the time of surveying.
- 2.7.2 Due to issues relating to access, the spring NBW and automated detector surveys were completed in June, which is outside of the spring survey period (April-May).
- 2.7.3 Permission to install new stakes across the site (to attach automated detectors to) was delayed by Natural England until after the spring survey. As a result, automated

detectors were not deployed at the following locations during the spring deployment period: L5, L7, L12, L15, L22, L25 and L29.

- 2.7.4 The automated detector at L13 during deployment in autumn was (presumably) stolen, and subsequently there is no data for this location during the autumn survey period. The impact of this is not expected to alter primary trends in the results.
- 2.7.5 Only two recordings were made at Location 5 in Autumn, both of which were noise recordings. As this would appear to be a significant outlier, Autumn Location 5 has been excluded from the BAI calculations.
- 2.7.6 It is recommended that bats are surveyed for in the optimal temperature of 10°C and above, as literature has found that reduced bat activity occurs at temperatures lower than 6°C¹. Weather conditions were at or below 6°C on the 24th-26th September, 29th September and 12th October, therefore levels of bat activity are expected to be lower than average during these nights. However, as all automated detectors recorded data during these colder nights, a fair comparison between locations can still be made.
- 2.7.7 It should be noted that long-eared bats, *Plecotus* spp in particular, echolocate more quietly than other bat species and so can sometimes be more difficult to detect. *Myotis* and *Nyctalus* species are notoriously difficult to identify in the field and from recorded sonograms, as there is considerable overlap in their echolocation characteristics. Where the species cannot be determined only the genus is stated.
- 2.7.8 Due to the similarity in call characteristics between species within the *Myotis* genus, bat calls from this genus were grouped together as *Myotis* sp. All *Myotis* species are classified as at low collision risk from wind turbines (Lintott et al, 2018), and therefore the identification to species level for this genus is not critical for the purposes of the study.

¹ Slack, G. and Tinsley, E. (2015) Linking bat surveys with meteorological data: a way to target operational wind farm mitigation. In Practice 87 34-38.

3 RESULTS AND ANALYSIS

3.1 Automated Surveys

3.1.1 The total number of bat passes recorded for each species, at each location, across the full survey is provided in Table 2. Table 3 shows the average number of bat passes recorded per night for each species, at each location. Please note sample locations are not fully consecutive, as location numbers correspond to the original turbine locations which have since been reduced.

Table 2: Total Number of Bat Passes for each Static Detector during the Automated Survey Period

Sample Location	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	Noctule	Leisler's	Nyctalus spp.	Myotis spp.	Brown long-eared	Unidentified bat	Total
1	8196	32	43	1558	44	0	660	87	692	11312
2	21554	42	166	23	5	0	3791	7	452	26040
3	2938	16	92	5	3	0	133	0	0	3187
4	398	2	6	27	1	0	12	1	3	450
5*	2041	2	41	22	12	0	44	2	0	2164
6	8319	40	35	102	54	0	1034	36	0	9620
7*	456	1	18	53	20	1	55	0	0	604
10	7628	13	202	136	12	1	208	24	112	8336
11	1424	5	73	74	11	0	26	12	0	1625
12*	95	0	1	4	2	0	2	0	0	104
13**	3878	5	6	56	7	3	191	2	1	4149
14	3241	4	12	135	9	0	48	3	0	3452
15*	759	7	49	91	54	0	207	21	0	1188
16	9838	24	18	143	30	0	681	45	7	10786
17	1507	1	30	107	26	3	52	10	0	1736
19	796	6	8	200	25	5	162	20	3	1225
20	2733	10	70	34	10	0	51	5	0	2913
22*	378	0	0	8	6	0	2	0	5	399
23	5779	64	29	52	7	0	590	28	2	6551
24	206	10	3	18	4	0	12	0	0	253
25*	1078	3	181	15	17	0	75	6	2	1377
27	375	5	5	26	13	3	20	1	1	449
28	477	3	1	33	19	0	27	0	0	560

Sample Location	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	Noctule	Leisler's	Nyctalus spp.	Myotis spp.	Brown long-eared	Unidentified bat	Total
29*	937	5	10	24	16	1	68	2	0	1063
Grand Total (All Units)	85031	300	1099	2946	407	17	8151	312	1264	99543

* Locations not sampled in the Spring survey.

** Location not sampled in the Autumn survey.

Table 3: Average Number (BAI) of Bat Passes per Night during the Automated Survey Period

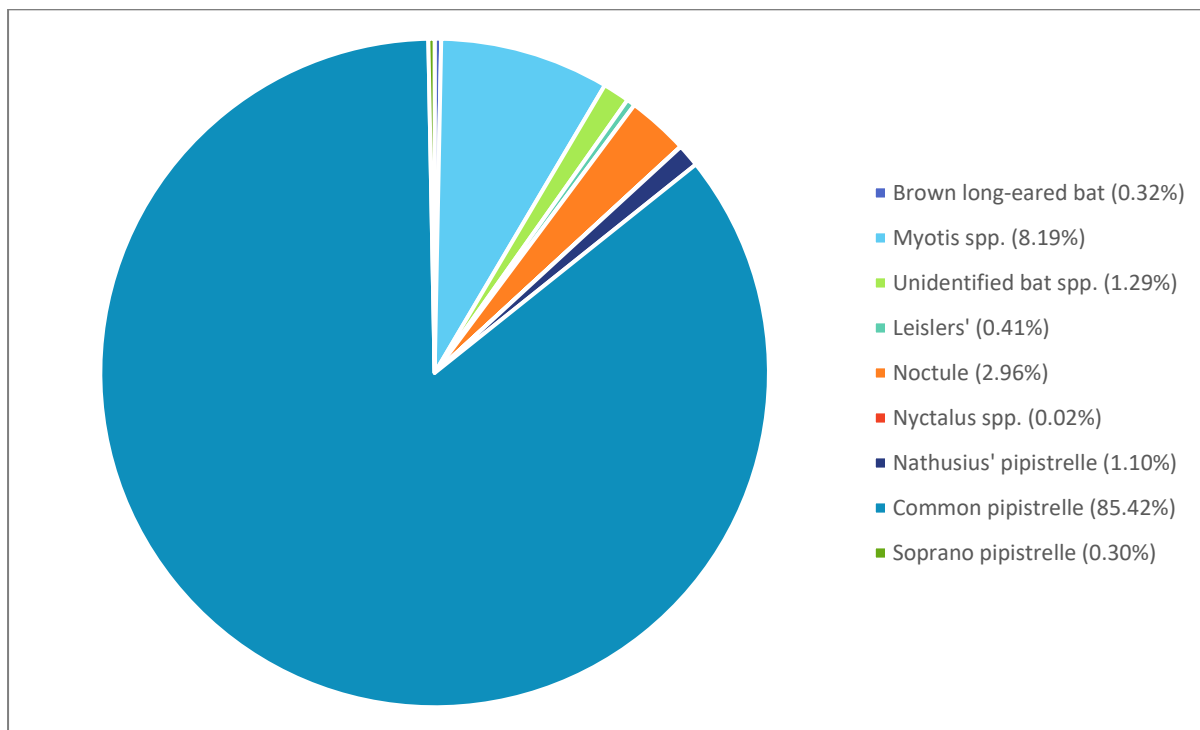
Sample Location	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	Noctule	Leisler's	Nyctalus spp.	Myotis spp.	Brown long-eared	Unidentified bat	Total
1	135.346	0.615	23.058	29.827	0.981	0.038	11.731	2.519	13.423	217.539
2	414.5	0.808	3.192	0.442	0.096	0	72.904	0.135	8.692	500.769
3	79.405	0.432	2.486	0.135	0.081	0	3.595	0	0	86.135
4	7.654	0.038	0.115	0.519	0.019	0	0.23	0.019	0.058	8.654
5*,***	127.563	0.125	2.563	1.375	0.75	0	2.75	0.125	0	135.25
6	159.981	0.769	0.673	1.962	1.038	0	19.885	0.692	0	185
7*	12.324	0.027	0.486	1.432	0.54	0.027	1.48	0	0	16.324
10	146.692	0.25	3.884	2.615	0.23	0.019	4	0.461	2.153	160.307
11	27.384	0.096	1.403	1.423	0.211	0	0.5	0.230	0	31.25
12*	4.523	0	0.047	0.19	0.095	0	0.095	0	0	4.952
13**	125.096	0.161	0.193	1.806	0.225	0.096	6.161	0.064	0.032	133.838
14	62.326	0.076	0.23	2.596	0.173	0	0.923	0.057	0	66.384
15*	20.513	0.189	1.324	2.459	1.459	0	5.594	0.567	0	32.108
16	189.192	0.461	0.346	2.75	0.576	0	13.096	0.865	0.134	207.423
17	28.98	0.019	0.576	2.057	0.5	0.057	1	0.192	0	33.384
19	15.307	0.115	0.153	3.846	0.48	0.096	3.115	0.384	0.057	23.557
20	52.557	0.192	1.346	0.653	0.192	0	0.98	0.096	0	56.019
22*	10.216	0	0	0.216	0.162	0	0.054	0	0.135	10.783
23	111.134	1.23	0.557	1	0.134	0	11.346	0.538	0.038	125.98
24	5.567	0.27	0.081	0.486	0.108	0	0.324	0	0	6.837
25*	29.135	0.081	4.891	0.405	0.459	0	2.027	0.162	0.054	37.216
27	10.135	0.135	0.135	0.702	0.351	0.081	0.54	0.027	0.027	12.135
28	12.89	0.081	0.027	0.891	0.513	0	0.729	0	0	15.135
29*	25.324	0.135	0.270	0.648	0.432	0.027	1.837	0.054	0	28.729

