

Technical Appendix 9.1: Ornithology

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ANNEXES

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1.0 Introduction

This Technical Appendix has been prepared to accompany Chapter 9 of the Oliver Forest Wind Farm (the Proposed Development) Environmental Impact Assessment (EIA) Report.

It presents detailed methodologies and results of ornithology desk studies and field surveys to inform the design and assessment of the Proposed Development.

It should be read with reference to the following:

- Figure 9.1: Statutory Designated Sites for Nature Conservation with Ornithological Interest.
- Figure 9.2: Desk Study Records.
- Figures 9.3: Vantage Point and Viewsheds Plan.
- Figures 9.4: Breeding Bird Survey Areas.
- Figures 9.5: VP Results - Target Species Flight Activity.
- Figure 9.6: MBBS Results.
- Confidential Figure 9.2.1: Black Grouse Lek Survey Records (Sensitive).
- Confidential Figure 9.2.2: Desk Study Records (Sensitive).

Only common bird species names are referred to within the main text of this Technical Appendix. Annex A provides a summary of all bird species referred to herein, and within Chapter 9. Both common and species names together with a summary of their conservation status as relevant is provided in Annex A.

Information pertaining to the locations of sensitive breeding bird species, and which are considered confidential is provided in Confidential Technical Appendix 9.2, and the above listed Confidential Figures 9.2.1 and 9.2.2. Such information will not be made publicly available but will be provided to Scottish Borders Council (SBC), Scottish Government and NatureScot.

1.1 Key Guidance

Ornithology survey methodologies and subsequent interpretation of results has made reference to the following key industry standard guidance:

- Brown, A.F. & Shepherd, K.B. (1993). A method for censusing upland breeding waders. *Bird Study* 40, 189-195.
- NatureScot (SNH, 2017). Recommended bird survey methods to inform impact assessment of onshore wind farms. Version 2. March 2017.
- Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). *Raptors: a field guide to survey and monitoring*. Third Edition. The Stationary Office, Edinburgh.
- Gilbert, G., Gibbons, D.W. & Evans, J. (1998). *Bird monitoring methods. A manual of techniques for key UK species*. RSPB, Sandy, Bedfordshire.
- Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D. and Win, I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and the Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747.
- NatureScot (SNH, 2018). Assessing significance of impacts from onshore wind farm outwith designated areas. Guidance. Version 2 – February 2018.
- NatureScot (SNH, 2016). Assessing connectivity with Special Protection Areas (SPAs). Guidance. Version 3 – June 2016.

1.2 Target Species

Target species for survey and recording were identified through desk study and consultation with NatureScot (see Chapter 9: Table 9.1), on the basis of their known or likely presence, their likely sensitivity to the Proposed

Development and those which are afforded a higher level of legislative protection, which is in accordance with current NatureScot guidance (SNH, 2017 and 2018).

Primarily, target species included:

- those listed on Annex 1 of the EC Birds Directive (2009/147/EC);
- those listed on Schedule 1 of the Wildlife and Countryside Act 1981 (Amendment) (Scotland) Regulations 2001;
- black grouse; and
- wetland birds, including geese, duck, waders and waterfowl (but excluding feral, non-native species and mallard).

This has ensured inclusion of qualifying interests of designated sites for nature conservation, while omitting passerines which are not sensitive to wind farm developments (see qualifying interests of designated sites in Table 3.1) and target species that should be considered in the development of onshore wind farms in Scotland, as per NatureScot guidance (SNH, 2017).

2.0 Methodology

2.1 Desk Study

In accordance with NatureScot guidance (SNH, 2017), a desk study was undertaken to ascertain an overview of likely bird populations and designated sites in proximity to the Proposed Development, in order to identify possible target species to inform the requirements for survey. Records from, and including, 2012 are considered.

The desk study comprised a review of sources summarised in **Table 1**.

Table 1 – Desk Study Key Sources and Information Sought

Key Source - incl. Date	Information Sought	Search Area
Sitelink - 2022	Statutory designated sites for nature conservation with qualifying ornithological interests.	Within 10 km of the site, extended to 20 km for internationally designated sites with migratory geese qualifying interests (see Figure 9.1).
Royal Society for Protection of Birds (RSPB) – November 2022	Existing ornithological records.	Within 6 km of the site, as shown on Figure 9.2.
Lothian and Borders Raptor Study Group (L&BRSG) – October 2022	Existing records of scarce breeding and roosting raptors and owls.	Within 6 km of the site, extended to 10 km for eagles (see Figure 9.2, and Confidential Figure 9.2.2 in Confidential Technical Appendix 9.2).
The Wildlife Information Centre (TWIC) - October 2022	Non-statutory designated sites for nature conservation with qualifying ornithological interests, and existing ornithological records.	Within 2 km of the site, as shown on Figure 9.2.
Southern Uplands Partnership (SUP) – November 2023	Black grouse records.	Within 2 km of the site, as shown on Confidential Figure 9.2.2 in Confidential Technical Appendix 9.2.
South of Scotland Golden Eagle Project (SSGEP)	Golden eagle records.	Within 10 km of the site.
Consented Whitelaw Brae Wind Farm – April 2024	Existing ornithological records from baseline field surveys.	Species-specific search areas used for surveys for consented scheme.

2.2 Field Surveys

Field survey effort and methodologies were agreed with NatureScot prior to commencement (see Chapter 9: Table 9.1), in order to assess the potential effects of the Proposed Development upon ornithological features.

Field surveyor knowledge and experience of bird habitat associations at comparable sites has also informed and guided survey effort over the course of surveys.

Field Survey Personnel

All field surveys have been completed by experienced and professional ornithologists named in Annex B; all of whom are all fully conversant in recognised bird survey methodologies for wind turbine developments.

2.3 Field Methodologies

The following ornithology field surveys were completed:

- Vantage Point (VP) flight activity surveys (March 2022 to February 2023);
- Moorland breeding bird survey (MBBS) (2022);
- Breeding Annex 1 and Schedule 1 raptor and owl searches (2022); and
- Breeding black grouse searches (2022).

VP Flight Activity Surveys

VP flight activity surveys were undertaken between March 2022 and February 2023, providing coverage of one breeding season (considered March to August 2022) and one non-breeding season (considered September 2022 to February 2023). One year of surveys was agreed with NatureScot (see Chapter 9: Table 9.1).

