Glendye Wind Farm Overhead Line Grid Connection

Environmental Impact Assessment (EIA)

Volume 4 | Appendix 8.1

Ornithology Baseline Report

October 2025

APPENDIX 8.1: ORNITHOLOGY BASELINE REPORT

Figures

8. INTRODUCTION

8.1 Overview

8.1.1 ITPEnergised (now part of SLR) was appointed by ASH Design & Assessment, on behalf of Scottish and Southern Electricity Networks Transmission (SSEN Transmission), operating under licence as Scottish Hydro Electric Transmission plc, to undertake a suite of ornithological surveys in support of a proposed overhead line (OHL) to connect the proposed Glendye Wind Farm on-site substation to Fetteresso substation, situated near the Kirktown of Fetteresso, Aberdeenshire (hereafter referred to as the 'Site').

Site Description

8.1.2 The western section of the OHL is routed through moorland habitat types dominated by blanket bog, heathland, and upland flushes, whereas the eastern section is largely routed through forestry plantation woodland and clear-fell, with acid grassland and heathland also present. The south-eastern section of the route is formed of agricultural lands consisting of modified grassland and cereal crops.

8.1.3 There are a number of watercourses present within the Site. Larger rivers include the Water of Charr, Bervie Water, and the Carron Water, in addition to several burns and drainage ditches.

8.2 Aims

8.2.1 This report presents one year of ornithological survey work undertaken between October 2023 and August 2024, including targeted breeding surveys, to assess the avian baseline conditions and to inform a planning application in relation to the Proposed Development.

8.2.2 The objectives of this report are to:

- Map the distribution of breeding birds, including scarce and priority species;
- Record the presence and abundance of birds considered to be of a conservation priority; and
- Quantify the level of flight activity by birds of potential conservation importance.

8.3 Legislation and Biodiversity

8.3.1 All relevant legislation and guidance documents that have been considered as part of this baseline assessment are referenced within **Section 8.3** of **Chapter 8: Ornithology** of this EIA Report.

8.4 Methods

Overview

8.4.1 This section describes the methods used for establishing an understanding of the ornithological baseline conditions at the Site, which comprises a combination of desk study and different field survey approaches.

8.4.2 An ornithological desk study has been undertaken to compile existing baseline data for the Site and local area.

8.4.3 In terms of nature conservation designations of relevance to birds, the desk study aimed to identify international designations, such as SPAs and Ramsar wetlands within 10 km of the Site. This was extended to 20 km from the Site boundary for all SPAs featuring species for longer ranges, such as geese (20 km is considered to be the distance of connectivity by the in NatureScot [formerly Scottish Natural Heritage (SNH)] guidance, as per SNH 2016)[1]. National statutory designations, such as SSSIs, were identified to within 5 km of the Site boundary. Only those sites supporting ornithological features were considered relevant to the study.

8.4.4 Local Nature Conservation Sites (LNCSs) or non-statutory designations, such as Local Biodiversity Sites, were identified within a 2 km distance of the Site boundary.

[1] SNH (2016). Assessing Connectivity with Special Protection Areas (SPAs), Scottish Natural Heritage, Battleby, Perth.

8.5 Consultation

NatureScot

8.5.1 A consultation exercise was undertaken with NatureScot as to the scope and detail of the ornithological studies used to define the baseline conditions of the Site. The proposed VP locations and viewsheds as well as the proposed areas for breeding bird surveys, breeding raptor survey and black grouse surveys were sent to NatureScot along with the proposed effort and timing of the surveys.

8.5.2 In their response NatureScot confirmed they approved of the approach stating;

8.5.3 "*The VP locations and VP coverage shown on the associated maps looks sufficient, as does the survey effort described as it has follows the advice on survey methods set out in our guidance*."

SSE Networks

8.5.4 SSE Networks provided comment in relation to any goshawk sightings within the wider forest blocks.

External Data

8.5.5 In terms of species records, a data consultation was initiated on 9th December 2024 via:

- North East Raptor Study Group (NERSG) – including all Schedule 1 breeding species within 2 km of the Site boundary (extended to 6 km for eagles); and
- The RSPB.

8.5.6 Communications have continued since, however at the time of writing this report the NERSG and RSPB data has not been provided and so cannot be summarised here.

Confidential Data

8.5.7 Following additional, consultation with the RSPB it has been confirmed that there are a small number of records of nightjar that warrant consideration with regards to the Proposed Development. Further consultation with landowners/managers and relevant parties (including species monitoring teams) will be undertaken post-planning to determine specific approaches for further survey and mitigation requirements.

8.5.8 In addition, any existing records that are freely available for commercial use of protected or otherwise notable species of bird (e.g. SBL/LBAP priority species) will be identified with a 5 km distance of the Site boundary. Only records from the last 10 years were considered relevant to the study. The data search was conducted using the following sources:

- National Biodiversity Network (NBN) Atlas (2025); and
- North East Scotland Biodiversity Records Centre (NESBReC) (2025).

8.5.9 These data are summarised in Appendix 8.2.

8.6 Field Surveys

Target Species

8.6.1 Target species of birds were identified as those that are provided specific protection through legislation (i.e. those species of high conservation interest) or those that represent qualifying interests in designated sites in the wider area. Target species at the Site are those species in terms of the following:

- Species listed in Annex 1 of the Birds Directive;
- Non-passerine species listed in Schedule 1 of the WCA; and
- Species considered to be of principal importance in Scotland (i.e. those listed on the SBL).

Vantage Point Scoping

8.6.2 As per the recommended guidance for wind farm and methods outlined by NatureScot, (SNH,2017)[2], it was identified that Vantage Point (VP) surveys would be required to account for the potential presence of 'scarce' diurnal raptors, waterfowl and wading bird species within and adjacent to the Site.

