Technical Appendix 7.1: Ornithology Report

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1.0 Introduction

This technical report details the methodologies and results of baseline ornithological surveys undertaken between September 2022 and August 2025 to inform the design and assessment of the proposed Watchman Energy Park hereafter referred to as 'the Proposed Development'.

The report is supported by the following Annexes:

- **Annex A:** Ornithological Legal Protection;
- **Annex B:** Ornithological Survey Methodologies;
- **Annex C:** Ornithological Survey Effort and General Information;
- **Annex D:** Ornithological Survey Results; and
- **Annex E:** Collision Risk Assessments.

Confidential information relating to species listed on Annex 1 of the EU Birds Directive or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) is detailed separately in **Confidential Technical Appendix 7.2** (**EIAR Volume 5**).

Throughout the report and associated **Annexes A to E, Confidential Technical Appendix 7.2** (**EIAR Volume 5**) and **Chapter 7: Ornithology** (**EIAR Volume 2**) of the Environmental Impact Assessment (EIA) Report (EIAR), the following terms referred to:

- 'the Site' refers to the area within the Site Boundary e.g., as shown in **Figure 7.1 (EIAR Volume 3a)**;
- 'survey area' is defined as the area covered by each survey type for the Proposed Development and as shown in **Figure 7.2 to Figure 7.7** (**EIAR Volume 3a**);
- 'study area' is defined as the broad area within which potential effects on ornithological features are considered and baseline information compiled;
- 'Wind Turbine Array' – the part of the development where the wind turbines are located;
- 'Access Routes' – the land to the north within the Site Boundary, including:
  - 'Western Access' – from the A702 through Watermeetings Forest; and
  - 'Eastern Access' – off the Daer Water road to enter the Site at Wintercleugh.

2.0 Legal Protection

With limited exceptions, all wild birds and their eggs are protected by law. Specific levels of protection are determined by a species' inclusion on certain lists. **Annex A** details the various levels of legal protection afforded to UK bird species.

3.0 Field Survey Methods

The following surveys were undertaken between September 2022 and August 2025:

- Flight activity surveys – A total of eight vantage points (VPs) have been used across a total of six survey seasons. VP 1 to 5 2022/2023 non-breeding season; VP 1 to 4 2023 breeding season; and VP 6 to 8 2023/2024 and 2024/2025 non-breeding season and 2024 and 2025 breeding seasons (**Figures 7.2** and **7.3, EIAR Volume 3a**);

- Scarce breeding bird surveys (2023, 2024 and 2025 breeding seasons), 2 km survey buffer (**Figure 7.4, EIAR Volume 3a**);
- Black grouse surveys (2023, 2024 and 2025 breeding seasons), 1.5 km survey buffer (**Figure 7.5, EIAR Volume 3a**);
- Moorland breeding bird surveys (2023, 2024 and 2025 breeding seasons), 500 m survey buffer (**Figure 7.6, EIAR Volume 3a**);
- Nightjar surveys (2025 breeding season), 500m survey buffer (**Figure 7.7, EIAR Volume 3a**); and
- Winter walkover surveys (2022/2023, 2023/2024 and 2024/2025 non-breeding seasons), 500 m survey buffer (**Figure 7.6, EIAR Volume 3a**).

Surveys followed recommended methodologies set out in NatureScot guidance (2025a[i]) and as applicable at the time of survey. Methods are described in more detail within **Annex B** and where appropriate, carried out by licensed surveyors.

Where possible, each survey was carried out within a buffer distance around the maximum extent of infrastructure known at the time and specific to that method (e.g., 2 km buffer for the scarce breeding bird surveys). Amendments to survey areas were subsequently made over the course of surveys in response to scheme design changes, including access track and turbine siting.

A target species list for surveying/recording was defined from the following lists, as applicable at the time of survey, and refined on the basis of the species perceived sensitivity to onshore wind farm developments (e.g., as set out in NatureScot guidance, 2025a[i] and Annex 1 of NatureScot 2025b[ii]).

- Annex I of the EU Birds Directive[iii];
- Schedule 1 the Wildlife and Countryside Act 1981[iv]; and
- Species (excluding passerines) included on the Birds of Conservation Concern (BoCC) red list (Stanbury *et al*., 2021[v] and Stanbury *et al*., 2024[vi]).