VP Locations and Viewsheds

VP locations used during the survey period, along with ground-truthed modelled areas of visible coverage within the 2 km viewsheds of VPs are shown on Figure 9.3 and are presented within Table 2. The 'VP Survey Area' comprised the Proposed Development plus 500 m, as shown on Figure 9.3.

These VPs and viewshed coverage were confirmed and agreed with NatureScot (see Chapter 9: Table 9.1).

Table 2 - VP Locations

VP	Grid reference	Orientation
1	NT 10005 24015	North-west
2	NT 07890 23112	North-east
3	NT 08903 25212	South-west

VP Survey Effort

The total survey effort (hours) completed at each VP is summarised in Table 3. Full details of all survey times, field surveyors used, and weather conditions are presented in Annex B.

The total VP survey effort completed in Year 1 at each VP was 72 hours. This comprised, at each VP, 36 hours during the breeding bird season period (March to August 2022), and 36 hours during the non-breeding season (September 2022 to February 2023).

Survey effort during the breeding and non-breeding bird seasons met the 36 hours recommended per VP (in accordance with current NatureScot guidance (SNH, 2017), and as agreed through consultation with NatureScot (see Chapter 9: Table 9.1).

Survey times were dispersed throughout the day and were also completed in a range of weather conditions, but always conducive to survey and safe access.

VP flight activity surveys commenced after a short period of "settling in", to ensure any potential disturbance to target species present within each viewshed had reasonably passed and surveyors were alert to survey following a traverse to each VP location.

In accordance with current NatureScot guidance (SNH, 2017), flight lines were mapped for all target species passing through the VP Study Area. Details of species, number of birds, flight height in bands (at, below or above collision risk height), duration and direction were noted on standardised recording forms and field plans. Target

species were those summarised in Section 1.2 and included Schedule 1 and Annex 1 raptors and owls, wading species, black grouse and waterfowl (excluding feral species and mallard).

Surveyors were stationary until the completion of watches at the VP locations.

Height bands (HT) were used in the field to record target species activity at, below or above collision risk height for subsequent use in the calculation of collision mortality risks. Height bands used in the field were based on a preliminary proposed turbine height.

Based on an indicative turbine height (tip height of 200 m, hub height of 119 m and maximum rotor length of 162 m), as a precaution HT2 to HT4 incorporate the rotor sweep (25 – 200 m), and are thus considered at-risk from collision with the rotor:

- HT1 <25 m;
- HT2 25-40 m;
- HT3 40-180 m;
- HT4 180-200 m;
- HT5 200-220 m;
- HT6 220-250 m; and
- HT7 >250 m.

Note, as per Chapter 3, the finalised candidate turbine has not been chosen but the above dimensions are considered representative of the likely specification for the purpose of the surveys (and assessment).

Table 3 – VP flight activity survey effort summary (hours) – Year 1

VP	2022											2023		Total
	Breeding Season						Non-breeding season							
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb		
1	6	6	6	6	6	6	6	6	6	6	6	6	6	72
2	6	6	6	6	6	6	6	6	6	6	6	6	6	72
3	6	6	6	6	6	6	6	6	6	6	6	6	6	72

Secondary Species

Secondary species were also noted in approximately 5-minute summary intervals, with the number of birds present and general behaviour recorded in order to build an overall picture of their activity (in accordance with SNH, 2017). The 5-minute periods were considered appropriate to ensure surveyors were fully alert to target species activity.

Secondary species are defined here as commoner raptors (e.g. buzzard, kestrel and sparrowhawk), feral waterbirds, herons, egrets, mallard, gulls and raven as recorded during surveys.

Moorland Breeding Bird Surveys

Moorland breeding bird surveys (MBBS) were undertaken between April and July 2022, over a series of four staggered visits.

The 'MBBS Survey Area' comprised coverage of open habitats within the site, extended to include accessible areas of open habitats within 500 m of the site, as shown on Figure 9.4 and in accordance with current guidance (SNH, 2017).

The methodology employed followed the Brown and Shepherd (1993) method for censusing upland breeding waders, based upon the recommendations set out in Calladine *et al.* (2009) as per current guidance (SNH, 2017). The methodology is suitable for moorland and open country species including, waders, gulls and some wildfowl species however, incidental observations of any raptors, owls or notable passerines (i.e. Schedule 1 and Birds of Conservation Concern (BoCC) red-listed) are also recorded.

During each survey visit, a pre-determined route was walked through the MBBS Survey Area, with all birds seen or heard, and their behaviours (e.g. displaying, carrying food etc.) mapped in the field.

All surveys were undertaken during daylight hours and in fine conditions conducive to the survey. The survey effort for Year 1 is summarised in Table 4. Full details of all survey times, field surveyors used, and weather conditions are presented in Annex B.

Table 4 - MBBS Effort

2022 (Year 1)			
Visit	Date	Start Time (24hrs)	Finish Time (24hrs)
1	11/04/2022	09:55	16:00
2	05/05/2022	08:10	13:45
3	05/06/2022	09:00	15:00

2022 (Year 1)			
Visit	Date	Start Time (24hrs)	Finish Time (24hrs)
4	10/07/2022	07:00	13:00

Breeding Annex 1 and Schedule 1 Raptor and Owl Searches

Searches for Annex 1 and Schedule 1 breeding raptor and owls were undertaken during the core breeding season between April and July 2022 (Year 1) with reference to species-specific methodologies outlined in Hardey *et al.* (2013).

Survey effort is summarised in Table 5. Full details of all survey times, field surveyors used, and weather conditions are presented in Annex B.

The 'Breeding Raptor and Owl Survey Area' comprised coverage of the site and, where access allowed, areas out to 2 km, and as shown on Figure 9.4, in accordance with current NatureScot guidance (SNH, 2017).

Search effort and survey areas were also informed through consultation with NatureScot.

Given the size of the Breeding Raptor and Owl Survey Area, survey visits were typically undertaken by a small team of surveyors and/or over consecutive days.

Table 5 - Breeding Raptor and Owl Search Effort Summary

2022 (Year 1)			
Visit	Date	Start Time (24hrs)	Finish Time (24hrs)
1	10/04/2022	10:45	16:55
	14/04/2022	16:30	19:30
2	03/05/2022	11:00	16:50
3	05/06/2022	15:30	18:45
	12/06/2022	12:00	15:30
4	21/07/2022	13:10	19:10

Breeding Black Grouse Searches

In accordance with current NatureScot guidance (SNH, 2017), and following the survey methodology from Gilbert *et al.* (1998), searches for lekking black grouse were undertaken in 2022 (Year 1) and consisted of surveys to search for black grouse, between early April and early May.