Sample Location	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	Noctule	Leisler's	Nyctalus spp.	Myotis spp.	Brown long-eared	Unidentified bat	Total
Average (All Units)	82.957	0.292	1.072	2.874	0.397	0.016	7.952	0.304	1.248	97.12

* Locations not sampled in the Spring survey.
 ** Location not sampled in the Autumn survey.
 *** Outlying results from Autumn survey excluded from BIA calculations.

- 3.1.2 In total, across the recording period at each recording location, a BAI of 97.12 bat passes per night were recorded. The level of overall activity differed between the detector locations, with the highest BAI recorded at Location 2 (with a total average of 500.769 bat passes per night) and the lowest BAI at Location 12 (a total average of 4.952 bat passes per night).
- 3.1.3 At least seven bat species were recorded at the detector locations during the 2025 survey period, comprising (in order of most to least frequently recorded): common pipistrelle, *Myotis* spp, noctule, Nathusius' pipistrelle, Leisler's, brown long-eared bat and soprano pipistrelle.
- 3.1.4 There were also recordings made from bats that could not be identified. Of these, and in terms of vulnerability to blade collision, Nathusius' pipistrelle, noctule, and Leisler's would be assessed as high vulnerability species, common pipistrelle and soprano pipistrelle assessed as medium vulnerability species, and brown-long eared bat assessed as low vulnerability (Wray et al, 2010). *Myotis* spp could be assessed as medium vulnerability (Alcathoe, Bechsteins) or low vulnerability (Daubentons, Natterers, Whiskered, Brandts) dependant on species.
- 3.1.5 The percentage of total activity recorded attributed to each species is depicted in Figure 1.

Figure 1: Percentage of Bat Activity by Species (all Locations) during the 2025 Automated Survey Period.



3.1.6 Table 4 shows the temporal spread of activity across the monitoring period (i.e. per season), showing the average number of bat passes per night (BAI) per location each season. From this it may be seen that overall levels of bat activity peaked significantly in Summer and were lowest in Autumn.

Table 4: Average Number of Bat Passes (BAI) Per Season Recorded During the Automated Survey Period

Season	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	Noctule	Leisler's	Nyctalus spp.	Myotis spp.	Brown long-eared	Unidentified bat	Total
Spring	44.594	0.015	0.794	0.441	0.025	0.005	2.133	0.082	0.0102	48.1
Summer	171.356	0.777	1.864	7.461	0.885	0.0244	14.038	0.627	3.472	200.5
Autumn	28.735	0.023	0.558	0.246	0.164	0.015	5.56	0.14	0	35.445

3.2 Night-Time Bat Walkover Surveys

Vantage Point (VP) surveys

- 3.2.1 No bat activity was recorded during the VP surveys. This may be due to the open nature of vast parts of the Site, lack of linear and commuting features across the Site and within view of the VP locations. It may also be due to species with later typical emergence periods (e.g. *Myotis* spp) emerging later than the VP survey timings.

Walked Transect

- 3.2.2 All bat activity recorded during the NBW surveys related to common pipistrelle. Activity was recorded at very low levels, with recordings made most frequently relating to foraging common pipistrelle near to buildings, mature trees and watercourses/waterbodies. This is a typical finding and is likely to relate to increased insect activity and sheltered foraging at these locations. All activity recordings are displayed as heat maps on drawings LD11276 004, Spring Night-time Bat Walkover Heat Map; LD11276 005, Summer Night-time Bat Walkover Heat Map; LD11276 006, Autumn Night-time Bat Walkover Heat Map; and LD11276 007, Overall Night-time Bat Walkover Heat Map.

4 SITE EVALUATION

4.1.1 Based on the assessment criteria detailed in Reason and Wray et al. (2025), an evaluation of the assemblage of bats on Site is provided in Table 5 below². The assessment criteria is provided in full within Appendix 4. Please note that this assessment is indicative only and does not consider levels of activity across the Site, or the presence of unidentified bat species. It should therefore be considered as an initial assessment, which should be used alongside a qualitative assessment of species presence and diversity, activity levels, habitat connectivity and suitability as well as potential roost locations.

4.1.2 It should be noted that larger sites with a high number of recording locations (as is the case here) will naturally record a higher level of bat activity and are more likely to record a larger assemblage of bats. This is a level of bias that should be accounted for during qualitative assessments.

Table 5: Evaluation of Bats by Species utilising the Site (Reason, P.F. and Wray, S, 2025).