8.6.3 A total of four VPs were established using GIS software combined with Ordnance Survey digital data. The VP locations were placed to cover the open areas of the Site which is displayed within **Figure 8.1.1**. The VP location and the corresponding viewsheds were verified during site visits ahead of the first survey which took place on 30th and 31st October 2023. Following modifications to the proposed route options, one VP (VP4) was dropped and VP3 was rotated from north to face south-east. VP locations and bearings are provided in **Table 8.1**.

Table 8.1: VP Locations and Orientation

VP	Grid Reference	Bearing	Hours
1	NO 74728 83216	45°	72
2	NO 63000 80029	315°	72
3	NO 64903 82565 / NO 65228 82227	0° / 135°	36/36 - 72
4	NO 65058 80464	135°	36

Diurnal Vantage Point Surveys

8.6.4 VP surveys at the Site commenced in October 2023, during which information on bird flight activity was collected during timed watches using recommended guidance and methods as outlined by NatureScot (SNH, 2017). A total of one full non-breeding season and one full breeding seasons of survey data was gathered covering the different survey areas, in order to inform a future planning application for the Proposed Development. Surveyors undertook the surveys in such a way as to minimise the impact on bird behaviour associated with their presence near the Site, including arriving at the survey point a minimum of 15 minutes prior to the commencement of each VP watch to allow for a "settling down" period.

8.6.5 All surveys were stratified across three daylight periods (termed 'dawn', 'day' and 'dusk') to allow for diurnal variation in activity rates. All surveys comprised watches lasting no more than three hours in duration and subsequent watches were started following a minimum 30-minute break to ensure surveyors had a suitable rest period between surveys.

8.6.6 All surveys were undertaken by a single observer in a wide range of weather conditions, but mainly in conditions of good ground visibility (>2 km) and were adjusted to account for changes in sunrise and sunset times.

8.6.7 During each VP watch, two methods of recording were used, comprising focal sampling of target species and activity summaries of secondary species. Observations were recorded using an expected Potential Collision Height (PCH) of 15 m. Data from September was thus collected in 4 HB's as follows:

- HB1: < 15 m;
- HB2: 15 ≥ < 30 m;
- HB3: 30 ≥ < 50 m;
- HB4: ≥ 50 m.

8.6.8 Flightline data were noted in the field onto recording sheets and later transferred to a Microsoft Excel spreadsheet for analysis. Each flightline recorded during each VP watch was annotated on to a survey map and cross-referenced to its corresponding data entry on the recording sheet.

[2] SNH (2017). Recommended Bird Survey Methods to inform Impact Assessment of Onshore Wind Farms. SNH Guidance Note Series. SNH, Battleby.

8.6.9 The total number of survey hours, by season, across the 12 months of survey at each VP location is presented in Table A.3 (**Annex A**) with each VP location presented in **Figure 8.1.1**.

Breeding Bird Survey

8.6.10 A modified Brown and Shepherd (1993) survey method[3], which is designed for moorland/upland habitats, was followed for the breeding bird survey. NatureScot guidance (SNH, 2017) recommends that this survey follows a four-visit approach, carried out between mid-April to July, with a minimum of two weeks between survey visits. A walked transect was followed, visiting all the areas (with available access) of suitable habitat within a 500 m buffer around the Site boundary (the 'BBS Study Area') aiming to survey for birds within 100 m of all points inside the Site boundary.

8.6.11 Within visits, duplicate records of waders separated by less than a threshold distance of 500 m were considered to correspond to birds of the same pair, while those separated by more than the threshold distance were considered to be from different pairs. Exceptions to this occurred when recorded birds seen within the threshold distance of each other as definitely representing different pairs.

8.6.12 In addition to all target species of waders in order to get a wider understand of the use of the site by passerine species all BoCC Red and Amber list species (at the time of survey this was BoCC5) were recorded as part of the breeding bird survey.

8.6.13 Following the four visits, all survey data are considered together, along with the noted behaviour observed, and territories of breeding birds are defined as either; confirmed, probable, possible or non-breeding.

8.6.14 Survey visits took place during the 2024 breeding season on:

- Survey visit 1 –13th, 14th, 16th, 17th, 18th, 19th April;
- Survey visit 2 –2nd, 10th, 11th, 12th, 13th, 14th, 15th May;
- Survey visit 3 –2nd, 3rd, 4th, 5th, 6th June; and
- Survey visit 4 – 8th, 9th, 13th, 14th, 15th July.

Breeding Raptor Survey

8.6.15 Surveys for breeding raptors were completed following methods as described in Hardey *et al.* (2013)[4]. A four-visit walkover survey approach was used, with survey visits being spaced between April and August and covering the Site (at the time of the survey) and a 1 km site buffer study area (the 'Raptor Study Area'), where access permissions allowed. The survey area is continuously scanned for target species during the walkover. This includes stops at "mini" vantage points where the view is scanned for a period (usually 15-20 minutes) across suitable habitat for target species. Surveys for breeding raptors require four visits between April and July.

8.6.16 Any structures within the study area that looked like they may be suitable for breeding barn owl and where suitable access permissions were in place were checked for evidence of occupation by barn owl (e.g. feathers, pellets, nesting material etc.).

8.6.17 The first survey visit is primarily to detect displaying birds and/or territory occupancy by the various target species. A second visit is then used to identify active nests. The third visit is then carried out to check for the presence of young birds, and the final fourth visit is used to record fledged young (Hardey *et al*., 2013). The survey areas are shown in **Figure 8.1.1**.

8.6.18 Survey visits took place during the 2024 breeding season on:

- Survey visit 1 – 26th March, 12th, 15th, 16th, 17th, 20th, 21st April;
- Survey visit 2 – 3rd, 10th, 11th, 12th, 13th, 14th May;

[3] Brown A. F. & Shepherd K. B. (1993) A method for censusing upland breeding waders, Bird Study, 40:3, 189-195.