The 'Black Grouse Survey Area' comprised all suitable habitats (e.g. open moorland, woodland edges and tracks) within, and out to 1.5 km, of the site where access allowed, and as shown on Figure 9.4, in accordance with NatureScot guidance (SNH, 2017).

Survey effort is summarised in Table 6. Full details of all survey times, field surveyors used, and weather conditions are presented in Annex B.

Search effort and survey areas were also informed through consultation with NatureScot.

Table 6 - Breeding Woodland Grouse Search Effort Summary

2022 (Year 1)			
Visit	Date	Start Time (24hrs)	Finish Time (24hrs)
1	09/04/2022	05:25	08:25
2	01/05/2022	04:35	07:35

3.0 Results

3.1 Desk Study

Statutory Designated Sites for Nature Conservation

This section should be read with reference to Figure 9.1.

The site does not form part of any statutory designated sites for nature conservation with qualifying ornithological interests.

Table 7 summarises statutory designated sites with ornithological features of interest located within 10 km of the site, with no designated sites with migratory geese qualifying features within 20 km.

Distances specified within Table 7 are taken from the site boundary to the designated site at its nearest point.

Table 7 - Designated sites for nature conservation. SSSI – Site of Special Scientific Interest

Designated Site	Distance and Direction from the Site	Ornithological Qualifying Interests
Tweedsmuir Hills SSSI	2.38 km, east	Breeding bird assemblage, including red grouse, black grouse, golden plover, curlew, dunlin, snipe, ring ouzel, whinchat, stonechat and wheatear. Several Schedule 1 species also use the site for foraging while breeding off-site, in winter or on passage.

Non-Statutory Designated Sites for Nature Conservation

There are three non-statutory designated sites within 2 km of the site, with listed 'notable' ornithological species that are recorded as using the sites (as taken from the 'Site Statement' documentation). Information on these non-statutory sites is presented in Table 8.

Table 8 – Non-statutory Designated Sites of Nature Conservation.

Designated Site	Distance and Direction from the site	'Notable' Ornithological Species Listed
Glenmuck Bog	Within the site	Mallard, meadow pipit, siskin, kestrel, snipe, red grouse, curlew, golden plover and whinchat.
Hawkshaw Bog	Adjacent to southern site boundaries, other side (south) of the River Tweed	Common sandpiper, teal, meadow pipit, short-eared owl, dipper, cuckoo, kestrel, snipe, oystercatcher, swallow, curlew, wheatear and whinchat.
Talla Reservoir	1.1 km south-east of the site	Common sandpiper, siskin, ringed plover, oystercatcher, wheatear and osprey.

Existing Ornithological Records

This section provides a summary of existing ornithological records identified through desk study sources.

Desk study records are presented on Figure 9.2, with sensitive desk study records presented on Confidential Figure 9.2.2 in Confidential Technical Appendix 9.2.

Records of 'Priority Species for assessment when considering the development of onshore wind farms in Scotland' and 'Species with restricted ranges' as listed within Annex 1 of NatureScot guidance (SNH, 2018) are accordingly given the highest regard.

The consideration of existing records are also limited to those reported since 2012, to ensure that the most up to date (and thus relevant to the Proposed Development) records are considered.

RSPB

The only record returned was for ring ouzel.

L&BRSG

Records of breeding (or suspected breeding) merlin were returned, as well goshawk, osprey and red kite. There are no regularly used golden eagle nest sites within 10 km of the site, but there is a part of a golden eagle's territory within 6 km of the site. There is a nest record for a peregrine pair, but this is historic (not used since 2009). Records (which are all considered sensitive) from the L&BRSG are provided on Confidential Figure 9.2.2 in Confidential Technical Appendix 9.2.

TWIC

A total of 355 records of 65 species were returned from TWIC, although this included passerines and / or common species, like woodpigeon, coal tit and mallard. Records of black grouse, hen harrier, peregrine, merlin, osprey, lapwing and curlew, were however also returned. Records are presented on Figure 9.2, with the exception of black grouse and Schedule 1 raptor records which although are not (definitively) indicative of breeding, are precautionarily treated as sensitive and are presented on Confidential Figure 9.2.2 in Confidential Technical Appendix 9.2.

SUP

The records from five black grouse lek sites were returned and these are shown on Confidential Figure 9.2.2 in Confidential Technical Appendix 9.2.

SSGEP

SSGEP responded to say they have data from tagged golden eagles in the wider area released as part of the project. Information on the nearest known golden eagle nest site from the L&BRSG was however provided and this information, in combination with the other desk study information and baseline gathering from the field

surveys was considered most relevant and appropriate in establishing the potential for the site, and adjacent habitats, to be used by golden eagles.

Whitelaw Brae Wind Farm

The consented Whitelaw Brae Wind Farm is c. 900 m south-west of the site. Ornithology surveys for the scheme comprised of VP flight activity surveys, black grouse searches, breeding bird surveys, scarce breeding bird surveys (raptors), barn owl winter roost searches and winter walkover surveys between 2012 and 2014. Survey areas used were in accordance with NatureScot guidance (SNH, 2017). Note, the locations of records considered sensitive (black grouse leks and raptor nest sites) were not publicly available.

Results revealed:

- curlew and pink-footed goose (including those records of 'grey' goose) were the most regularly recorded species during VP flight activity surveys (33 and 30 flights respectively);
- three black grouse lek sites within survey area;
- breeding osprey and goshawk within survey area;
- breeding curlew (maximum of three territories), oystercatcher (maximum of two territories), snipe (one territory) and possibly one lapwing territory;
- one location (nest box) had potential for barn owl within survey area; and
- pink-footed goose recorded in flight only, with oystercatcher, snipe and goosander using habitats associated with Fruid Reservoir.

3.2 Field Surveys

VP Flight Activity Surveys

Target Species

Target Species flight activity recorded during the VP survey period (March 2022 to February 2023) from all VPs combined is summarised in Table 9.

The total number of all flights, total number of birds recorded, and the total time spent in each height band (HT) (in seconds), from all VP locations combined is presented. This includes some flights which were detected outside of the VP Survey Area and those which are not at-risk from collision. Flights recorded within the 'at risk' window (at collision heights HT2 to HT4, and within 200 m of the turbines) are presented in Table 10.