Species	Importance of commuting and foraging habitat	Importance of assemblage
Widespread Common pipistrelle Soprano pipistrelle Brown long-eared	The habitats on Site have good commuting and foraging opportunities due to the large continuous expanse of high-quality habitat that is well connected to expanses of woodlands, waterbodies, and river valleys. The majority of the Site is not considered to be optimal for foraging or commuting bats given the open nature as well as the high wind speeds and generally poor weather at the peak of the Site which may in turn affect feeding opportunities.	<i>1 point per species</i> Score 3 for this part of the assemblage (of a maximum of 3).
Widespread in many geographies, but not as abundant in all Noctule Daubenton's Natterer's Whiskered Brandt's	The habitats on Site have good commuting and foraging opportunities due to the large continuous expanse of high-quality habitat that is well connected to expanses of woodlands, waterbodies, and river valleys. The majority of the Site is not considered to be optimal for foraging or commuting bats given the open nature as well as the high wind speeds and generally poor weather at the peak of the Site which may in turn affect feeding opportunities.	<i>2 points per species</i> Score of 10 for this part of the assemblage (of a maximum of 10). Note: It is assumed that all four species of myotis are present on site.

² 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.

Species	Importance of commuting and foraging habitat	Importance of assemblage
Rarer or restricted range		<i>3 points per species</i>
Alcathoes		Score 6 for this part of the assemblage (of a maximum of 9). Note: It is assumed that the rarer Alcathoe bat is not present on site.
Leislers'		
Nathusius' pipistrelle		

- 4.1.3 The species recorded on site give an assembly score of 19 out of a possible 22 score, equating to 86%. This exceeds the threshold of 70% and therefore the Site is initially assessed as having National Importance for bats. The percentage score achieved for the site relates to the maximum possible score for Site assemblage using a non-windfarm assessment methodology. This score is assuming the worst case scenario, that all species of Myotis are present on Site. If one or two species of Myotis is present this would equate to a Site score of 13-15/22 which equates to 59% and 68% respectively and the Site would be assessed as having Regional importance.
- 4.1.4 In addition, the Site extends over 2,352ha, the majority of this habitat is extensive open habitat on the blanket bog and heathland which is managed for grouse shooting. There are areas around the base of the moor that comprise woodland corridors and watercourses/reservoirs, but the majority of the site is open and exposed. Manual transects have recorded very low levels of activity across the seasonal surveys with only common pipistrelle recorded in the lower valley and within close proximity to reservoirs. The vast majority of the Site where turbines will be located within the blanket bog habitat and heathland the species assemblage score is 1 out of 22 which equates to 4.5%, which is of County importance.
- 4.1.5 A degree of professional judgement, explicitly supported by sound ecological evidence, will always be needed³. The theoretical maximum score achievable can be modified according to the site's location with justification and profession judgement.

³ 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,

4.1.6 Taking this into account from species assemblage recorded whilst on site, the activity levels, taking into account the species recorded during automated surveys, it is considered that **overall, the Site is considered to be Regional importance for Bats.**

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APPENDICES

APPENDIX 1
Legislation and Policy Summary

All UK bat species are listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2012 and as such receive protection under Regulation 41, which makes it an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb a bat;
- Damage or destroy a breeding site or resting place of a bat.

Under the 2012 Regulations, disturbance of bats includes in particular any disturbance which is likely to:

- Impair their ability to survive, breed or reproduce, or to rear or nurture their young or to hibernate or migrate;
- Significantly affect the local distribution or abundance of the species in question.

European Protected Species (EPS) licenses can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful, providing that 'favourable conservation status' is maintained.

All UK bat species are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 and therefore receive protection under Section 9 of this Act (as amended). Among other things, this legislation makes it an offence to.

- Intentionally kill, injure or take a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection;
- Intentionally or recklessly disturb any bat whilst it is occupying a structure or place that it uses for shelter or protection.

Protection Afforded by the Planning System

The National Planning Policy Framework (NPPF) (2024) sets out national policy towards biodiversity in planning decisions. Under the NPPF the presence of a protected species is a material consideration where a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.

The NPPF states that:

'When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

proposed development on land within or outside a Site of Special Scientific Interest (SSSI) likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs;

development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;

opportunities to incorporate biodiversity in and around developments should be encouraged;

the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC); listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on European sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites.'

Under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 public bodies, including Local and Regional Planning Authorities have a duty to 'have regard' to the conservation of biodiversity in England when carrying out their normal functions, which includes consideration of planning applications. In compliance with Section 41 of the Act, the Secretary of State has published a list of species considered to be of principal importance for conserving biodiversity in England. This is The England Biodiversity List, of which there are 941 'priority' species. Regional Planning Bodies and Local Planning Authorities use the list to identify the species that should be afforded priority when applying the requirements of the NPPF to promote the protection and recovery of species populations, via national and local targets.

Seven bat species are Section 41 (NERC) Priority Species. These are:

- Barbastelle *Barbastelle barbastellus*;
- Bechstein's bat *Myotis bechsteinii*;
- Noctule *Nyctalus noctula*;

- Soprano Pipistrelle *Pipistrellus pygmaeus*;
- Brown Long-eared bat *Plecotus auritus*;
- Greater horseshoe bat *Rhinolophus ferrumequinum*; and
- Lesser horseshoe bat *Rhinolophus hipposideros*

All bat species are considered to be of local conservation importance within Calderdale as part of the West Yorkshire Local Biodiversity Action Plan (LBAP) priorities, which address bats as a species group rather than through a formally defined district-specific species list⁴.

The following bat species are known to occur within West Yorkshire and are therefore relevant to development proposals within Calderdale:

- Soprano pipistrelle *Pipistrellus pygmaeus*
- Brown long-eared bat *Plecotus auritus*
- Noctule *Nyctalus noctula*
- Daubenton's bat *Myotis daubentonii*
- Whiskered bat *Myotis mystacinus*
- Brandt's bat *Myotis brandtii*
- Natterer's bat *Myotis nattereri*
- Leisler's bat *Nyctalus leisleri*

Foraging Areas & Commuting Routes

Bat foraging areas and commuting routes are not directly protected under the legislation described above. However, loss of important foraging areas and/or commuting routes could potentially constitute a disturbance offence, as defined by the 2012 Regulations⁵, in addition, the loss of a commuting route providing the only access to a roost could also potentially constitute indirect damage/destruction of a breeding site/resting place and damage/destruction/obstruction of a places used for shelter/protection under the Wildlife and Countryside Act 1981.

⁴ <https://www.wyjs.org.uk/ecology/planning-issues/>

⁵ Where such actions result in a loss of the ecological functionality of the roost.

Appendix 2

Weather Conditions and Survey Timings of Automated Bat Detector Surveys

Weather conditions, sunrise and sunset times taken from <https://www.timeanddate.com/> for Hebden Bridge.