[4] Hardey, J., Crick, H.Q.P., Wernham, C., Riley, H., Etheridge, B., Thompson, D. (2013). *Raptors: A field guide for surveys and monitoring* (3rd Edition). The Stationery Office Edinburgh.

- Survey visit 3 – 3rd, 4th, 5th, 6th, 7th, 8th, 9th June; and
- Survey visit 4 – 8th, 9th, 11th, 12th, 13th, 15th July.

Black Grouse Survey

8.6.19 Due to the presence of suitable habitat for breeding black grouse, dedicated black grouse surveys were undertaken covering all suitable habitat within the Site and accessible areas of the 1 km Study Area buffer (see **Figure 8.1.1**). The survey methods followed those described by Gilbert *et al*., (1998)[5] as recommended in SNH (2017).

8.6.20 The surveys were conducted in 2024 on:

- Survey visit 1 – 12th, 13th, 14th April; and
- Survey visit 2 – 2nd,3rd,15th,16th May;

Survey Limitations

8.6.21 Some sections of the survey buffers, in particular the agricultural fields in the eastern part of the Site, had restricted access and as such walkover surveys were not possible within these areas. These areas were scanned from suitable vantage points along roads and public rights of way and given the relatively flat nature of the land the restriction in access was not seen as a significant limitation to the results.

8.7 Baseline

Desk Study

8.7.1 There are no sites of national importance (i.e. SSSIs) or international importance (SPAs) within 5 km of the site. A single site of international importance, Fowlsheugh SPA, was recorded within 10 km of the Site. A single site of international importance designated for long ranging geese species, Montrose Basin SPA, was recorded within 20 km of the Site.

8.7.2 The designated sites identified are shown in **Figure 8.1.2** and their qualifying features are outlined in **Table 8.2**.

Table 8.2: Ornithological Designations

Site	Distance from Site Boundary (Access Area)	Designation	Designated (Ornithological) Features
Fowlsheugh	9.9 km East	SPA	Breeding : • Fulmar (*Fulmaris glacialis*); • Guillemot (*Uria aalge*); • Herring gull (*Larus argentatus*); • Kittiwake (*Rissa tridactyla*).
Montrose Basin	19.7 km south	SPA	Long ranging species only. Non-Breeding: • Greylag goose (*Anser anser*); • Pink-footed goose (*Anser brachyrhynchus*).

8.7.3 Please note that **Figure 8.1.2** also shows the Cairngorms Massif SPA and Glen Tanar SPA for reference only. The qualifying features for these designated sites are not considered within potentially connective distance of the Proposed Development.

Field Surveys

8.7.4 The following section outlines the results of the ornithological survey data collected to inform the avian baseline conditions.

[5] Gilbert, G., Gibbons, D.W. and Evans, J. (1998). Bird Monitoring Methods. RSPB, Sandy.

VP Survey results

8.7.5 A total of ten target species were recorded from VP surveys including four Schedule 1 species of raptor (golden eagle, hen harrier (*Circus cyaneus*), peregrine (*Falco peregrinus*), and red kite (*Milvus milvus*); four species of wader (curlew (*Numenius arquata*), golden plover (*Pluvialis apricaria*), oystercatcher (*Haematopus ostralegus*); and snipe (*Gallinago gallinago*)); and two species of goose (greylag goose (*Anser anser*) and pink-footed goose (*Anser brachyrhynchus*)).

8.7.6 A summary of the VP survey visit details (i.e. dates, times and weather data) are presented in **Annex A, Table A.1.** The VP flight activity data for target species summarised in **Annex A, Table A.2** and the individual species flight data are detailed in **Annex A, Tables A.3-A.12.** The flightlines recorded for all target species are shown in **Figures 8.1.3 a-c.**

Breeding Bird Survey

8.7.7 The results of the breeding bird survey are shown in **Annex A, Table A.2** and the key species territories mapped in **Figures 8.1.4**. For reasons of brevity, species common names are referred to here, with the scientific names presented in the full results in **Annex B.**

8.7.8 A total of two wader species were recorded as breeding in the BBS Study Area (golden plover and snipe). Golden plover were the most frequently recorded species, with an estimated four territories (three probable and one possible).

8.7.9 A total of five BoCC Red listed (cuckoo, lesser redpoll, mistle thrush, skylark and whinchat) and seven BoCC Amber listed (meadow pipit, reed bunting, song thrush, wheatear, wren, willow warbler and wood pigeon) were recorded in the BBS Study Area.

8.7.10 A further 14 common and widespread species (BoCC Green-list species) were recorded as breeding in the BBS Study Area, see **Annex B, Table B.1** for details.

Breeding Raptor Survey

8.7.11 Five Schedule 1 species were registered during the breeding raptor survey within the Raptor Study Area. These included golden eagle (in flight), goshawk (three possible territories), merlin (in flight), peregrine (confirmed eyrie) and red kite (possible territory). The locations of the registrations and assessed territories (where appropriate) are shown in **Confidential Figure 8.1.5**.

Black Grouse Survey

8.7.12 A black grouse lek (with maximum counts of four males and five females) and a satellite lek (one male) were recorded during the dedicated black grouse surveys in the south of the 1 km BK Study Area (see **Figure 8.1.4**).

8.8 Species Accounts – All Surveys

Scarce Raptors and Owls

8.8.1 Seven Schedule 1 species (four of which are also Annex 1 listed) were recorded during the ornithological surveys completed between September 2023 and August 2024; golden eagle, goshawk, hen harrier, merlin, osprey, peregrine and red kite.

Golden Eagle

8.8.2 A single flight of an immature golden eagle on 13th June 2024 was the only record throughout the VP surveys. The flight time was 172 seconds, recorded at over 150m from VP3 (see **Appendix A: Table A2** and **A4**; **Figures 8.1.3 a-c**). An immature bird was also recorded north of the Site during raptor walkover surveys on May 3rd 2024 and thought to be the same bird again on June 5th 2024.