Detailed flight records are presented in Annex C, which also indicates the total flight time for each species at the different height bands. Flight lines for each species over the survey period are illustrated on Figure 9.5.

Table 9 – Target Species Flight Activity Summary (All Flights).

Species	Total No. of Flights	Total No. of Birds	Total Flight Time (secs) ¹
Greylag goose	2	3	115
Pink-footed goose	21	1,467	288,484
Goosander	3	5	301
Oystercatcher	1	1	90
Curlew	2	2	75
Osprey	1	1	65
Red kite	4	5	529
Hen harrier	1	1	110
Goshawk	3	3	534
Merlin	1	3	180

Table 10 – 'At Risk' Target Species Flight Activity Summary.

Species	Total No. of Flights	Total No. of Birds	Total Flight Time (secs) ²
Pink-footed goose	1	25	475
Osprey	1	1	65
Red kite	1	1	120
Goshawk	2	2	510

¹ Total time multiplied by the number of birds.

² Total time at risk height multiplied by the number of birds.

Secondary Species

Relatively low levels of activity of the following secondary species were also recorded:

- mallard;
- cormorant;
- black-headed gull;
- herring gull;
- lesser-black backed gull;
- buzzard;
- sparrowhawk;
- kestrel;
- raven; and
- grey heron.

Collision Risk Mortality

Collision risk mortality as a result of birds colliding with rotor blades is assessed for those target species which were recorded in sufficient "at collision risk" number, and this is typically considered to be ≥ 3 such flights and/ or > 25 birds (where the number of flights < 3). Collision risk modelling on migratory geese is typically only undertaken where the species has potential to be part of a SPA and/ or Ramsar population (there are no such designated site within 20 km of the site).

Given no target species were recorded in such number (see Table 10), no collision risk models are undertaken.

Moorland Breeding Bird Surveys

Surveys in 2022 recorded a small number of breeding wetland species (incl. wader) territories within the MBBS Survey Area, as summarised in Table 11 and illustrated on Figure 9.6.

A small number of common crossbill breeding territories were also recorded in commercial forest within the MBBS Survey Area.

Only three breeding territories were within the site itself (one lapwing pair, one common sandpiper pair and one oystercatcher pair), and all of these were on land south of the A701, close to the River Tweed.

Table 11 – Moorland Breeding Bird Species Territories (2022).

Species	No. of territories within the MBBS Survey Area
Goosander	1
Oystercatcher	3
Lapwing	1
Golden plover	1
Snipe	1
Curlew	2
Common sandpiper	3

Breeding Annex 1 and Schedule 1 Raptor and Owl Searches

In late April 2022, a goshawk was recorded flying across the site over a suitable habitat, although no evidence of territoriality or breeding was recorded.

Other species recorded during the searches consisted of red kite, osprey and peregrine, although there was also no evidence of breeding of these species within the Breeding Raptor and Owl Survey Area.

Breeding Black Grouse Searches

During the searches in 2022, no black grouse leks were recorded within the Black Grouse Survey Area, although three male black grouse were recorded at a suspected lek site during the MBBS in May. The location of the suspected lek site is provided in Confidential Figure 9.2.1 in Confidential Technical Appendix 9.2.

Field Survey Limitations

Habitats within the site were widely accessible. The wider Survey Areas used for the MBBS (500 m), Breeding Annex 1 / Schedule 1 raptor and owl searches (2 km) and breeding black grouse searches (1.5 km) were surveyed from suitable locations within the site or public rights of way (PRoWs), scanning the Survey Areas with

the use of optics (telescope and binoculars). Given the good visibility across the Survey Areas from the PRoWs this is not considered a limitation to the results obtained.

Plantation woodland habitats within the Survey Areas were surveyed by traversing tracks and clearings rather than walking directly through dense plantation habitat, due to logistical and health and safety considerations. The woodland habitats within the Survey Areas were appropriately covered from the accessible tracks and clearings and this is not therefore considered a limitation to the results obtained.

Overall, no limitations to the baseline gathering of survey data in establishing an accurate reflection of the levels of target species activity within adopted Survey Areas, and particularly the site, are identified.

4.0 References

- Brown, A.F. & Shepherd, K.B. (1993). A method for censusing upland breeding waders. *Bird Study* 40, 189-195.
- Calladine, J., Garner, G., Wernham, C. and Thiel, A. (2009). The influence of survey frequency on population estimates of moorland breeding birds. *Bird Study*, 56 (3), 381-388.
- Gilbert, G., Gibbons, D.W. and Evans, J. (1998). *Bird monitoring methods*. A manual of techniques for key UK species. RSPB, Sandy, Bedfordshire.
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ANNEX A – BIRD SPECIES SUMMARY

Table A-1 provides a list of bird species referred to within Chapter 9: Ornithology. Both common and species names are presented along with a summary of each species conservation status using the following abbreviations:

- Ann1 - species listed on Annex 1 of the Birds Directive (2009/147/EC);
- Sch1, 1A, A1 - species listed on Schedule 1, Schedule 1A or Schedule A1 of the Wildlife and Countryside Act (1981, as amended);
- SBL - species listed on the Scottish Biodiversity List;
- BoCC - BoCCs as listed by leading bird conservation organisations in the UK, including the RSPB and the British Trust for Ornithology (BTO). Conservation status ('Red' and 'Amber' categories) are provided (Stanbury et al., 2021); and,
- RBBP – Rare Breeding Birds Panel; rare breeding species recorded and reported on the RBBP.

Table A-1: Summary of bird species.