Seasonal Period	Date	Temperature at sunset (° C)	Minimum temperature (° C)	Average Wind speed	Precipitation	Sunset	Sunrise
Spring	18.06.2025	14	13	4.75	Light rain	21:42	4:36
	19.06.2025	18	10	4.5	Dry	21:42	4:36
	20.06.2025	23	12	5.5	Dry	21:42	4:37
	21.06.2025	24	15	7.25	Dry	21:42	4:37
	22.06.2025	14	14	10.5	Light rain	21:42	4:37
	23.06.2025	14	10	9.25	Light rain	21:42	4:37
	24.06.2025	16	13	10	Light rain	21:42	4:38
	25.06.2025	18	14	5.75	Dry	21:42	4:38
	26.06.2025	14	13	9	Light rain	21:42	4:39
	27.06.2025	19	12	11.25	Dry	21:42	4:39
	28.06.2025	16	16	11	Dry	21:42	4:40
	29.06.2025	19	14	4.25	Dry	21:42	4:40
	30.06.2025	20	15	7.25	Dry	21:41	4:41
	01.07.2025	14	14	4.5	Dry	21:41	4:42
02.07.2025	12	11	5.5	Light rain	21:40	4:42	
Summer	12.08.2025	21	14	4.25	Dry	20:43	5:41
	13.08.2025	18	14	4.5	Dry	20:40	5:43
	14.08.2025	18	15	4.75	Dry	20:38	5:45
	15.08.2025	18	14	4.5	Dry	20:36	5:47
	16.08.2025	16	14	5	Dry	20:34	5:48
	17.08.2025	17	10	5.75	Dry	20:32	5:50
	18.08.2025	15	14	7	Dry	20:30	5:52
	19.08.2025	13	12	7.25	Dry	20:27	5:54
	20.08.2025	12	10	9.25	Light rain	20:25	5:55
	21.08.2025	14	10	4.75	Dry	20:23	5:57
	22.08.2025	14	12	4.25	Dry	20:21	5:59
	23.08.2025	16	13	1.75	Dry	20:18	6:01
	24.08.2025	17	13	2.5	Dry	20:16	6:02

Seasonal Period	Date	Temperature at sunset (° C)	Minimum temperature (° C)	Average Wind speed	Precipitation	Sunset	Sunrise
	25.08.2025	22	15	7	Dry	20:14	6:04
	26.08.2025	15	14	6	Dry	20:11	6:06
	27.08.2025	14	14	8	Dry	20:09	6:08
Autumn	24.09.2025	11	5	3.25	Dry	19:01	6:57
	25.09.2025	12	5	3.25	Dry	18:58	6:59
	26.09.2025	12	5	4	Dry	18:56	7:01
	27.09.2025	13	9	7.25	Dry	18:53	7:02
	28.09.2025	10	11	4	Dry	18:51	7:04
	29.09.2025	12	6	2.5	Drizzle	18:49	7:06
	30.09.2025	12	9	4.5	Dry	18:46	7:08
	01.10.2025	14	12	5.75	Dry	18:44	7:10
	02.10.2025	14	11	9.25	Dry	18:41	7:11
	03.10.2025	16	11	15.75	Light rain	18:39	7:13
	04.10.2025	10	8	15.75	Light rain	18:36	7:15
	05.10.2025	11	9	11.75	Light rain	18:34	7:17
	06.10.2025	13	11	7.75	Light rain	18:32	7:19
	07.10.2025	13	11	8.75	Dry	18:29	7:21
	08.10.2025	10	9	5	Dry	19:27	7:22
	09.10.2025	12	11	7.5	Light rain	18:24	7:24
	10.10.2025	10	10	5.5	Drizzle	18:22	7:26
	11.10.2025	9	8	3.75	Dry	18:20	7:28
	12.10.2025	11	4	2.5	Dry	18:17	7:30
	13.10.2025	12	11	2	Dry	18:15	7:32
	14.10.2025	9	9	3.5	Dry	18:13	7:33

Appendix 3

Weather Conditions and Survey Timings of Manual Transect Surveys

Season	Date	Transect	Weather Conditions	Sunset	Start Time	End Time
Spring	17.06.25	3	15°C, 8/8 cloud cover, light breeze and dry	21:43	VP: 21:13 Transect: 22:13	00:13
	18.06.25	1	15°C, 0/8 cloud cover, light breeze and dry	21:44	VP: 21:14 Transect: 22:14	00:10
	19.06.25	2	19°C, 4/8 cloud cover, light breeze and dry	21:44	VP: 21:14 Transect: 22:14	00:15
Summer	12.08.25	3	24°C, 3/8 cloud cover, no wind and dry	20:45	VP: 20:15 Transect: 21:15	22:45
	13.08.25	2	22°C, 6/8 cloud cover, Light breeze and dry	20:43	VP: 20:13 Transect: 21:13	22:40
	13.08.25	1	22°C, 6/8 cloud cover, Light breeze and dry	20:43	VP: 20:13 Transect: 21:13	22:40
Autumn	23.09.25	3	10°C, 1/8 cloud cover, light breeze and dry	19:06	VP: 18:36 Transect: 19:36	21:06
	24.09.25	1	12°C, 3/8 cloud cover, no wind and dry	19:03	VP: 18:33 Transect: 19:33	21:03
	24.09.25	2	12°C, 3/8 cloud cover, no wind and dry	19:03	VP: 18:33 Transect: 19:33	21:03

Appendix 4

Bat Valuation System

Categorisation of Bats by National Rarity (Reason and Wray, 2025)