Secondary species for survey / recording were defined as the non-red list raptor and owl species (i.e., buzzard, kestrel, sparrowhawk, tawny owl and long-eared owl), amber or green listed waders, feral species (e.g., Canada goose), mallard, raven and any notable Schedule 1 or red listed passerine species observed during surveys.

4.0 Field Survey Results

All valid surveys were undertaken during suitable weather conditions (as described within **Annex B**). Where weather conditions deteriorated below acceptable conditions (see definitions in **Annex B**), surveys were either suspended or additional surveys were undertaken. In the case of flight activity surveys, any time where the visibility was <1 km. survey results were excluded from total survey effort and subsequent analysis (further detail in **Section 4.1** below).

Survey effort and results of the field surveys are detailed within **Annex C** and **Annex D**. The following sections summarise the results from each survey undertaken.

4.1 Flight Activity

Flight activity surveys have recorded all target species' flight activity within and in proximity to the Wind Turbine Array. These data have then been used in subsequent collision risk modelling, with flights used including those within the 'Collision Risk Analysis Area' (CRAA) for the Proposed Development. The CRAA is defined as the area to be occupied by

operational turbines, together with a 500 m buffer and rotor radius (see **Figure 7.2 and 7.3, EIAR Volume 3a**).

Flight activity surveys across the 2023, 2024 and 2025 breeding seasons and 2022/2023, 2023/2024 and 2024/2025 non-breeding seasons were undertaken across a total of 8 VPs. Valid survey effort[1] is detailed in **Table 7-1-1** and full details of flight activity surveys are contained in **Annex C** with methodology in **Annex B**.

Table 7-1-1 Valid flight activity survey effort (hours) per VP per season

Period	VP1	VP2	VP3	VP4	VP5	VP6	VP7	VP8
2022/2023 non-breeding season	36	36	36	36	36	-	-	-
2023 breeding season	36	36	36	35	-	-	-	-
2023/2024 non-breeding season	-	-	-	-	-	36	36	36
2024 breeding season	-	-	-	-	-	36	36	36
2024/2025 non-breeding season	-	-	-	-	-	36	36	36
2025 breeding season	-	-	-	-	-	36	36	36

A total of 17 target species were recorded during the flight activity surveys (further details are provided in **Annex D**).

For each species across the whole flight activity survey period, **Table 7-1-2** shows the total number of flights recorded and the total number of birds recorded[2]. The bird seconds are calculated for each observation as the product of flight duration and number of individuals. This is then summed per species to give the total bird seconds recorded across the entire surveyed period.

Table 7-1-2: Target species flight activity summary (September - August 2025)

Species	Total number of flightlines recorded	Total number of birds recorded	Total bird seconds recorded
Common gull	9	28	2,504
Curlew	133	170	8,346
Golden eagle	11	11	768
Golden plover	4	34	2,065
Goshawk	1	1	31
Greylag goose	9	93	4,930
Hen harrier	26	27	2,926
Herring gull	3	4	147
Lapwing	9	10	424
Marsh harrier	2	2	104
Merlin	7	7	132
Osprey	3	4	290

[1] Hours where visibility was >1 km are not considered valid for use in collision risk modelling as less than half the 2 km viewshed can be seen.

[2] This includes flights that are not subsequently identified as being 'at-risk' of collision (e.g., recorded outwith the CRAA and / or not at rotor sweep height).

Species	Total number of flightlines recorded	Total number of birds recorded	Total bird seconds recorded
Peregrine falcon	2	2	72
Pink-footed goose	8	448	54,730
Red kite	248	320	4,2151
Short-eared owl	1	1	35
White-fronted goose	2	136	7,297

4.1.1 Flightlines Used in Collision Risk Modelling

Only flightlines identified to be within the CRAA and recorded within the 2 km viewshed of the associated VP were considered in the collision risk modelling.

Annex E provides details of the bird seconds from flights identified to be 'at- risk':

- 'At-risk' is defined as – a flight having at least part of its duration (i) at Potential Collision Height (PCH)[3]; (ii) within the CRAA; and (iii) recorded within the 2 km viewshed of the associated VP.
- PCH is defined as – the altitude between the minimum and maximum rotor sweep height[4] (taken to be from 70 m to 240 m for the Proposed Development).

Full survey results detailing the findings from each survey visit (including target species' flightlines considered not 'at-risk' and secondary species information) can be found within **Annex D**. Only bird seconds for observations identified as within the CRAA and associated viewshed are considered in the following discussions. Full target species results are detailed within **Annex D** and the collision risk calculations are detailed in **Annex E**.