Goshawk

8.8.3 Goshawk were not recorded during VP surveys. Regular sightings of goshawk were noted during walkover surveys within planation woodland with adult birds flying in and from suitable breeding habitat. No nest

locations or definitive breeding behaviour (birds carrying prey, alarm calling, etc.) was recorded within the Raptor Study Area, although it is considered likely there are a minimum of two or three breeding pairs in the wider forestry area, with three possible territory locations identified and shown in **Figure 8.1.4**.

Hen harrier

8.8.4 A single flight of a ringtail type hen harrier on 13th January 2024 was the only registration of hen harrier during all surveys at the site. The flights time recorded was 223 and all recorded at HB3 (between 30-50m). See **Annex A**, **Table A.2** and **A.7**; **Figures 8. 1.3 a-c.**

Merlin

8.8.5 Merlin were not recorded during VP surveys. Merlin were recorded twice during the breeding walkover survey with a single record of a male bird on 9th July and a female bird on 11th of July 2024. Neither bird showed any breeding activity.

Osprey

8.8.6 Osprey were not recorded during VP surveys. The only registration for osprey was an individual bird commuting over the site on June 8th 2024, recorded during raptor walkover surveys (see **Confidential Figure 8.1.5**).

Peregrine

8.8.7 A confirmed peregrine territory was recorded in a steep sided gully to the south of the Site during breeding bird walkover surveys. A fledgling was recorded close to the nest site indicating a successful nesting attempt (see **Confidential Figure 8.1.5**).

8.8.8 A total of nine registrations of a single bird were recorded of peregrine during VP surveys throughout the survey period. Of the nine records, five were recorded from VP2 and four from VP3, with eight of the nine records recorded during the breeding season, including three in June and two in July. The flight records are generally in close proximity and thought to be associated with the breeding pair (see **Annex A, Table A.2 and A.9; Figures 8.1.3 a-c**).

8.8.9 The total flight time recorded for peregrine was 1,431 seconds, of which 60 seconds was recorded below 15 m, 324 seconds between 15-30 m, 558 seconds between 30-50 m and 489 seconds recorded above 50 m.

Red kite

8.8.10 A total of 16 red kite registrations were recorded during VP surveys throughout the survey period with 12 flights in in the non-breeding season and six in the breeding season. The flights were spread across open areas of the Site. The total flight time was 2,518 seconds with 307 seconds record between 15-30 m, 1,653 seconds between 30-50 m and the remaining 558 seconds over 50 m (see **Annex A, Table A.2** and **A.11; Figures 8.1.3 a-c** and **8.1.1**).

8.8.11 The woodland areas in lower altitudes were considered to be suitable breeding habitat for red kite and they were recorded regularly during the breeding walkover surveys, a single possible breeding attempt was recorded but no definitive evidence of breeding was recorded within the Raptor Study Area (see **Confidential Figure 8.1.5**).

Secondary Target Raptors and Raven

Buzzard, Kestrel, Sparrowhawk and Raven

8.8.12 Buzzard (*Buteo buteo*), kestrel (*Falco tinnunculus*), sparrowhawk (*Accipter nisus*) and raven (*Corvus corax*) were commonly recorded during VP surveys and all were considered to be breeding within the Raptor Study Area.

Waders

8.8.13 A total of four wader species were recorded during breeding season surveys: curlew; golden plover; oystercatcher; and snipe.

Curlew

8.8.14 Curlew were recorded once from VP surveys, on 7th June 2024 from VP3 (see **Annex A: Table A.2 and A.3; Figures 8.1.3 a-c**). The duration of the flight was 120 seconds, all over 30 m. Curlew were not confirmed as breeding within the BBS Survey Area.

Golden plover

8.8.15 A single flight totalling 55 golden plover was recorded from VP1 on 10th April 2024. The total flight time was 100 seconds and all recorded over 50 m (see **Annex A: Table A.2 and A.5; Figures 8.1.3 a-c**).

8.8.16 Golden plover were recorded breeding throughout the open moorland areas of the Site with a total of four breeding pairs (three probable and one possible territories), see **Figure 8.1.4.**

Oystercatcher

8.8.17 Oystercatcher were recorded twice during VP surveys, both flights from VP1. The flights totalled 52 seconds and was all below 15 m (see **Annex A: Table A.2 and A.8**; **Figures 8.1.3 a-c**). Oystercatcher were not confirmed as breeding within the BBS Survey Area.

Snipe

8.8.18 Snipe were not once from VP surveys, with a single bird registered on 1st May 2024 from VP3 (see **Annex A: Table A.2 and A.12; Figures 8.1.3 a-c**).

8.8.19 A single probable breeding territory was recorded for snipe within the BBS Survey Area. The record is to the south of the proposed cable route (see **Figure 8.1.4**).

Wildfowl

Greylag goose

8.8.20 A single flight of a greylag goose was the only record of this species from VP surveys (**Annex A: Table A.2** and **A.6; Figures 8.1.3 a-c**).

Pink-footed goose

8.8.21 A total of eight flights of pink-footed goose totalling 828 birds were recorded from VP surveys (**Appendix A: Table A2** and **A10**; **Figures 8.1.3 a-c**). Six of the flights were between 30th October and 19th November 2023 and the other two on 10th April 2024. These dates are typical of migration south then north for this species. All the flight time of 1,195 seconds was recorded over 50 m (see **Annex A: Table A.2** and **A.10; Figures 8.1.3 a-c**).

Other Species

Black grouse

8.8.22 A black grouse lek (maximum counts: four males, five females) and a satellite lek (one male) were recorded during black grouse surveys in the south of the 1 km BK Study Area (see **Confidential Figure 8.1.5**).