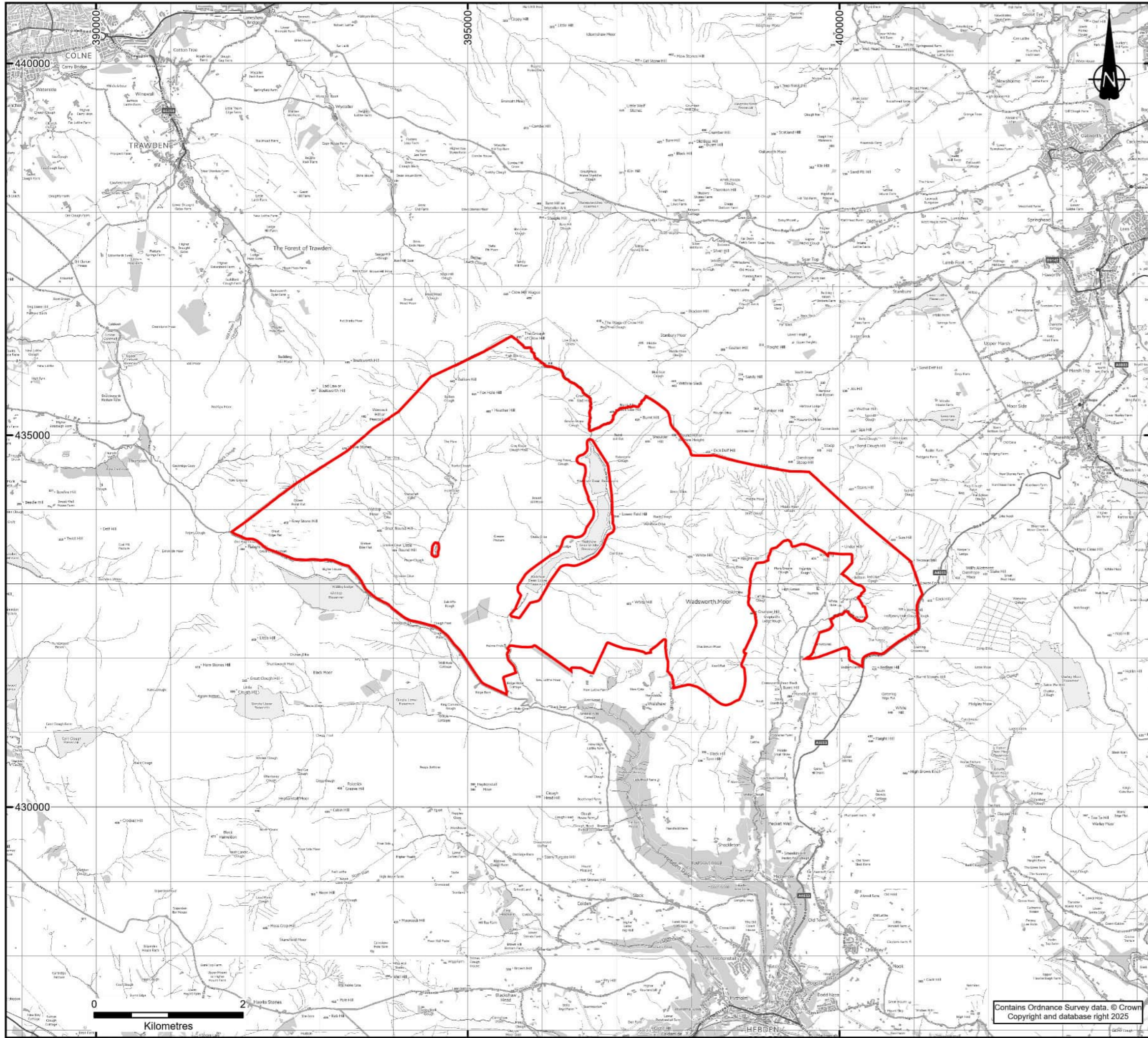
Rarity category	South-west England & S Wales	Southern England	South-eastern/ East Anglia to The Wash	North/mid-Wales	Central England/ Midlands	Northern England	Southern Scotland	Northern Scotland	Northern Ireland
Widespread	Ppip Ppyg Paur	Ppip Ppyg Paur	Ppip Ppyg Paur	Ppip Ppyg Paur	Ppip Ppyg Paur	Ppip Ppyg Paur	Ppip Ppyg	Ppip Ppyg	Ppip Ppyg Paur
Widespread in many geographies, but not as abundant in all	Mmys Mbra Mdau Mnat Nnyc	Mmys Mbra Mdau Mnat Nnyc	Mdau Mnat Nnyc	Mmys Mbra Mdau Mnat Nnyc	Mmys Mbra Mdau Mnat Nnyc	Mmys Mbra Mdau Mnat Nnyc	Mdau Mnat Paur	Mdau Mnat Paur	Mdau Mnat Nlei Paur
Rarer or restricted distribution	Rhip Eser Nlei Pnat	Malc Eser Nlei Pnat	Mmys Mbra Eser Nlei Pnat	Rhip	Eser Nlei Pnat	Malc Nlei Pnat	Mmys Nnyc Nlei Pnat	Pnat	Mmys Pnat
Rarest Annex II species and very rare	Rfer Mbec Bbar Paus	Rfer Rhip Mbec Bbar Paus	Malc Bbar	Rfer Bbar Eser Nlei Pnat	Malc Bbar		Mbra		

Assessing the importance of a bat assemblage (Reason and Wray, 2025)

Rarity category [points/species]	South-west England & South Wales		Southern England		South-eastern/East Anglia to The Wash		North/mid-Wales		Central England/Mid-lands	
Widespread all geographies [score 1]	Ppip Ppyg Paur	Score 3	Ppip Ppyg Paur	Score 3	Ppip Ppyg Paur	Score 3	Ppip Ppyg Paur	Score 3	Ppip Ppyg Paur	Score 3
Widespread in many geographies, but not as abundant in all [score 2]	Mmys Mbra Mdau Mnat Nnoc	Score 10	Mmys Mbra Mdau Mnat Nnoc	Score 10	Mdau Mnat Nnoc	Score 6	Mmys Mbra Mdau Mnat Nnoc	Score 10	Mmys Mbra Mdau Mnat Nnoc	Score 10
Rarer or restricted distribution [score 3]	Rhip Eser Nlei Pnat	Score 12	Malc Eser Nlei Pnat	Score 12	Mmys Mbra Eser Nlei Pnat	Score 15	Rhip	Score 3	Eser Nlei Pnat	Score 9
Rarest Annex II species and very rare [score 4]	Rfer Mbec Bbar Paus	Score 16	Rfer Rhip Mbec Bbar Paus	Score 20	Bbar	Score 4	Rfer Bbar Eser Nlei Pnat	Score 20	Bbar	Score 4
Thresholds	Maximum possible	41	Maximum possible	45	Maximum possible	28	Maximum possible	36	Maximum possible	26
County importance threshold: 45%	County	18	County	20	County	13	County	16	County	12
Regional importance threshold: 55%	Regional	23	Regional	25	Regional	15	Regional	20	Regional	14
National importance threshold: 70%	National	29	National	32	National	20	National	25	National	18

Rarity category [points/species]	Northern England		Southern Scotland		Northern Scotland		Northern Ireland	
Widespread all geographies [score 1]	Ppip Ppyg Paur	Score 3	Ppip Ppyg	Score 2	Ppip Ppyg	Score 2	Ppip Ppyg Paur	Score 3
Widespread in many geographies, but not as abundant in all [score 2]	Mmys Mbra Mdau Mnat Nnoc	Score 10	Mdau Mnat Paur	Score 6	Mdau Mnat Paur	Score 6	Mdau Mnat Niei	Score 6
Rarer or restricted distribution [score 3]	Malc Niei Pnat	Score 9	Mmys Nnoc Niei Pnat	Score 12	Pnat	3	Mmys Pnat	Score 6
Rarest Annex II species and very rare [score 4]			Mbra	Score 4				
Thresholds	Maximum possible	22	Maximum possible	24	Maximum possible	11	Maximum possible	15
County importance threshold: 45%	County	10	County	11	County	5	County	7
Regional importance threshold: 55%	Regional	12	Regional	13	Regional	6	Regional	8
National importance threshold: 70%	National	15	National	17	National	8	National	11

DRAWINGS



KEY
 Turbine Area

Notes:
 Boundaries are indicative.