4.1.2 Collision Risk Model Outputs

The bird seconds for target species flights within the CRAA at PCH were then input into a Collision Risk Model (CRM) to calculate the predicted collision mortality risks per season of survey.

The CRM calculations for each species can be found in **Annex E**. **Table 7-1-3** presents a summary of estimated collision mortality risks for each target species per season and **Table 7-1-4** presents a mean of these risks for years 1-3 of survey and 2-3 of survey.

No 'at-risk' flight activity was identified for common gull, golden plover, herring gull, lapwing, marsh harrier, merlin, peregrine, short-eared owl and white-fronted goose.

Table 7-1-3: Estimated collision mortality risks per season

Species	2022/2023 non-breeding season	2023 breeding season	2023/2024 non-breeding season	2024 breeding season	2024/2025 non-breeding season	2025 breeding season
Curlew	-	0.0941	-	0.1631	-	0.0745
Golden eagle	-	-	-	0.0026	0.0013	0.0180

[3] In some cases, only part of a total flight duration was recorded at PCH, and it is assumed that this proportion is applicable for that part of the flight within the CRAA and 2 km viewshed area.

[4] Where the actual rotor blade altitude differs from the pre-defined survey height bands, the collision risk model accounts for this difference on the assumption of an even flight distribution within each particular survey height band, and an adjustment can be made to estimate total flight duration at actual rotor blade altitude.

Species	2022/2023 non-breeding season	2023 breeding season	2023/2024 non-breeding season	2024 breeding season	2024/2025 non-breeding season	2025 breeding season
Goshawk	0.0007	-	-	-	-	-
Greylag goose	0.0006	0.0004	0.0015	-	0.0189	-
Hen harrier	0.0002	0.0085	-	-	-	-
Osprey	-	0.0042	-	-	-	-
Pink-footed goose	0.0735	-	-	-	-	-
Red kite	0.1126	0.1060	0.0311	0.0130	0.2021	0.2798

Table 7-1-4: Estimated mean collision rates

Species	Years 1-3				Years 2-3			
	Mean non-breeding season	Mean breeding season	Mean annual	Mean years per collision	Mean non-breeding season	Mean breeding season	Mean annual	Mean years per collision
Curlew	-	0.1106	0.1106	9	-	0.1188	0.1188	8
Golden eagle	0.0004	0.0069	0.0073	137	0.0006	0.0103	0.0109	91
Goshawk	0.0002	-	0.0002	4,390	-	-	-	-
Greylag goose	0.0070	0.0001	0.0071	140	0.0102	-	0.0102	98
Hen harrier	0.0001	0.0028	0.0029	342	-	-	-	127,409
Osprey	-	0.0014	0.0014	706	-	-	-	-
Pink-footed goose	0.0245	-	0.0245	41	-	-	-	-
Red kite	0.1153	0.1329	0.2482	4	0.1166	0.1464	0.2630	4

4.2 Scarce Breeding Birds

Scarce breeding bird surveys were conducted during the 2023 (April to August), 2024 (April to August) and 2025 (March to August) breeding seasons.

Two species, red kite and goshawk were confirmed to be breeding within the survey area and breeding activity is summarised in **Table 7-1-5**. Further details are presented in **Confidential Technical Appendix 7.2** (**EIAR Volume 5**).

Golden eagle, hen harrier, merlin, osprey, red kite and short-eared owl were also recorded during surveys but were not considered to be breeding (no breeding attempts were located) within the survey area.

Table 7-1-5: Scarce breeding bird summary, 2023, 2024 and 2025 breeding seasons

Species	2023	2024	2025
Barn owl	Not recorded.	Roosting bird recorded. Location not considered suitable for breeding.	Not recorded.
Goshawk	Not recorded.	Not recorded.	Confirmed breeding with probable fledging success.
Red kite	Confirmed breeding. One juvenile successfully fledged.	2023 nest not in use, taken over by ravens. Pair relocated to nest nearby, with confirmed breeding and fledging of a minimum of one.	Not recorded.

Buzzard, kestrel and sparrowhawk (secondary raptor species) were also recorded across the survey area and are likely to have bred within the wider area.

Further details of the scarce breeding bird surveys are provided within **Annex C** and **Annex D** and **Confidential Technical Appendix 7.2** (**EIAR Volume 5**) and survey methodology is provided within **Annex B**.