Common name	Species Name	Conservation Status
Greylag Goose	<i>Anser anser</i>	Amber
Pink-footed Goose	<i>Anser brachyrhynchus</i>	Amber; RBBP
Mallard	<i>Anas platyrhynchos</i>	Amber
Teal	<i>Anas crecca</i>	Amber
Goosander	<i>Mergus merganser</i>	-
Red Grouse	<i>Lagopus lagopus scotica</i>	Amber; SBL
Black Grouse	<i>Lyrurus tetrix</i>	Red; SBL
Cuckoo	<i>Cuculus canorus</i>	Red; SBL
Woodpigeon	<i>Columba palumbus</i>	Amber
Oystercatcher	<i>Haematopus ostralegus</i>	Amber
Lapwing	<i>Vanellus vanellus</i>	Red; SBL
Golden Plover	<i>Pluvialis apricaria</i>	SBL; Ann1
Ringed Plover	<i>Charadrius hiaticula</i>	Red
Curlew	<i>Numenius arquata</i>	Red; SBL
Dunlin	<i>Calidris alpina</i>	Red; SBL
Snipe	<i>Gallinago gallinago</i>	Amber
Common Sandpiper	<i>Actitis hypoleucos</i>	Amber
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Amber; SBL
Herring Gull	<i>Larus argentatus</i>	Red; SBL
Lesser Black-backed Gull	<i>Larus fuscus</i>	Amber
Cormorant	<i>Phalacrocorax carbo</i>	-
Grey Heron	<i>Ardea cinerea</i>	-
Osprey	<i>Pandion haliaetus</i>	Amber; Sch1; SBL; Ann1; RBBP
Golden Eagle	<i>Aquila chrysaetos</i>	Sch1/1A/A1; SBL; Ann1; RBBP
Sparrowhawk	<i>Accipiter nisus</i>	Amber
Goshawk	<i>Accipiter gentilis</i>	Sch1; RBBP
Hen Harrier	<i>Circus cyaneus</i>	Red; Sch1 & 1A; SBL; Ann1; RBBP
Red Kite	<i>Milvus milvus</i>	Sch1 & 1A; SBL; Ann1
Buzzard	<i>Buteo buteo</i>	-
Barn owl	<i>Tyto alba</i>	Sch1, SBL
Short-eared Owl	<i>Asio flammeus</i>	Amber; SBL; Ann1; RBBP

Common name	Species Name	Conservation Status
Kestrel	<i>Falco tinnunculus</i>	Amber; SBL
Merlin	<i>Falco columbarius</i>	Red; Sch1; SBL; Ann1; RBBP
Peregrine	<i>Falco peregrinus</i>	Sch1; SBL; Ann1; RBBP
Raven	<i>Corvus corax</i>	-
Coal Tit	<i>Parus ater</i>	-
Swallow	<i>Hirundo rustica</i>	-
Whinchat	<i>Saxicola rubetra</i>	Red
Stonechat	<i>Saxicola rubicola</i>	-
Wheatear	<i>Oenanthe oenanthe</i>	Amber
Dipper	<i>Cinclus cinclus</i>	Amber
Meadow Pipit	<i>Anthus pratensis</i>	Amber
Siskin	<i>Spinus spinus</i>	SBL

ANNEX B – ORNITHOLOGY FIELD SURVEY EFFORT

The following codes are used to record weather conditions within Tables B-1 to B-4:

Wind Speed		Rain		Cloud Cover	
Calm	0	None	0	Out of 8	
Light air	1	Drizzle/mist	1		
Light breeze	2	Light showers	2	Frost	
Gentle breeze	3	Heavy showers	3	None	0
Moderate breeze	4	Heavy rain	4	Ground	1
Fresh breeze	5			All day	2
Strong breeze	6	Visibility			
Moderate gale	7	Poor	0	Snow	
Fresh gale	8	<1 km	1	None	0
Strong gale	9	>1 km	2	On site	1
Whole gale	10			High ground	2
Storm	11	Cloud Height			
		<150 m	0		
Wind Direction		150-500 m	1		
16 point compass		>500 m	2		

The following field surveyors carried out the ornithology surveys: Mr A. MacNab (AJM), Mr C. Griffin (CG), Mr G. Palmer (GP), Mr H. Murphy (HM), Mr J. Morton (JM), Mr J. Sykes (JS), Mr L. Nash (LN), Mr M. Wood (MW), Mr P. Carroll (PC) and Mr S. MacDonald (SM).

Table B-1: VP flight activity survey effort (March 2022 – February 2023).

Date	VP	Surveyor	Start Time	Finish Time	VP Hours	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
22/03/2022	1	JS	09:20	12:20	3	1/1/1	SSE/SSE/SSE	0/0/0	6/7/6	2/2/2	2/2/2	0/0/0	0/0/0
22/03/2022	1	JS	12:50	15:50	3	1/2/1	SSE/SSE/SSE	0/0/0	4/3/2	2/2/2	2/2/2	0/0/0	0/0/0
21/03/2022	2	JS	09:15	12:15	3	1/1/2	S/S/SSE	0/0/0	/-/	2/2/2	2/2/2	0/0/0	0/0/0
21/03/2022	2	JS	12:45	15:45	3	2/2/2	SSE/SSE/SE	0/0/0	0/1/2	2/2/2	2/2/2	0/0/0	0/0/0
23/03/2022	3	JS	09:20	12:20	3	1/1/2	SSE/S/S	0/0/0	2/1/0	2/2/2	2/2/2	0/0/0	0/0/0
23/03/2022	3	JS	12:50	15:30	3	3/3/2	S/SSW/SSW	0/0/0	2/3/4	2/2/2	2/2/2	0/0/0	0/0/0
07/04/2022	1	JS	11:45	14:45	3	3/3/3	NNW/NNW/NNW	0/0/0	8/8/7	2/2/2	2/2/2	0/0/0	2/2/2
07/04/2022	1	JS	15:15	18:15	3	2/2/2	NW/WNW/WNW	0/0/0	6/8/7	2/2/2	2/2/2	0/0/0	2/2/2
11/04/2022	2	JS	06:20	09:20	3	1/1/2	SE/SE/SE	0/0/0	4/5/7	2/2/2	2/2/2	0/0/0	0/0/0
12/04/2022	2	JS	05:50	8:50	3	1/1/1	ESE/ESE/E	0/0/0	4/3/6	2/2/2	2/2/2	0/0/0	0/0/0
09/04/2022	3	JS	08:50	11:50	3	2/3/3	NW/NW/NW	0/0/0	4/3/3	2/2/2	2/2/2	0/0/0	0/0/0
09/04/2022	3	JS	12:20	15:20	3	2/3/3	NW/NW/NW	0/0/0	6/6/7	2/2/2	2/2/2	0/0/0	0/0/0
01/05/2022	1	HM	09:50	12:50	3	0/1/1	/-/5/5	1/1/1	8/7/7	1/2/2	1/2/2	0/0/0	0/0/0
01/05/2022	1	HM	13:20	16:20	3	1/1/1	S/S/SW	0/0/0	8/8/8	2/2/2	2/2/2	0/0/0	0/0/0
02/05/2022	2	JS	14:30	17:30	3	2/2/2	ESE/ESE/ESE	0/1/0	8/8/8	2/1/1	2/2/2	0/0/0	0/0/0
02/05/2022	2	JS	18:00	21:00	3	1/2/2	ESE/ESE/ESE	1/1/2	8/8/8	1/1/1	2/2/2	0/0/0	0/0/0
04/05/2022	3	JS	13:30	16:30	3	3/3/3	WNW/WNW/WNW	0/0/0	7/6/6	2/2/2	2/2/2	0/0/0	0/0/0
04/05/2020	3	JS	17:00	20:00	3	3/2/3	WNW/WNW/WNW	0/0/0	8/6/5	2/2/2	2/2/2	0/0/0	0/0/0
04/06/2022	1	HM	15:10	18:10	3	1/1/1	E/E/E	0/0/0	0/1/1	2/2/2	2/2/2	0/0/0	0/0/0
11/06/2022	1	HM	16:45	19:45	3	1/0/0	W/-/	3/0/1	8/8/8	2/1/1	2/2/2	0/0/0	0/0/0
14/06/2022	2	MW	10:10	13:10	3	2/2/2	W/W/W	0/0/0	8/8/8	2/2/2	2/2/2	0/0/0	0/0/0
15/06/2022	2	MW	13:55	16:55	3	1/1/1	SW/SW/SW	0/0/0	6/7/7	2/2/2	2/2/2	0/0/0	0/0/0
12/06/2022	3	HM	05:30	08:30	3	2/2/2	W/W/W	3/3/3	8/8/8	1/1/1	1/1/1	0/0/0	0/0/0
12/06/2022	3	HM	09:00	12:00	3	2/2/2	W/W/W	3/3/3	8/8/8	1/1/1	1/1/2	0/0/0	0/0/0
16/07/2022	1	LN	09:30	12:30	3	1/2/2	W/W/W	0/0/0	8/8/7	2/1/2	2/2/2	0/0/0	0/0/0
16/07/2022	1	LN	13:00	16:00	3	2/2/2	W/W/W	0/0/0	3/3/7	2/2/2	2/2/2	0/0/0	0/0/0