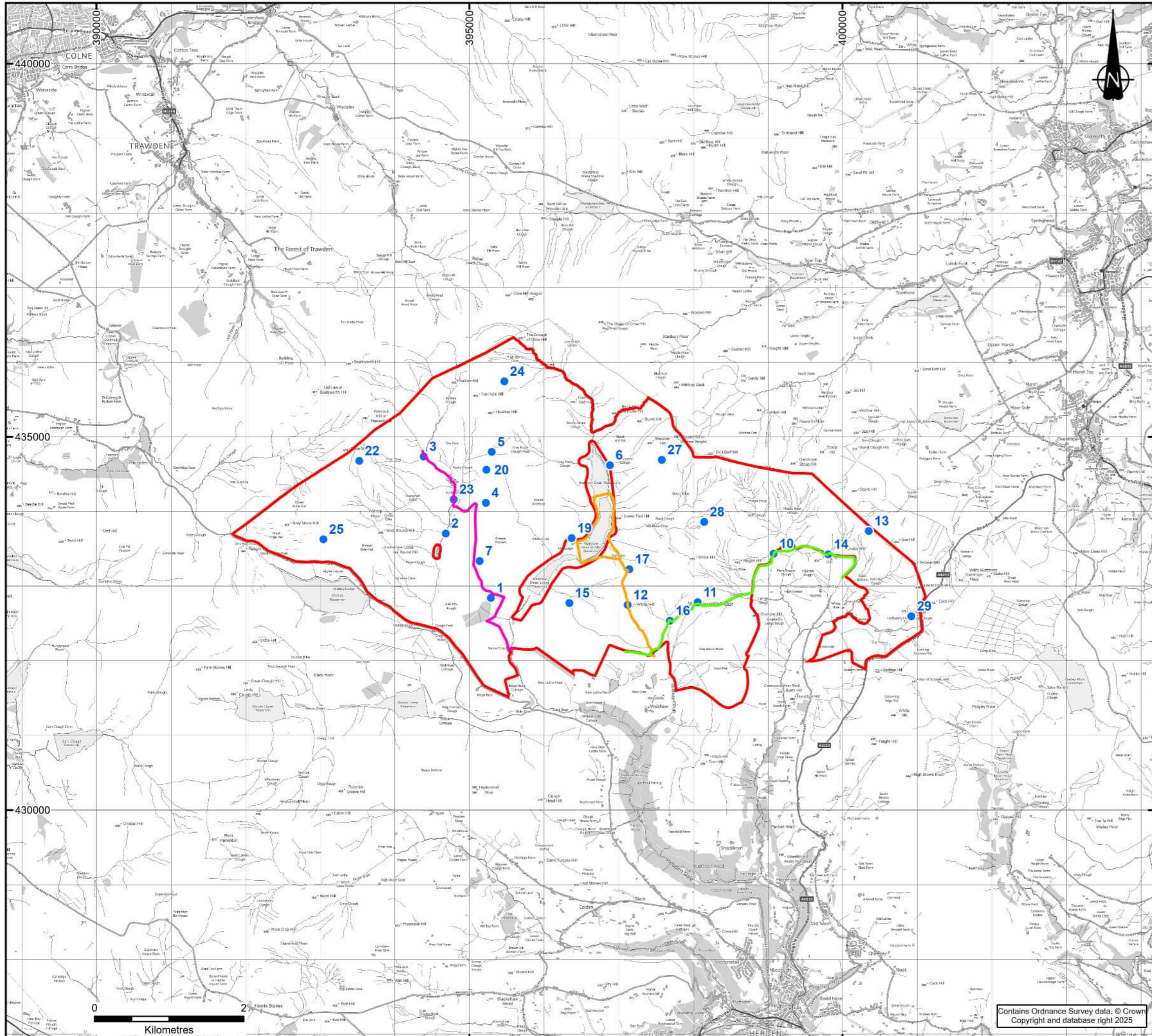
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CALDERDALE ENERGY PARK					
PROJECT					
CALDERDALE WIND FARM					
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SITE LOCATION					
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DRAWN BY	SRW	CHECKED BY	LP	APPROVED BY	TP

wardell armstrong
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N:\LD\LD1276 - Calderdale Ecology 2025\03 - Design\GIS\LD1276 001 Site Location\LD1276 001 Site Location.aprx



KEY

- Turbine Area
- Transect 1
- Transect 2
- Transect 3
- Static Detector Locations

Notes:
Boundaries are indicative.

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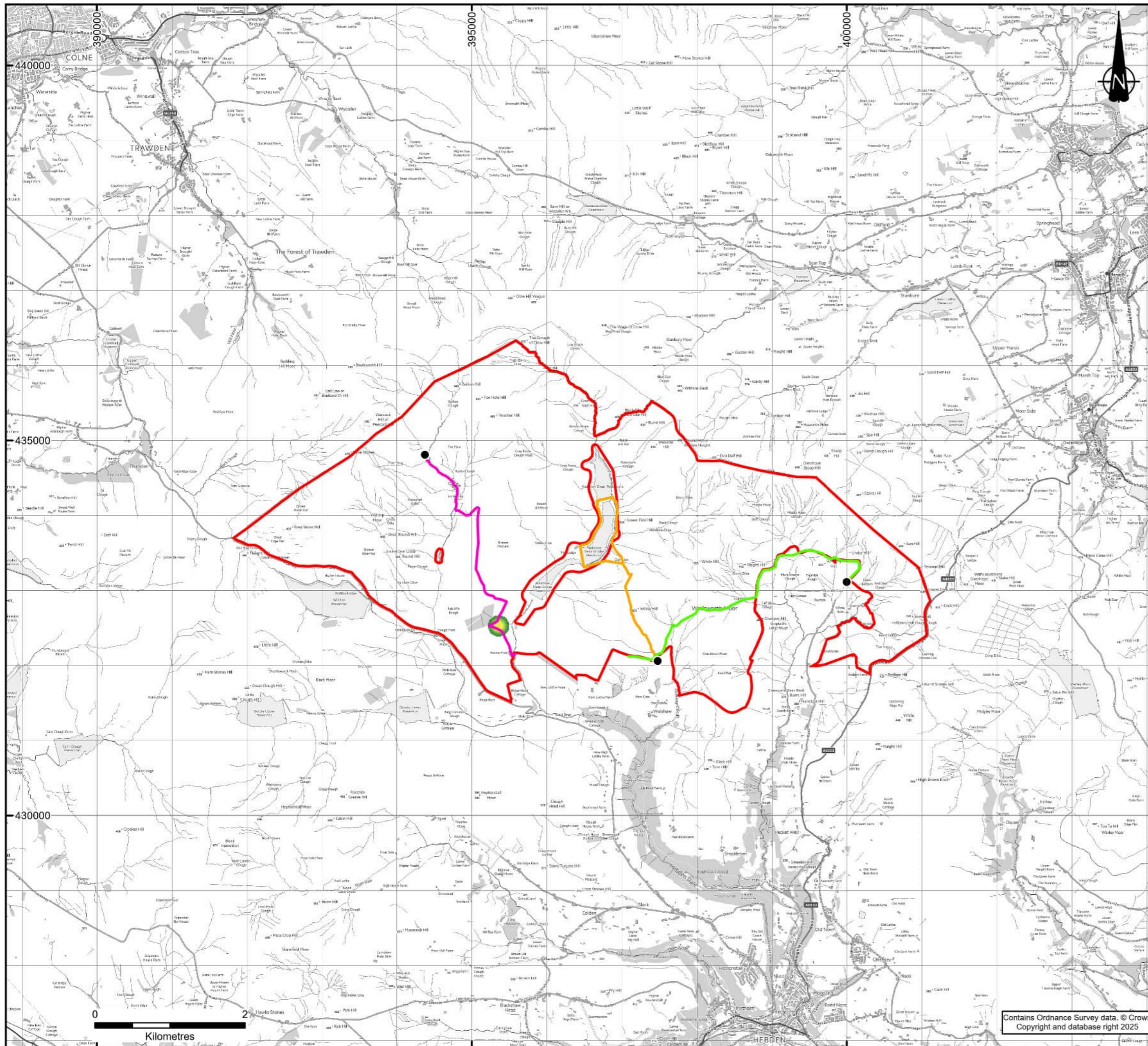
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PROJECT
CALDERDALE WIND FARM

DRAWING TITLE
STATIC DETECTOR LOCATIONS & TRANSECT ROUTES

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KEY

- Turbine Area
- Passes**
- Low Activity
- High Activity
- Bat Transect Routes**
- Transect 1
- Transect 2
- Transect 3
- Vantage Point Locations

Notes:
Boundaries are indicative.