4.3 Breeding Waders

Three complete breeding seasons (comprising of four visits each) were surveyed in 2023, 2024 and 2025 (April to July). Surveys recorded eleven wader species, of which eight were considered to be breeding (**Table 7-1-6**); Dunlin, Greenshank and Turnstone were recorded, but were not considered to be breeding.

Further details of the moorland breeding bird surveys are provided within **Annex C** and **Annex D** and survey methodology is provided within **Annex B**.

Table 7-1-6: Breeding wader territories, 2023, 2024 and 2025 breeding seasons

Species	Number of territories 2023	Number of territories 2024	Number of territories 2025
Common sandpiper	5 - 7	6-7	4 - 6
Curlew	12 - 19	12 - 16	16 - 22
Golden plover	0 - 2	1	1 - 2
Lapwing	5 - 8	10 - 12	2 - 6
Oystercatcher	5 - 6	4 – 9	5 - 10
Redshank	1	1 - 2	2 - 5
Ringed plover	4	2	3 - 5
Snipe	24 - 30	14 - 18	27 - 28

4.4 Black Grouse

Surveys to identify areas of black grouse activity, locate lek locations and establish lek size were conducted in the 2023, 2024 and 2025 lekking seasons (April and May). Surveys identified three lek locations, all in 2025 (**Table 7-1-7**).

Further details of black grouse surveys are provided within **Annex C** and **Annex D** and survey methodology is provided within **Annex B**.

Table 7-1-7: Black grouse lek activity, 2023, 2024 and 2025 lekking periods

Lek	2023		2024		2025	
	Maximum number of males recorded	Maximum number of females recorded	Maximum number of males recorded	Maximum number of females recorded	Maximum number of males recorded	Maximum number of females recorded
1	-	-	-	-	2	-
2	-	-	-	-	1	-
3	-	-	-	-	1	-

4.5 Nightjar

Surveys to record the presence of churring (singing) male nightjar were undertaken during the 2025 breeding season (June to mid-July), along the Access Routes where suitable breeding habitats occurs (**Figure 7.7, EIAR Volume 3a**).

No observations of nightjar were made.

Further details of nightjar surveys are provided within **Annex C** and **Annex D** and survey methodology is provided within **Annex B**.

4.6 Winter Walkovers

Winter walkover surveys were conducted during the 2022/2023, 2023/2024 and 2024/2025 non-breeding seasons. Surveys recorded 55 species of which 11 are considered to be target species (**Table 7-1-8**).

Further details of the winter walkover surveys are provided within **Annex C** and **Annex D** and survey methodology is provided within **Annex B**.

Table 7-1-8: Winter walkover species summary, 2022/2023, 2023/2024 and 2024/2025 non-breeding seasons

Species	2022/2023 non-breeding season		2023/2024 non-breeding season		2024/2025 non-breeding season	
	Number of records	Total number of birds	Number of records	Total number of birds	Number of records	Total number of birds
Curlew	0	0	1	19	0	0
Golden plover	1	33	0	0	0	0
Greylag goose	1	6	5	34	0	0
Herring gull	0	0	1	1	0	0
Lapwing	1	4	1	24	0	0
Merlin	1	1	0	0	0	0
Oystercatcher	1	6	0	0	0	0
Pink-footed goose	1	120	0	0	2	51
Red kite	0	0	3	3	3	3
Ringed plover	1	4	1	1	0	0

Species	2022/2023 non-breeding season		2023/2024 non-breeding season		2024/2025 non-breeding season	
	Number of records	Total number of birds	Number of records	Total number of birds	Number of records	Total number of birds
Snipe	2	2	0	0	1	1

[i] NatureScot (2025a) Recommended Bird Survey Methods to inform impact assessment of Onshore Windfarms. Available at: https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms.

[ii] NatureScot (2025b) Assessing the significance of impacts on bird populations from onshore wind farms that do not affect protected areas. Available at: https://www.nature.scot/doc/guidance-note-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect.

[iii] Directive 2009/147/EC of the European Parliament and of the Council. Available at: https://www.legislation.gov.uk/eudr/2009/147/contents

[iv] Scottish Government (1981). Wildlife and Countryside Act 1981. Available at: https://www.legislation.gov.uk/ukpga/1981/69

[v] 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 Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, **114**, pp. 723-747

[vi] Stanbury, A. J., Burns, F., Aebischer, N. J., Baker, H., Balmer, D. E., Brown, A., Dunn, T., Lindley, P., Murphy, M., Noble, D. G., Owens, R., and Quinn, L. (2024) .The status of the UK's breeding seabirds: an addendum to the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, **117**, pp. 471-487.