Date	VP	Surveyor	Start Time	Finish Time	VP Hours	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
09/07/2022	2	HM	17:30	20:30	3	1/1/1	W/W/W	0/0/0	1/0/0	2/2/2	2/2/2	0/0/0	0/0/0
10/07/2022	2	HM	13:30	16:30	3	2/2/2	W/W/W	0/0/0	1/2/1	2/2/2	2/2/2	0/0/0	0/0/0
09/07/2022	3	HM	10:00	13:00	3	0/3/3	W/W/W	0/0/0	1/1/1	2/2/2	2/2/2	0/0/0	0/0/0
09/07/2022	3	HM	13:30	16:30	3	2/2/2	W/W/W	0/0/0	1/1/1	2/2/2	2/2/2	0/0/0	0/0/0
29/08/2022	1	PC	08:20	11:20	3	1/2/2	SE/SE/SE	0/0/0	7/7/6	2/2/2	2/2/2	0/0/0	0/0/0
29/08/2022	1	PC	11:50	14:50	3	2/2/2	SE/SE/SE	0/0/0	6/7/7	2/2/2	2/2/2	0/0/0	0/0/0
30/08/2022	2	PC	07:30	10:30	3	1/1/1	E/E/ENE	1/2/1	8/8/8	1/1/2	2/2/2	0/0/0	0/0/0
30/08/2022	2	PC	11:00	14:00	3	1/1/2	NE/NE/NE	0/0/0	8/7/7	2/2/2	2/2/2	0/0/0	0/0/0
26/08/2022	3	AJM	07:00	10:00	3	1/1/1	SW/SW/SW	0/1/1	8/8/8	2/1/1	2/1/2	0/0/0	0/0/0
26/08/2022	3	AJM	10:30	13:30	3	2/2/2	SW/SW/SW	1/0/0	8/7/6	1/2/2	2/2/2	0/0/0	0/0/0
06/09/2022	1	PC	07:00	10:00	3	2/2/2	SE/ESE/SE	0/0/2	7/7/7	2/2/2	2/2/2	0/0/0	0/0/0
06/09/2022	1	PC	10:30	13:30	3	2/2/2	SE/SE/SE	0/0/2	6/6/7	2/2/2	2/2/2	0/0/0	0/0/0
19/09/2022	2	AJM	09:40	12:40	3	2/2/2	NW/NW/NNW	0/0/0	6/5/6	2/2/2	2/2/2	0/0/0	0/0/0
19/09/2022	2	AJM	13:10	16:10	3	2/1/1	NW/NNW/NNW	0/0/0	7/8/8	2/2/2	2/2/2	0/0/0	0/0/0
16/09/2022	3	AJM	12:25	15:25	3	4/4/4	N/N/N	0/0/0	5/5/5	2/2/2	2/2/2	0/0/0	0/0/0
16/09/2022	3	AJM	15:55	18:55	3	4/3/3	NNW/N/N	0/0/0	5/6/4	2/2/2	2/2/2	0/0/0	0/0/0
03/10/2022	2	CG	11:40	14:40	3	3/3/2	SSW/SSW/SW	0/1/1	8/8/8	2/2/1	2/2/2	0/0/0	0/0/0
03/10/2022	2	CG	15:10	18:10	3	2/3/3	SSW/SSW/SSW	0/0/0	8/8/8	1/1/1	2/2/2	0/0/0	0/0/0
22/10/2022	1	GP	10:45	13:45	3	2/1/2	SSW/SSW/S	3/1/0	8/8/8	1/1/1	2/2/2	0/0/0	0/0/0
22/10/2022	1	GP	14:15	17:15	3	2/2/2	S/SW/SW	1/0/0	8/8/7	1/1/2	2/2/2	0/0/0	0/0/0
25/10/2022	3	GP	10:00	13:00	3	3/3/3	SSW/SSW/SSW	0/0/0	8/7/6	1/1/2	2/2/2	0/0/0	0/0/0
25/10/2022	3	GP	13:30	16:30	3	3/3/2	SSW/SSW/S	0/0/0	7/8/8	2/2/2	2/2/2	0/0/0	0/0/0
16/11/2022	1	GP	09:15	12:15	3	2/2/2	SSE/SE/SE	0/0/0	1/3/7	2/2/2	2/2/2	0/0/0	0/0/0
16/11/2022	1	GP	12:45	15:45	3	2/2/1	SE/ENE/SSE	0/0/0	8/8/7	2/2/2	2/2/2	0/0/0	0/0/0
28/11/2022	2	JM	09:10	12:10	3	0/0/0	-/-	0/0/0	7/6/7	1/1/2	2/2/2	0/0/0	0/0/0
28/11/2022	2	JM	12:40	15:40	3	0/0/0	-/-	0/0/0	6/5/1	2/2/2	2/2/2	0/0/0	0/0/0
29/11/2022	3	SM	08:00	11:00	3	1/1/1	SW/SSW/SSW	0/0/0	1/1/1	2/2/2	2/2/2	1/1/0	0/0/0