B	AMENDED TURBINE AREA BOUNDARY	11/25	SRW	AD	LP
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DETAILS					

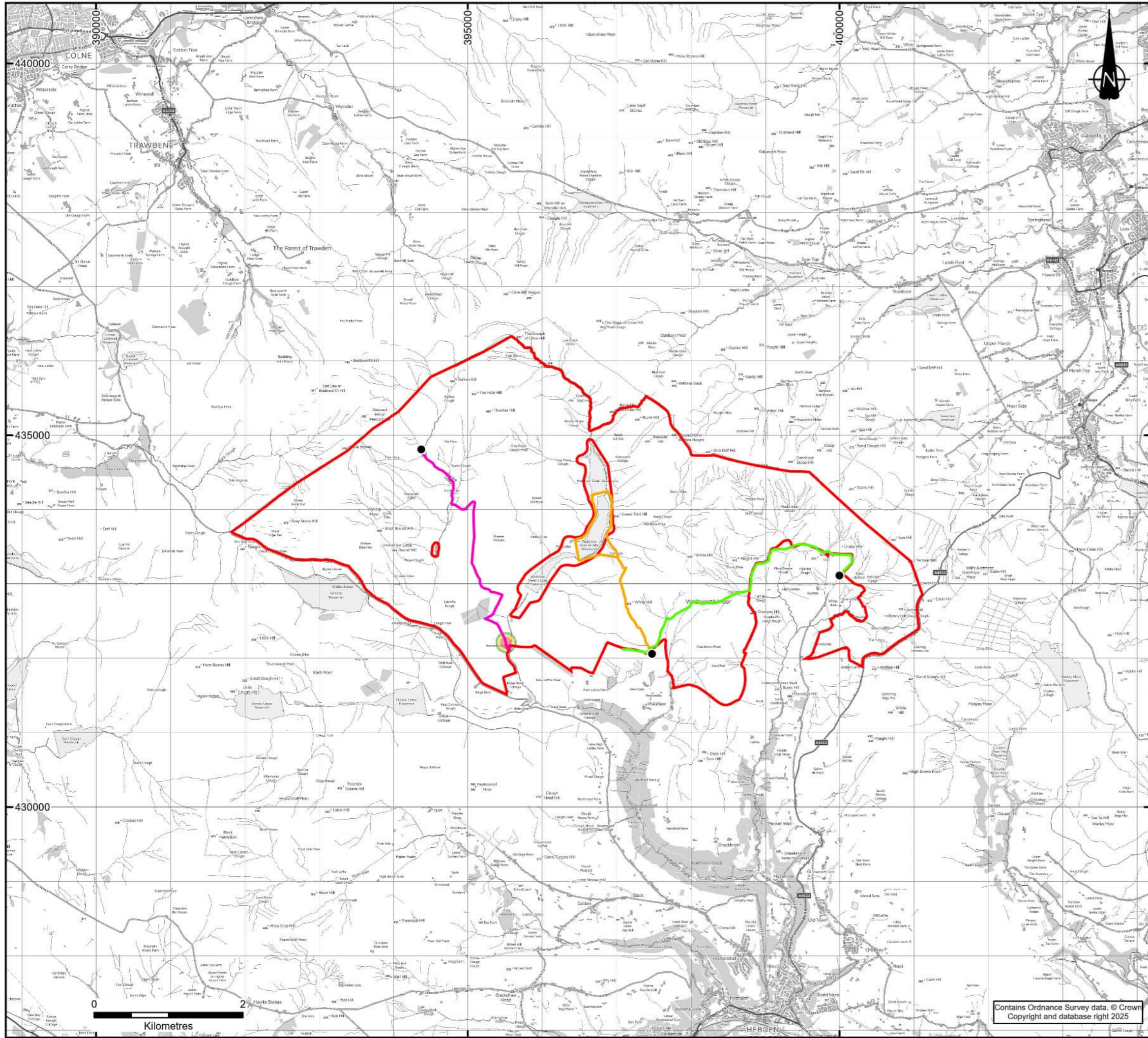
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PROJECT
CALDERDALE WIND FARM

DRAWING TITLE
SPRING NIGHT-TIME BAT WALKOVER HEAT MAP

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KEY

- Turbine Area
- Passes**
- Low Activity
- High Activity
- Bat Transect Routes**
- Transect 1
- Transect 2
- Transect 3
- Vantage Point Locations

Notes:
Boundaries are indicative.

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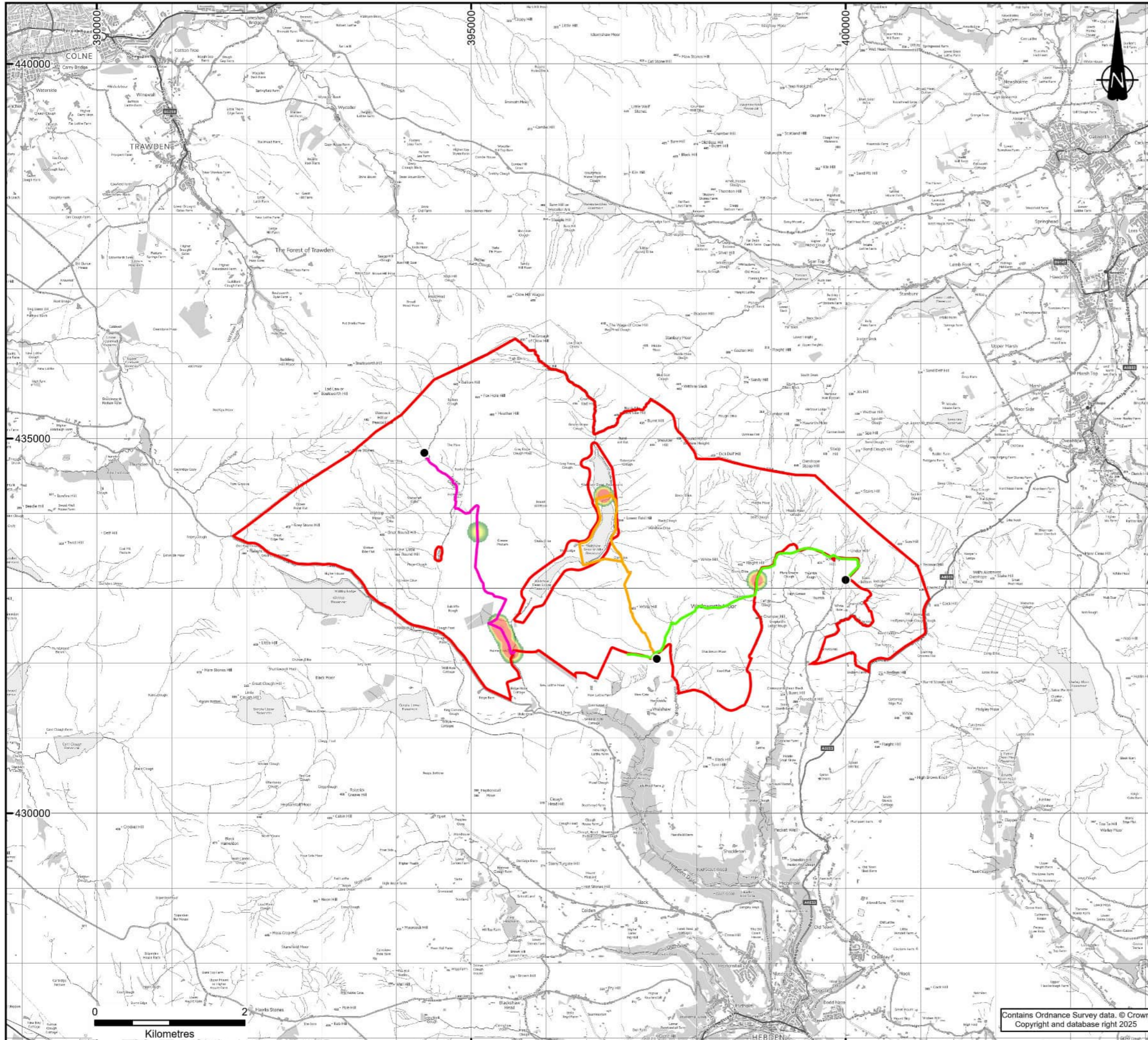
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PROJECT
CALDERDALE WIND FARM