Annex A Ornithological Legal Protection

In Scotland, all wild birds are protected under the Wildlife and Countryside Act 1981 (the 'Act'), as amended by the Nature Conservation (Scotland) Act 2004. This protection also extends to their eggs and nests, with it being an offence to intentionally or recklessly[1]:

- Kill, injure or take any wild bird[2];
- Take, damage, destroy or otherwise interfere with the nest of any wild bird while it is being built or is in use[3];
- At any other time take, damage, destroy or otherwise interfere with any nest habitually used by any wild bird included in Schedule A1 (Protected Nests and Nest Sites for Birds: white-tailed eagle and golden eagle)[4];
- Obstruct or prevent any wild bird from using its nest[5]; or
- Take or destroy an egg of any wild bird[6].

It is also an offence to have in possession or control any live or dead wild bird or any part thereof; or any egg or part of an egg of any wild bird[7].

Further special protection under this legislation is afforded to those species listed on Schedule 1 of the Act. For these species, it is an offence to:

- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or is in, on or near a nest containing eggs or young, or disturb the dependent young of such a bird[8];
- Intentionally or recklessly disturb any wild birds included on Schedule 1 which leks, while it is doing so[9] (capercaillie is the only bird this offence applies to in Scotland);
- Intentionally or recklessly harass any wild bird included in Schedule 1A[10]. Section 1, subsection 5B states, '*Subject to the provisions of this Part, any person who intentionally or recklessly harasses any wild bird included in Schedule 1A shall be guilty of an offence'*. At this time, Schedule 1A includes golden eagle, hen harrier, red kite and white-tailed eagle. This updated legislation was introduced on 16 March 2013; or
- Intentionally or recklessly take, damage, destroy or otherwise interfere with any nest and / or nest site habitually used by any bird on Schedule A1 at any time. At this time, Schedule A1 includes golden eagle and white-tailed eagle[11].

It is also an offence to knowingly cause or permit to be done an act which is made unlawful by any of the above provisions.

[1] Exceptions to these offences exist under various circumstances (e.g. controlling pest species; taking birds during specific season; and killing sick or injured birds etc.).
[2] Wildlife and Countryside Act 1981, Section 1(1)(a)
[3] Wildlife and Countryside Act 1981, Section 1(1)(b)
[4] Wildlife and Countryside Act 1981, Section 1(1)(ba)
[5] Wildlife and Countryside Act 1981, Section 1(1)(bb)
[6] Wildlife and Countryside Act 1981, Section 1(1)(c)
[7] Wildlife and Countryside Act 1981, Section 1(2)
[8] Wildlife and Countryside Act 1981, Section 1(5)
[9] Wildlife and Countryside Act 1981, Section 1(5A)
[10] Wildlife and Countryside Act 1981, Section 1(5B)
[11] This reflects the changes introduced by the Wildlife and Countryside Act 1981 (as amended by: Variation of Schedules A1 and 1A (Scotland) Order 2013.

Annex B Ornithological Survey Methodology

A range of ornithological surveys have been undertaken to inform the design and assessment of the proposed Watchman Energy Park (the 'Proposed Development').

The methodologies used in these surveys are summarised in the sections below; more detailed descriptions are provided in the NatureScot guidance (2025[i]) and upon which these surveys are based.

B.1 Flight Activity Surveys

The aims of the flight activity (vantage point (VP)) surveys are: (1) to record flight activity within the vicinity of the Wind Turbine Array to identify areas of importance to birds; and (2) to quantify flight activity within 500 m, plus rotor radius (referred to as the 'Collision Risk Analysis Area' (CRAA), of the proposed turbine locations in order to estimate the likelihood of collision (NatureScot, 2024[ii] and 2025i).

Timing

- A survey period of 36 hours is recommended as the minimum level of sampling intensity at each VP for each season (breeding, non-breeding and where required migratory);
- Watches were spread as evenly throughout the year as possible to ensure that temporally representative data are collected (see **Annex C**). Specific consideration was given to the period around dawn and twilight for breeding waders and to changing raptor behaviour across seasons;
- Watches were suspended and resumed to take account of changes in visibility (e.g., fluctuations in cloud base). Watches were undertaken in conditions of good ground visibility when the cloud base was higher than the most elevated ground being observed; and
- Watches were conducted in a range of weather conditions and were spread throughout the day (see **Annex C** and **Annex D**).