Date	VP	Surveyor	Start Time	Finish Time	VP Hours	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
29/11/2022	3	SM	11:30	14:30	3	1/2/3	SSW/S/SSE	0/0/0	2/4/8	2/2/1	2/2/2	0/0/0	0/0/0
15/12/2022	2	GP	09:20	12:20	3	1/1/0	SW/SSW/-	0/0/0	0/0/0	-/-/-	2/2/2	2/2/2	0/0/0
15/12/2022	2	GP	12:50	15:50	3	1/1/1	SSW/SSW/WSW	0/0/0	0/0/0	-/-/-	2/2/2	2/2/2	0/0/0
16/12/2022	1	JM	09:00	12:00	3	0/0/1	-/-/SW	0/0/0	6/4/5	2/2/2	2/2/2	2/2/2	1/1/1
16/12/2022	1	JM	12:30	15:30	3	2/2/1	SW/SW/SW	0/0/0	5/5/5	2/2/2	2/2/2	2/2/2	1/1/1
20/12/2022	3	PC	09:05	12:05	3	3/3/3	SSW/SSW/SSW	0/0/2	7/7/7	2/2/2	2/2/2	0/0/0	0/0/0
20/12/2022	3	PC	12:35	15:35	3	3/3/3	SSW/SSW/SSW	2/0/0	7/7/7	2/2/2	2/2/2	0/0/0	0/0/0
13/01/2023	1	MW	08:55	11:55	3	2/3/3	SW/SW/SW	0/0/0	7/7/7	2/2/2	2/2/2	0/0/0	0/0/0
13/01/2023	1	MW	12:25	15:25	3	2/2/2	SW/SW/SW	0/0/0	6/5/7	2/2/2	2/2/2	0/0/0	0/0/0
16/01/2023	2	MW	09:40	12:40	3	0/0/0	-/-/-	0/0/0	0/0/0	-/-/-	2/2/2	2/2/2	1/1/1
16/01/2023	2	MW	13:10	16:10	3	1/1/0	WNW/WNW/-	0/0/0	3/2/2	2/2/2	2/2/2	2/2/2	1/1/1
20/01/2023	3	GP	09:45	12:45	3	1/1/0	NNE/E/-	0/0/0	0/0/0	-/-/-	2/2/2	2/2/2	1/1/1
20/01/2023	3	GP	13:15	16:15	3	1/1/0	N/S/-	0/0/0	0/0/0	-/2/2	2/2/2	2/2/2	1/1/1
08/02/2023	1	GP	10:00	13:00	3	3/4/5	SSW/S/S	0/0/0	6/7/8	2/2/2	2/2/2	0/0/0	0/0/0
08/02/2023	1	GP	13:30	16:30	3	4/4/4	SSW/SSW/SSW	0/0/0	8/8/8	2/2/2	2/2/2	0/0/0	0/0/0
07/02/2023	2	GP	10:15	13:15	3	2/2/2	SSW/S/SW	0/0/0	8/8/8	1/1/1	2/2/2	0/0/0	0/0/0
07/02/2023	2	GP	13:45	16:45	3	2/2/2	SSW/SSW/SSW	0/0/0	8/8/8	2/2/2	2/2/2	0/0/0	0/0/0
09/02/2023	3	GP	09:00	12:00	3	4/4/4	WSW/W/W	0/0/2	8/8/8	2/2/2	2/2/2	0/0/0	0/0/0
09/02/2023	3	GP	12:30	15:30	3	4/4/4	W/W/W	2/0/2	8/8/8	2/2/2	2/2/2	0/0/0	0/0/0

Table B-2: MBBS effort (Year 1).

Date	Surveyor	Start Time	Finish Time	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost/Snow
11/04/2022	JS	09:55	16:00	2/2/3/4/4/2	SE/ESE/ESE/ESE/ESE	0/0/0/0/0/0	8/8/8/8/7/6	2/2/2/2/2/2	2/2/2/2/2/2	0/0/0/0/0/0
05/05/2022	JS	08:10	13:45	2/2/2/3/2/2	SW/SW/SW/SW/SW/SW	1/0/0/1/2/0	8/8/8/8/8/8	1/2/2/2/2/2	2/2/2/2/2/2	0/0/0/0/0/0
05/06/2022	HM	09:00	15:00	2/2/2/2/2/2	E/E/E/E/E/E	0/0/0/0/0/0	3/6/6/4/3/2	2/2/2/2/2/2	2/2/2/2/2/2	0/0/0/0/0/0
10/07/2022	HM	07:00	13:00	3/3/3/3/3/3	W/W/W/W/W/W	0/0/0/0/0/0	1/1/1/1/1/1	2/2/2/2/2/2	2/2/2/2/2/2	0/0/0/0/0/0

Table B-3 Breeding Annex 1/Schedule 1 raptor and owl search effort (Year 1).