DRAWING TITLE
SUMMER NIGHT-TIME BAT WALKOVER HEAT MAP

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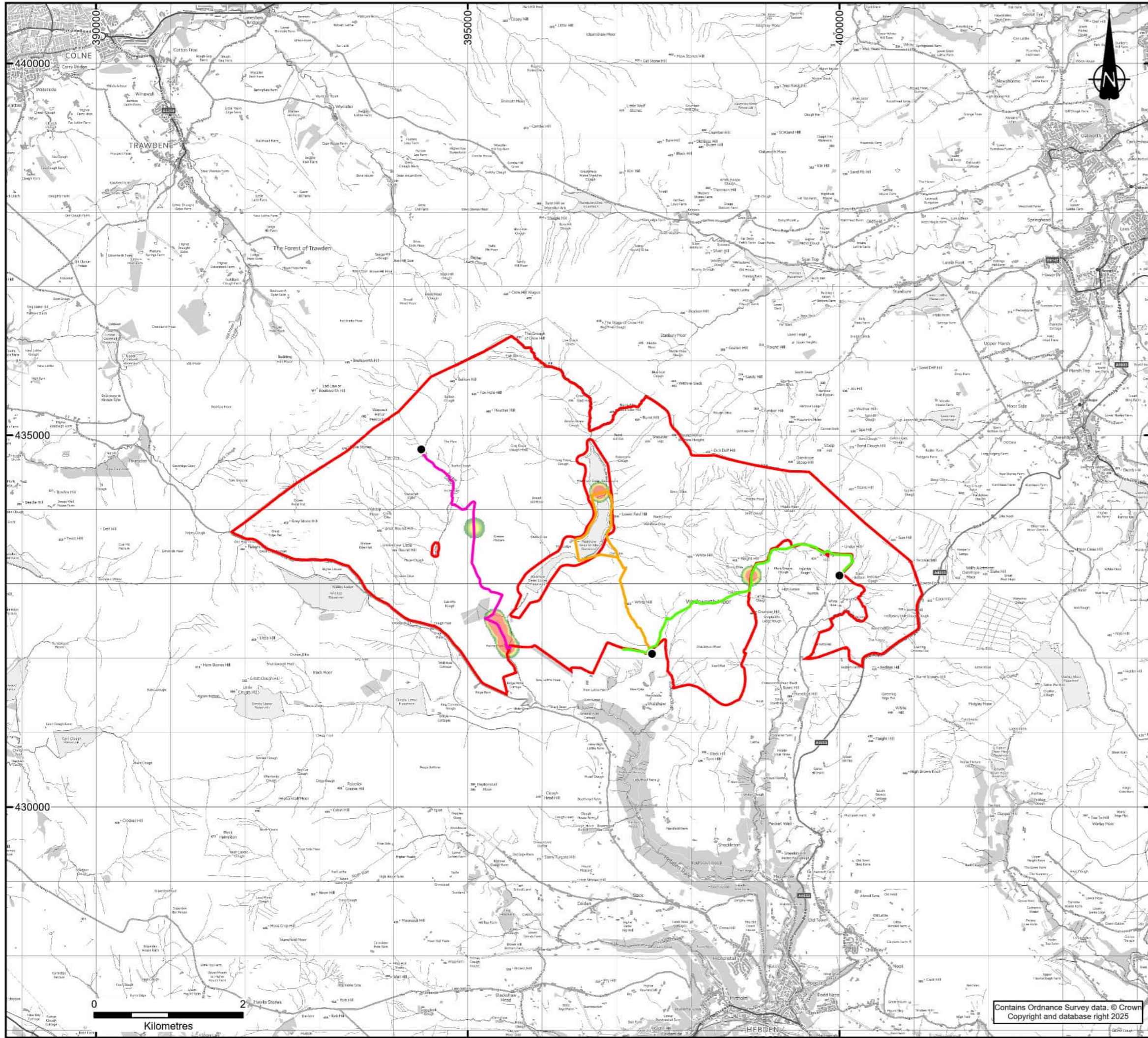
KEY

- Turbine Area
- Passes**
- Low Activity
- High Activity
- Bat Transect Routes**
- Transect 1
- Transect 2
- Transect 3
- Vantage Point Locations

Notes:
Boundaries are indicative.

AMENDED TURBINE AREA BOUNDARY FIRST ISSUE	11/25	SRW	AD	LP
REVISION	DATE	DRAWN	CHECKED	APPROVED
CLIENT				
CALDERDALE ENERGY PARK				
PROJECT				
CALDERDALE WIND FARM				
DRAWING TITLE				
AUTUMN NIGHT-TIME BAT WALKOVER HEAT MAP				
DRG No.	LD1276-006	REV	B	SUIT CODE
DRG SIZE	A3	SCALE	1:50,000	DATE
DRAWN BY	SRW	CHECKED BY	LP	APPROVED BY
				LP

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KEY

- Turbine Area
- Passes**
- Low Activity
- High Activity
- Bat Transect Routes**
- Transect 1
- Transect 2
- Transect 3
- Vantage Point Locations

Notes:
Boundaries are indicative.

B A	AMENDED TURBINE AREA BOUNDARY FIRST ISSUE	11/25 11/25	SRW CP	AD LP	LP LP
REVISION		DATE	DRAWN	CHECKED	APPROVED

CLIENT
CALDERDALE ENERGY PARK

PROJECT
CALDERDALE WIND FARM

DRAWING TITLE
OVERALL NIGHT-TIME BAT WALKOVER HEAT MAP

DRG No.	LD1276-007	REV	B	SUIT CODE	---
DRG SIZE	A3	SCALE	1:50,000	DATE	20/11/2025
DRAWN BY	SRW	CHECKED BY	LP	APPROVED BY	LP

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