Other Species

8.8.23 In addition to the species discussed above a total of 26 other species assessed as confirmed breeding during the 2024 breeding bird surveys, which included: five BoCC Red listed (cuckoo, lesser redpoll, mistle thrush, skylark, and whinchat), seven BoCC Amber listed (meadow pipit, reed bunting, song thrush, wheatear, wren, willow warbler and wood pigeon) and 14 common and widespread species (BoCC Green-list species) see **Annex B: Table B.1** for details.

8.8.24 Of the BoCC Red listed species, the most commonly recorded was skylark, which typically breed in open areas of grassland and moorland a maximum count of 48 singing males recorded. The only other BoCC Red listed species recorded were recorded in very small numbers (1-3 territories). The most frequently recorded BoCC Amber list species was meadow pipit (98 singing males), which breed in open areas of grassland and moorland habitats with the only other species with significant number of territories being woodpigeon, wren and willow warbler which all breeding in woodland or woodland edge habitats.

Anecdotal Records

8.8.25 Sightings noted from surveyors while undertaking terrestrial ecology surveys were also made. While anecdotal, and not registered by the ornithology team, these records provide contextual reference and included the following:

- Goshawk: September 2024 / Bogburn Farm / Unconfirmed sighting of individual bird
- Red kite: September 2024 / FLS forestry track NO687822
- Red kite: March 2025 / NO724822 / Pair

8.9 Collision Risk Assessment

8.9.1 As discussed in the methods sections above, a total of four VP locations were used, with a combined total of 252 hours of surveys completed. The VP locations were located to overlook the open areas of the Site through which the proposed cable route would pass.

8.9.2 The proposed OHL is to be at 15 m above ground level and as such any flights at 15 m were considered to create a collision risk, i.e. the risk of the bird flying into the cables.

8.9.3 A total of 41 flights were recorded during VP surveys, see **Annex A: Table A.2; Figures 8.1.3 a-c**. Of the 41 flights a total of ten flights identified as intersecting the proposed OHL. Of these ten flights; four were pink-footed goose; four red kite; one peregrine; and one hen harrier. None of the ten flights were recorded at any time at HB1 or HB2 (which equates to 0-30 m) with all the flight activity being recorded at HB3 (30-50 m) or HB4 (>50 m).

8.9.4 Given there are no flights recorded at-risk height with the proposed conductors of the OHL, there is therefore no collision risk predicted for any of the species recorded.

ANNEX A: VP SURVEY DATA SUMMARY

Table A.3: Vantage point survey timings and weather

Date	VP No.	Start time	Stop Time	Time (Hrs)	Wind Dir	Wind speed	Rain	Cloud cover	Frost	Snow
30-Oct-23	1	10:00	13:00	3	N	3	0	6	4	0
30-Oct-23	1	13:30	16:30	3	N	2	0	8	4	0
31-Oct-23	3	07:15	07:45	3	NE	2	0	7	4	0
31-Oct-23	3	10:45	13:45	3	N	2	0	4	4	0
02-Nov-23	4	07:22	10:22	3	NW	3	0	8	4	0
02-Nov-23	4	10:52	13:52	3	NW	3	0	8	4	0
03-Nov-23	2	07:24	10:24	3	N	3	0	8	4	0
03-Nov-23	2	10:54	13:54	3	NNW	3	0	8	4	0
18-Nov-23	4	07:46	10:46	3	SE	3	0	8	4	0
18-Nov-23	4	11:16	14:16	3	SSE	3	0	8	4	0
19-Nov-23	2	07:50	10:50	3	SW	2	0	8	4	0
19-Nov-23	2	11:20	14:20	3	SW	2	0	8	4	0
14-Nov-23	1	08:50	11:50	3	NE	2	1	8	4	0
14-Nov-23	1	12:20	15:20	3	NE	2	1	8	4	0
15-Nov-23	3	08:25	11:25	3	ENE	2	1	8	4	0
15-Nov-23	3	11:55	14:55	3	ENE	2	1	8	4	0
13-Dec-23	2	08:58	11:58	3	NNE	1	0	8	4	0
13-Dec-23	2	12:28	15:28	3	NNE	2	0	6	4	0
14-Dec-23	4	08:58	11:58	3	SW	2	0	7	4	0
14-Dec-23	4	12:28	15:28	3	SW	3	0	7	4	0
12-Dec-23	1	08:35	11:35	3	E	4	1	8	3	0
12-Dec-23	1	12:05	15:05	3	E	4	1	8	4	0
13-Dec-23	3	09:00	12:00	3	NNE	1	2	8	4	0
13-Dec-23	3	12:30	15:30	3	NNE	1	0	6	4	0
11-Jan-24	2	08:44	11:44	3	N	2	0	4	4	0
11-Jan-24	2	12:14	15:14	3	N	3	0	6	4	0
12-Jan-24	4	08:35	11:35	3	SW	2	0	3	4	0
12-Jan-24	4	12:05	15:05	3	SW	2	0	2	4	0
13-Jan-24	1	09:30	12:30	3	NW	2	0	6	4	1
13-Jan-24	1	13:00	16:00	3	NW	2	0	8	4	0
14-Jan-24	3	08:40	11:40	3	NW	4	0	6	4	2
14-Jan-24	3	12:10	15:10	3	NW	4	0	5	4	2
14-Feb-24	1	09:05	12:05	3	East	1	0	8	4	1
14-Feb-24	1	12:35	15:35	3	East	1	0	8	4	0
15-Feb-24	3	09:15	12:15	3	SW	4	1	8	4	1
15-Feb-24	3	12:45	15:45	3	SW	4	0	8	4	0
03-Feb-24	4	08:09	11:09	3	W	3	0	8	4	0
03-Feb-24	4	11:39	14:39	3	WSW	3	0	6	4	0
04-Feb-24	2	08:06	11:06	3	W	2	0	8	4	0
04-Feb-24	2	11:36	14:36	3	W	2	0	8	4	0
12-Mar-24	4	06:33	09:33	3	SE	2	0	8	4	0
12-Mar-24	4	10:03	13:03	3	SE	2	1	8	4	0
24-Mar-24	2	07:00	10:00	3	NW	3	0	6	4	0
24-Mar-24	2	10:30	13:30	3	NW	3	0	4	4	0