Field Methods

- Viewshed analysis was conducted using Arc GIS to confirm suitable VP locations and their associated visible areas at 20 m above ground level[1];
- Reconnaissance surveys were undertaken to refine VP locations;
- The VP locations and associated viewsheds are shown in **Figures 7.2 and 7.3** (**EIAR Volume 3a**);
- Care was taken to maximise the area visible whilst minimising disturbance to birds;
- VP locations were selected with the aim of achieving coverage of all proposed turbine locations;
- A maximum 180˚ view arc was scanned by surveyors. This rule did not however apply when tracking migratory waterfowl or raptors across the survey area;
- Each watch lasted a maximum of three hours but was suspended and then resumed to take account of changes in visibility (e.g., fluctuations in the cloud base).

[1] The viewsheds are based on a 5 m DTM to provide a representation of visibility from the observer locations; this is confirmed and refined through field site visits.

For each target species, the following data were recorded:

- The flightlines by individuals or flocks of birds;
- The time the target bird was detected and the duration (seconds) spent flying over a defined survey area (the viewshed);
- The birds' flight heights, defined into five prescribed height bands (0 to 20 m, 21 to 40 m, 41 to 100 m, 101 to 150 m and >151 m) for surveys conducted between March 2022 and September 2022, and six prescribed height bands (0 to 20 m, 21 to 40 m, 41 to 100 m, 101 to 150 m, 151 to 200 m and >201 m) for subsequent surveys, were recorded at the point of detection and at 15 second intervals thereafter. From this the proportion of time spent flying below, within (referred to as Potential Collision Height (PCH)) and above approximate rotor height could be estimated. The proposed rotor height is 70 to 240 m above ground level. This difference is accounted for within the collision risk models on the assumption of even flight distribution within each height band;
- The route followed was plotted in the field onto 1:25,000 scale maps;
- Observations of target species took priority over recording secondary species if both species were present simultaneously;
- The number of birds recorded were the minimum number of individuals that could account for the activity observed; and
- Observers only recorded perched birds and birds on waterbodies once at the point of arrival at the VP. Thereafter only flying birds and newly noticed perched / swimming birds were included in the activity summaries.

B.2 Scarce Breeding Bird Survey

The aim of the scarce breeding bird surveys was to determine the distribution of occupied nests / territories for target raptor and owl species within 2 km of the maximum extent of infrastructure known at the time of survey (**Figure 7.4, EIAR Volume 3a**) and where possible record breeding outcomes.

Secondary species such as buzzard, sparrowhawk and kestrel were also noted but the location of their breeding attempts was not the key focus of the surveys.

Surveys were undertaken by experienced and licensed[2] field ornithologists. Extreme care was taken to avoid unnecessary disturbance to breeding birds.

Guidance from NatureScot guidance (2025i), 'Bird Monitoring Methods' (Gilbert *et al.*, 1998[iii]) and 'Raptors: a field guide to survey and monitoring' (Hardey *et al.*, 2013[iv]) were all consulted to inform species-specific survey methodologies, including visit schedules and habitat features to focus survey effort around for the following key target species relevant to the survey area:

- Barn owl;
- Golden eagle;
- Goshawk;
- Hen harrier;
- Merlin;

[2] All surveyors hold NatureScot Schedule 1 Licences.

- Osprey;
- Peregrine falcon;
- Red kite;
- Short-eared owl; and
- White-tailed eagle.

B.3 Black Grouse Survey

The survey methodology used is detailed in NatureScot guidance (NatureScot, 2025i) and Gilbert *et al*. (1998iii). A summary is provided below:

- Breeding black grouse were surveyed by counting total numbers of males and females at leks, with most lekking activity taking place at or soon after dawn in spring;
- Known lek sites and other areas of suitable habitat within the survey which can host leks were identified and visited during April and May within 2 hours of dawn on calm dry days with good visibility;
- The survey area included coverage of suitable habitats within 500 m of the maximum infrastructure layout known at the time (see **Figure 7.5, EIAR Volume 3a**);
- Visits involved listening and scanning for lekking black grouse from strategic locations (avoiding disturbance of leks) and during walks between these locations ensuring that all potential habitat was covered;
- The maximum count of males in the 2 hours around dawn gives the standard count estimate but the maximum number of females seen was also presented; and
- Leks that were at least 200 m apart within the same year were treated as separate leks.