Date	Surveyor	Start Time	Finish Time	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost/Snow
10/04/2022	JS	10:45	16:55	2/2/1/2/1/2	S/S/SSE/S/S/S	0/0/0/0/0/0	4/6/8/8/8/8	2/2/2/2/2/2	2/2/2/2/2/2	0/0/0/0/0/0
14/04/2022	JS	16:30	19:30	2/2/1	S/S/S	0/0/0	8/8/8	2/2/2	2/2/2	0/0/0
03/05/2022	JS	11:00	16:50	1/2/2/2/1/2	S/S/SSE/SSE/SSE/S	0/0/1/0/0/0	8/8/8/8/8/7	2/2/1/2/2/2	2/2/2/2/2/2	0/0/0/0/0/0
03/05/2022	PC	11:30	14:30	2/2/2	WSW/SSE/SSE	0/0/0	8/8/8	2/2/2	2/2/2	0/0/0
05/06/2022	HM	15:30	18:45	1/1/1	E/E/E	0/0/0	3/3/3	2/2/2	2/2/2	0/0/0
12/06/2022	HM	12:00	15:30	2/2/2	8/8/8	1/1/1	8/8/8	1/1/1	2/2/2	0/0/0
21/07/2022	LN	13:10	19:10	1/2/1/2/3/3	SE/SE/SE/SE/SE/SE	0/0/0/0/0/0	7/6/7/7/8/8	2/2/2/2/2/2	2/2/2/2/2/2	0/0/0/0/0/0
21/07/2022	PC	13:10	19:10	1/2/2/3/3/3	SE/SE/SE/SE/SE/SE	0/0/0/0/0/0	7/6/7/8/7/7	2/2/2/2/2/2	2/2/2/2/2/2	0/0/0/0/0/0

Table B-4 Breeding black grouse search effort.

Date	Surveyor	Start Time	Finish Time	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
09/04/2022	JS	05:25	08:25	1/1/1	NW/NW/WNW	0/0/0	2/3/6	2/2/2	1/2/2	1/1/1	0/0/0
01/05/2022	HM	04:35	07:35	0/0/1	-/-SW	0/1/1	8/8/8	1/1/1	1/1/1	0/0/0	0/0/0

ANNEX C – VP FLIGHT ACTIVITY SURVEY: TARGET SPECIES FLIGHTS

Table C-1 presents details of target species flight lines recorded during VP flight activity surveys between March 2022 and February 2023. The species, number of birds, flight duration and duration spent at each height band (HT) is presented. Note that the flights in Table A3-1 refer to all target species flights recorded, and not just those at collision risk flights. HT2 to HT4 are considered as 'at-risk', with HT1 under 'at-risk' height, and HT5 to HT7 above.

Table C-1: Target species flights (March 2022 to February 2023).

Date	VP	Species	Number	Start Time	Duration	HT1	HT2	HT3	HT4	HT5	HT6	HT7	Notes
22/03/2022	1	Pink-footed goose	97	09:58	135	0	0	0	0	0	0	135	
22/03/2022	1	Curlew	1	11:09	15	0	15	0	0	0	0	0	
22/03/2022	1	Oystercatcher	1	11:36	90	0	0	30	15	15	15	15	
22/03/2022	1	Curlew	1	13:21	60	0	0	60	0	0	0	0	Displayed along river.
21/03/2022	2	Pink-footed goose	51	09:27	50	0	0	0	0	0	0	50	
21/03/2022	2	Red kite	1	13:36	225	0	0	90	30	30	30	45	
23/02/2022	3	Pink-footed goose	19	09:59	35	0	0	0	0	0	0	35	
23/02/2022	3	Pink-footed goose	42	10:14	60	0	0	0	0	0	0	60	
23/02/2022	3	Pink-footed goose	33	10:43	60	0	0	0	0	0	0	60	
07/04/2022	1	Goosander	2	16:07	15	0	0	15	0	0	0	0	
09/04/2022	3	Pink-footed goose	84	09:07	150	0	0	0	0	0	0	150	
09/04/2022	3	Pink-footed goose	26	09:16	150	0	0	0	0	0	0	150	
01/05/2022	1	Greylag goose	2	10:50	53	23	30	0	0	0	0	0	
01/05/2022	1	Goosander	2	12:35	123	18	75	30	0	0	0	0	
01/05/2022	1	Hen harrier	1	12:52	110	0	0	75	35	0	0	0	
02/05/2022	2	Merlin	3	20:04	60	60	0	0	0	0	0	0	2 male, 1 female.
04/06/2022	1	Red kite	1	16:40	160	0	0	160	0	0	0	0	
04/06/2022	1	Red kite	1	17:00	110	0	0	110	0	0	0	0	
04/06/2022	1	Greylag goose	1	17:29	9	9	0	0	0	0	0	0	
14/06/2022	2	Osprey	1	11:01	65	0	0	65	0	0	0	0	

Date	VP	Species	Number	Start Time	Duration	HT1	HT2	HT3	HT4	HT5	HT6	HT7	Notes
12/06/2022	3	Red kite	2	11:25	17	2	15	0	0	0	0	0	
30/08/2022	2	Goosander	1	11:17	40	10	0	30	0	0	0	0	Female rapid flight.
19/09/2022	2	Pink-footed goose	103	10:12	150	0	0	0	0	0	0	150	
19/09/2022	2	Pink-footed goose	107	11:14	165	0	0	0	0	0	0	165	
19/09/2022	2	Pink-footed goose	69	16:04	140	0	0	0	0	0	0	140	
16/09/2022	3	Pink-footed goose	16	13:11	145	0	0	0	0	0	0	145	>500 m.
16/09/2022	3	Pink-footed goose	15	16:10	135	0	0	0	0	0	0	135	Very high.
16/09/2022	3	Pink-footed goose	28	16:28	130	0	0	0	0	0	0	130	Very high.
16/09/2022	3	Pink-footed goose	91	18:08	145	0	0	0	0	0	0	145	Very high.
03/10/2022	2	Pink-footed goose	129	14:34	1011	0	0	0	0	0	0	1011	Lost in clouds.
16/11/2022	1	Goshawk	1	10:54	270	0	75	135	60	0	0	0	Female.
16/11/2022	1	Goshawk	1	10:54	240	0	75	135	30	0	0	0	Male interaction with female.
28/11/2022	2	Pink-footed goose	25	10:44	19	0	0	19	0	0	0	0	
28/11/2022	2	Goshawk	1	13:58	24	24	0	0	0	0	0	0	Probable adult female.
29/11/2022	3	Pink-footed goose	140	08:41	171	0	0	0	0	0	0	171	South-west, very high.
29/11/2022	3	Pink-footed goose	115	08:51	118	0	0	0	0	118	0	0	South-west.
08/02/2023	1	Pink-footed goose	130	10:06	60	0	0	0	0	0	30	30	In transit.
07/02/2023	2	Pink-footed goose	90	12:54	75	0	0	0	15	45	15	0	In transit.
07/02/2023	2	Pink-footed goose	57	16:01	75	0	0	0	15	15	15	30	In transit.