Date	VP No.	Start time	Stop Time	Time (Hrs)	Wind Dir	Wind speed	Rain	Cloud cover	Frost	Snow
27-Mar-24	1	12:10	15:10	3	ESE	3	3	8	4	0
27-Mar-24	1	15:40	18:40	3	SE	3	3	8	4	0
28-Mar-24	3	05:50	08:50	3	SE	3	0	6	4	0
28-Mar-24	3	09:20	12:20	3	SE	4	3	8	4	0
10-Apr-24	1	06:15	09:15	3	SSW	2	0	5	4	0
10-Apr-24	1	09:45	12:45	3	SSW	2	0	8	4	0
11-Apr-24	3	08:45	11:45	3	SSW	4	0	3	4	0
11-Apr-24	3	12:15	15:15	3	SSW	4	0	3	4	0
13-Apr-24	1	08:40	11:40	3	SW	4	0	4	4	0
13-Apr-24	1	12:10	15:10	3	SW	5	0	6	4	0
08-Apr-24	2	06:25	06:00	3	SSW	3	0	6	4	0
08-Apr-24	2	09:55	12:55	3	SSW	3	0	6	4	0
10-Apr-24	2	06:15	09:15	3	SSW	4	0	8	4	0
10-Apr-24	2	09:45	12:45	3	SSW	4	0	8	4	0
16-May-24	2	06:30	09:30	3	NE	3	0	2	4	0
16-May-24	2	10:00	13:00	3	NE	2	0	4	4	0
01-May-24	3	05:25	08:25	3	SE	1	0	8	2	0
01-May-24	3	08:55	11:55	3	SE	1	0	8	3	0
04-Jun-24	1	15:25	16:25	3	WSW	3	0	6	4	0
04-Jun-24	1	18:55	21:55	3	WSW	3	0	6	4	0
07-Jun-24	3	15:30	18:30	3	W	3	0	4	4	0
07-Jun-24	3	19:00	22:00	3	W	3	0	4	4	0
01-Jun-24	2	14:20	17:20	3	NW	2	0	4	4	0
01-Jun-24	2	18:50	21:50	3	NNW	2	0	3	4	0
11-Jul-24	2	15:30	18:30	3	NNW	3	0	8	4	0
11-Jul-24	2	19:00	22:00	3	NNW	3	0	8	4	0
10-Jul-24	1	11:30	14:30	3	N	2	0	8	4	0
10-Jul-24	1	15:00	18:00	3	N	2	0	8	4	0
13-Jul-24	3	04:40	07:40	3	N	3	0	7	4	0
13-Jul-24	3	08:10	11:10	3	N	3	0	8	4	0
14-Aug-24	1	05:40	08:40	3	S	1	0	3	4	0
14-Aug-24	1	09:10	12:10	3	S	1	0	3	4	0
15-Aug-24	3	09:40	12:40	3	SSW	3	1	8	4	0
15-Aug-24	3	13:10	16:10	3	S	3	1	6	4	0
23-Aug-24	2	07:00	10:00	3	W	2	0	4	4	0
23-Aug-24	2	10:30	13:30	3	W	3	0	3	4	0

Table A.4: Summary of Target Species Flight Time

Species	Flights	Total No birds	Sum of Duration (Sec's)	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
Curlew	1	1	120			90	30
Golden Eagle	1	1	172				172
Golden Plover	1	55	100				100
Greylag Goose	1	1	124				124
Hen Harrier	1	1	223			223	
Oystercatcher	2	2	52	52			
Peregrine	9	9	1,431	60	324	558	489
Pink-footed goose	8	828	1,195				1,195
Red Kite	16	16	2,518		307	1653	558
Snipe	1	1	18	18			

Table A.5: Curlew

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
07-Jun-24	3	1	U	120	17:21			90	30

Table A.6: Golden Eagle

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
13-Jul-24	3	1	U	172	10:11				172

Table A.7: Golden Plover

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
10-Apr-24	1	55	U	100	10:07				100

Table A.8: Greylag Goose

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
27-Mar-24	1	1	U	124	12:51				124

Table A.9: Hen Harrier

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
13-Jan-24	1	1	U	223	11:19			223	

Table A.10: Oystercatcher

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
10-Apr-24	1	1	U	11	11:57	11			

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
04-Jun-24	1	1	U	41	17:30	41			

Table A.11: Peregrine

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
31-Oct-23	3	1	F	92	08:03				92
08-Apr-24	2	1	M	191	11:08			191	
11-Apr-24	3	1	M	181	13:26			60	121
01-Jun-24	2	1	F	109	15:10			109	
01-Jun-24	2	1	F	183	15:20			183	
07-Jun-24	3	1	U	137	16:44				137
11-Jul-24	2	1	F	202	16:03	30	157	15	
13-Jul-24	3	1	U	139	10:50				139
23-Aug-24	2	1	F	197	12:11	30	167		

Table A.12: Pink-footed Goose

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
30-Oct-23	1	120	U	155	11:28				155
31-Oct-23	3	228	U	228	09:10				228
02-Nov-23	4	18	U	107	11:23				107
03-Nov-23	2	41	U	96	07:53				96
03-Nov-23	2	108	U	171	08:37				171
19-Nov-23	2	7	U	139	09:03				139
10-Apr-24	1	41	U	152	10:36				152
10-Apr-24	1	265	U	147	11:28				147