B.4 Moorland Breeding Bird Survey

A moorland breeding bird survey methodology was employed as detailed within NatureScot guidance (2025i). In summary, surveys involved the following:

- Open upland (including hedgerows, scrub, isolated trees and copses) was surveyed using an intensive version of the Brown and Shepherd (1993[v]) method for upland bird survey;
- The objectives were to map the distribution of breeding bird territories within the survey area and estimate the approximate size of breeding bird populations;
- The survey area included coverage of suitable habitats within 500 m of the maximum infrastructure layout known at the time (see **Figure 7.6, EIAR Volume 3a**);
- After each survey visit one overview map was then produced showing all target species. The maps from all four survey visits from that year were then compared, enabling the estimation of numbers of breeding territories. This was done by grouping the observations into territories using the methodology described by Bibby *et al*. (2000[vi]). Due to the cryptic nature of many breeding birds and the necessary assumptions made when plotting territories, a minimum and maximum number of territories was identified for each target species;
- All upland wader species were recorded during the breeding bird survey.

Timing

- As recommended in Calladine *et al*. (2009[vii]), four survey visits were undertaken between April and July;
- Fieldwork was undertaken between sunrise and 18:00 hrs; and
- Fieldwork was not undertaken in conditions considered likely to affect bird detection rates, for example in winds greater than Beaufort Scale Force 4, persistent precipitation, poor visibility (less than 300 m), or in unusually hot weather.

Field Methods

- Walk-routes which optimised ground visibility were used;
- Surveyors paused at appropriate vantage and listening points;
- Isolated trees, copses and patches of scrub were approached and examined;
- Streams, ditches and hedgerows were walked;
- All other areas were approached to within 100 m;
- Registrations were mapped at the first location that behaviour indicative of breeding was observed; and
- Standard British Trust for Ornithology (BTO) activity codes were used.

B.5 Nightjar

Methodology outlined in Gilbert *et al*. (1998iii) was used for surveying areas of suitable habitat for breeding nightjar and involved the following:

- Two site visits were made to survey at dusk, or one and a half hours before dawn for churring males, with the first in June and the second before mid-July;
- Potentially suitable habitats include clearfell, young forestry plantations and lowland heath;
- Suitable habitat was walked at a steady pace, stopping every few minutes to listen for nightjar calls; and
- Simultaneously churring males recorded as two individuals on two different territories, if churring is recorded 30 seconds apart and over 400 m away, this was also recorded as two males. If less than 400 m apart, this is recorded as a single male moving through its territory.

In review of habitat suitability for nightjar, the survey area was refined to include those within 500 m of Access Routes known at the time of survey (see **Figure 7.7**) where suitable habitats were identified in review of aerial imagery and previous field survey visits.

B.6 Winter Walkover

Winter walkovers were undertaken in the non-breeding seasons to map wintering populations of birds within the survey area.

- Three visits were made during each non-breeding season;
- The survey area included coverage of suitable habitats within 500 m of the maximum infrastructure layout known at the time (see **Figure 7.6, EIAR Volume 3a**);
- These surveys involved following a route that optimised ground coverage, such that observers walked within 250 m of every point; and

- Observers periodically stopped at appropriate viewing and listening points along the route and longer vantage point watches were included within the walkover to allow potentially important areas to be monitored in greater detail.

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[i] NatureScot (2025). Recommended Bird Survey Methods to inform impact assessment of Onshore Windfarms. Available at: https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms.

[ii] NatureScot (2024). Guidance on using an updated collision risk model to assess bird collision risk at onshore wind farms. Available at: https://www.nature.scot/doc/guidance-using-updated-collision-risk-model-assess-bird-collision-risk-onshore-wind-farms.

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

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

[v] Brown, A. F. and Shepherd, K. B. (1993). A method for censusing upland breeding waders. *Bird Study*, **40**, pp. 189-195.

[vi] Bibby, C. J., Neil D. Burgess, David A. Hill and Simon H. Mustoe (2000). *Bird Census Techniques*. 2nd Edition, London, Academic Press.

[vii] Calladine. J., Garner, G., Wernham, C., & Thiel, A. (2009). The influence of survey frequency on population estimates of moorland breeding birds. *Bird Study*, **56** (3), pp. 381-388.

Annex C Ornithological Survey Effort and General Information

Table C-1 shows the system used for recording weather conditions on all the surveys (sections **C.1** to **0** below).