Table A.13: Red Kite

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
30-Oct-23	1	1	U	136	12:43			136	
30-Oct-23	1	1	U	62	14:09			62	
31-Oct-23	3	1	U	174	11:57			69	105
13-Dec-23	3	1	U	199	14:08				199
14-Dec-23	4	1	U	183	14:12		183		
13-Jan-24	1	1	U	168	10:27			168	
04-Feb-24	2	1	U	122	08:53			122	
15-Feb-24	3	1	U	219	13:26			219	
27-Mar-24	1	1	U	70	14:04			70	
10-Apr-24	1	1	U	231	12:23			105	126
16-May-24	2	1	U	203	07:51			203	
04-Jun-24	1	1	U	136	15:51			136	
07-Jun-24	3	1	U	210	15:53			82	128
11-Jul-24	2	1	U	48	19:39			48	

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
14-Aug-24	1	1	U	214	07:17		124	90	
23-Aug-24	2	1	U	143	10:52			143	

Table A.14: Snipe

Date	VP No.	No	Sex	Duration	Time	HB1 0-20m	HB2 15-30m	HB3 30-50m	Sum of HB4 50m+
01-May-24	3	1	U	18	08:02	18			

ANNEX B: SPECIES LIST

Table B.1: Species

Common name	Scientific name
Target Breeding species	
Black Grouse	*Tetrao tetrix*
Golden Plover	*Pluvialis apricaria*
Goshawk	*Accipiter gentilis*
Peregrine	*Falco peregrinus*
Snipe	*Gallinago gallinago*
Target non-Breeding species	
Curlew	*Numenius arquata*
Greylag Goose	*Anser anser*
Golden Eagle	*Aquila chrysaetos*
Merlin	*Falco columbarius*
Osprey	*Pandion haliaetus*
Oystercatcher	*Haematopus ostralegus*
Pink-footed Goose	*Anser brachyrhynchus*
BoCC Red list species – breeding	
Cuckoo	*Cuculus canorus*
Lesser Redpoll	*Acanthis cabaret*
Mistle Thrush	*Turdus viscivorus*
Skylark	*Alauda arvensis*
Whinchat	*Saxicola rubetra*
BoCC Amber list species – breeding	
Kestrel	*Falco tinnunculus*
Meadow Pipit	*Anthus pratensis*
Reed Bunting	*Emberiza schoeniclus*
Song Thrush	*Turdus philomelos*
Sparrowhawk	*Accipiter nisus*
Wheatear	*Oenanthe oenanthe*
Woodpigeon	*Columba palumbus*
Wren	*Troglodytes troglodytes*
Willow Warbler	*Phylloscopus trochilus*
BoCC Green list species – breeding	
Buzzard	*Buteo buteo*
Coal Tit	*Periparus ater*
Chaffinch	*Fringilla coelebs*
Crossbill	*Loxia curvirostra*
Carrion Crow	*Corvus corone*
Goldfinch	*Carduelis carduelis*
Great Tit	*Parus major*
Jay	*Garrulus glandarius*
Raven	*Corvus corax*
Robin	*Erithacus rubecula*

Common name	Scientific name
Red Grouse	*Lagopus lagopus*
Red-legged Partridge	*Alectoris rufa*
Stonechat	*Saxicola rubicola*
Siskin	*Spinus spinus*
Others non-breeding	
Herring Gull	*Larus argentatus*
Swift	*Apus apus*
Swallow	*Hirundo rustica*

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1
2
3a
3b
4

Scale @ A3: 1:75,000
0 0.5 1 2 3 4 km

Legend

- Proposed Overhead Line (OHL) Alignment
- Proposed OHL and Access Track Limit of Deviation (LoD)

Ornithology Survey Areas

- Raptor and Black Grouse Survey Area
- Breeding Bird Walkover Survey Area
- Vantage Point (VP)
- Vantage Point Location 2 km Viewing Arc
- Zone of Theoretical Visibility from VP 1
- Zone of Theoretical Visibility from VP 2
- Zone of Theoretical Visibility from VP 3a
- Zone of Theoretical Visibility from VP 3b
- Zone of Theoretical Visibility from VP 4

Note
The ZTV is calculated with a surface offset 20 m and from a viewing height of 1.8 m above ground level. The terrain model is derived from OS Terrain 5 data with a vertical accuracy of ± 2 m (RMSE). The ZTV was calculated using ESRI ArcGIS Spatial Analyst extension. Areas of study are based on NatureScot Overhead Line and Windfarm guidance and VP Surveys align with the publication *Guidance - Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds* (March 2025) which states 'VP observations should focus on sensitive sites and areas used by target species.

The analysis does not take into account the screening effects of vegetation, buildings or other screening features.

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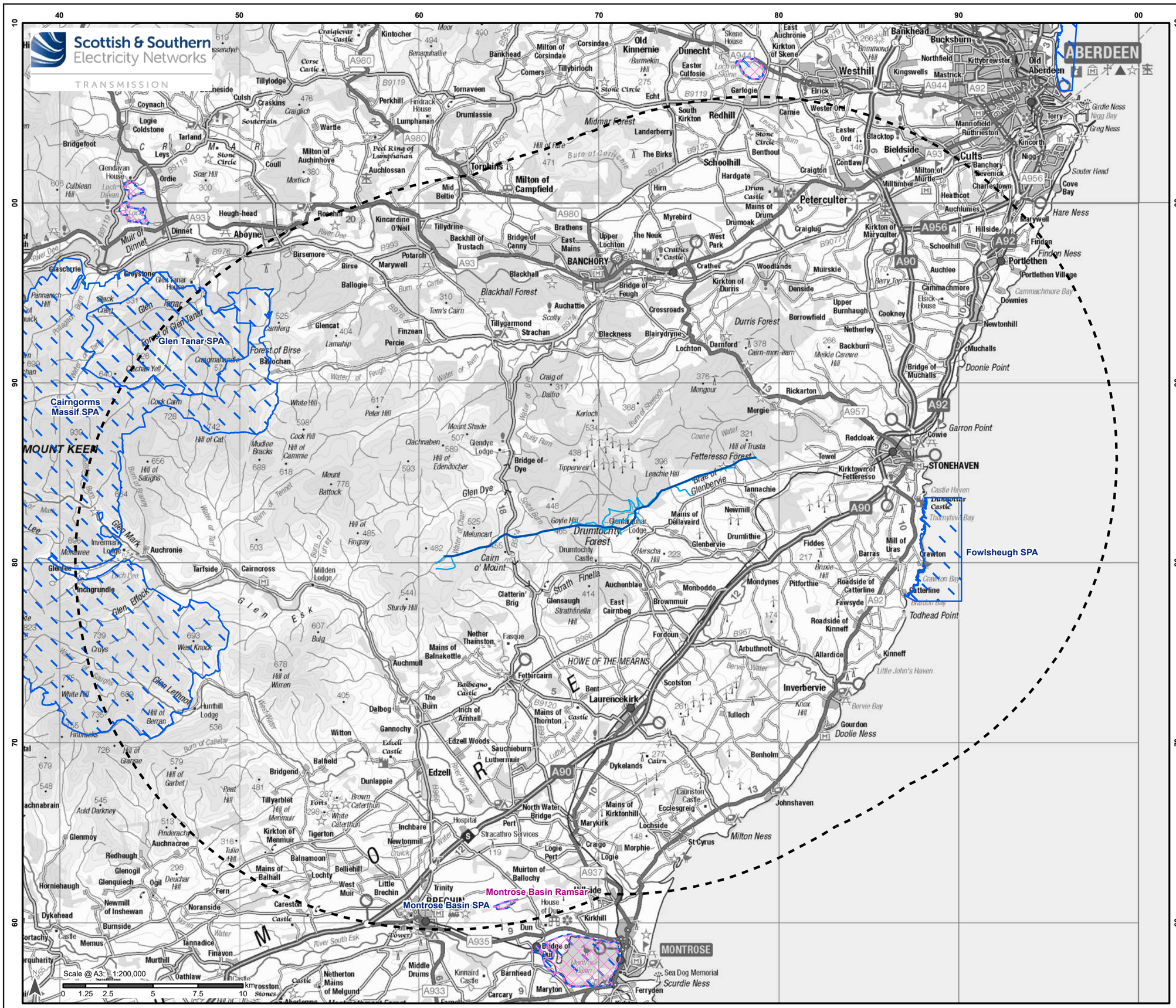
Project No: LT468/469
Project: Glendye Wind Farm Overhead Line Grid Connection

Title: EIA Report
Chapter 8: Ornithology
Vantage Point Locations and Survey Areas
Figure 8.1.1

Drawn by: QF Date: 19/09/2025



Legend

- Proposed Overhead Line (OHL) Alignment
- Proposed OHL and Access Track Limit of Deviation (LoD)
- Proposed OHL and Access Track LoD 20 km Buffer

Statutory Designated Sites

- Special Protection Area (SPA)
- Ramsar

Note
Labels only shown within 20 km buffer.

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Project:	Glendye Wind Farm Overhead Line Grid Connection
Title:	EIA Report Chapter 8: Ornithology Ornithological Designations within 20 km Figure 8.1.2
Drawn by:	QF
Date:	17/09/2025

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Legend

- Proposed Overhead Line (OHL) Alignment
- Proposed OHL and Access Track Limit of Deviation (LoD)

Species Flight Line

- Curlew
- Golden Eagle
- Golden Plover
- Greylag Goose
- Hen Harrier
- Oystercatcher
- Pink-footed Goose
- Red Kite
- Snipe

Scale @ A3: 1:65,000
0 0.5 1 2 3 4 km

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Project:	Glendye Wind Farm Overhead Line Grid Connection
Title:	EIA Report Chapter 8: Ornithology Vantage Point Flight Lines Figure 8.1.3a
Drawn by:	QF
Date:	19/09/2025

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Legend

- Proposed OHL Pole Location
- Proposed Overhead Line (OHL) Alignment
- Proposed OHL and Access Track Limit of Deviation (LoD)

Species Flight Line

- Curlew
- Golden Eagle
- Pink-footed Goose
- Red Kite
- Snipe

Scale @ A3: 1:25,000

0 0.25 0.5 1 1.5 2 km

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Figure 8.1.3b

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72 74 76 78

86 84 82

Scale @ A3: 1:25,000
0 0.25 0.5 1 1.5 2 km

Legend

- Proposed OHL Pole Location
- Proposed Overhead Line (OHL) Alignment
- Proposed OHL and Access Track Limit of Deviation (LoD)

Species Flight Line

- Golden Plover
- Greylag Goose
- Hen Harrier
- Oystercatcher
- Pink-footed Goose
- Red Kite

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Chapter 8: Ornithology
Vantage Point Flight Lines
Figure 8.1.3c

Drawn by: QF Date: 19/09/2025

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GP

GP

GP

SN

Scale @ A3: 1:65,000

0 0.5 1 2 3 4 km

Legend

- Proposed Overhead Line (OHL) Alignment
- Proposed OHL and Access Track Limit of Deviation (LoD)
- Breeding Bird Walkover Survey Area

Breeding Bird Territory

- Probable
- Possible

BTO Species Codes

GP	Golden Plover
SN	Snipe

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Project No:	LT468/469
Project:	Glendye Wind Farm Overhead Line Grid Connection
Title:	EIA Report Chapter 8: Ornithology Breeding Bird Walkover Survey Results Figure 8.1.4
Drawn by:	QF
Date:	17/09/2025