Table C-1: Key to meteorological conditions recorded during all surveys

Wind speed				Rain		Cloud cover		Cloud height	
Calm	0	Moderate gale	7	None	0	In eighths		<150 m	0
Light air	1	Fresh gale	8	Drizzle/Mist	1	e.g.	3/8	150-500 m	1
Light breeze	2	Strong gale	9	Light showers	2			>500 m	2
Gentle breeze	3	Whole gale	10	Heavy showers	3				
Moderate breeze	4	Storm	11	Heavy rain	4				
Fresh breeze	5	Hurricane	12	**Snow**		**Frost**		**Visibility**	
Strong breeze	6			None	0	None	0	Poor (<1 km)	0
				On site	1	Ground	1	Moderate (1-2 km)	1
				High ground	2	All day	2	Good (>2 km)	2

C.1 Flight Activity Surveys

Flight activity surveys were undertaken during the 2023, 2024 and 2025 breeding seasons and 2022/2023, 2023/2024 and 2024/2025 non-breeding seasons.

Details of the flight activity surveys undertaken at each Vantage Point (VP) location are presented in **Table C-2** (survey hours per VP per season are summarised in **Technical Appendix 7.1 Table 7-1-1**), with associated weather conditions detailed in **Table C-3**.

Table C-2: Summary of flight activity surveys (sorted chronologically)

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
28/09/2022	2022/2023 NBR	JRM	2	0930	1230	3
28/09/2022	2022/2023 NBR	JRM	2	1300	1500	2
29/09/2022	2022/2023 NBR	JRM	1	0830	1130	3
29/09/2022	2022/2023 NBR	JRM	3	1200	1500	3
30/09/2022	2022/2023 NBR	MW	4	0700	0100	3
30/09/2022	2022/2023 NBR	MW	5	1030	1230	2
10/10/2022	2022/2023 NBR	MW	2	0830	1130	3
10/10/2022	2022/2023 NBR	MW	2	1200	1400	2
11/10/2022	2022/2023 NBR	MW	3	0715	1015	3
11/10/2022	2022/2023 NBR	MW	3	1045	1345	3
12/10/2022	2022/2023 NBR	MW	5	0730	1030	3

[1] Note: only valid hours (i.e., where visibility was at least 1 km) are presented in this column.

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
12/10/2022	2022/2023 NBR	MW	5	1100	1400	3
13/10/2022	2022/2023 NBR	MW	4	0730	1030	3
13/10/2022	2022/2023 NBR	MW	4	1100	1300	2
14/10/2022	2022/2023 NBR	MW	1	0745	1045	3
14/10/2022	2022/2023 NBR	MW	1	1115	1315	2
08/11/2022	2022/2023 NBR	MW	3	0800	1100	3
08/11/2022	2022/2023 NBR	MW	3	1130	1330	2
14/11/2022	2022/2023 NBR	JR	1	0830	1130	3
14/11/2022	2022/2023 NBR	JR	1	1200	1400	2
15/11/2022	2022/2023 NBR	JR	2	0830	1230	0
21/11/2022	2022/2023 NBR	JR	5	0900	1200	3
21/11/2022	2022/2023 NBR	JR	5	1230	1430	2
22/11/2022	2022/2023 NBR	JR	4	0930	1230	3
22/11/2022	2022/2023 NBR	JR	4	1300	1500	2
05/12/2022	2022/2023 NBR	MW	1	0815	1115	3
05/12/2022	2022/2023 NBR	MW	1	1145	1345	2
06/12/2022	2022/2023 NBR	MW	2	0800	1100	3
06/12/2022	2022/2023 NBR	MW	2	1130	1330	2
07/12/2022	2022/2023 NBR	MW	3	0800	1100	3
07/12/2022	2022/2023 NBR	MW	3	1130	1330	2
08/12/2022	2022/2023 NBR	MW	5	0800	1100	3
08/12/2022	2022/2023 NBR	MW	5	1130	1330	2
09/12/2022	2022/2023 NBR	MW	4	0800	1100	3
09/12/2022	2022/2023 NBR	MW	4	1130	1230	1
05/01/2023	2022/2023 NBR	TH	1	0930	1230	3
05/01/2023	2022/2023 NBR	TH	1	1300	1600	3
05/01/2023	2022/2023 NBR	EB	3	1330	1530	1.5
05/01/2023	2022/2023 NBR	EB	4	1015	1215	0
05/01/2023	2022/2023 NBR	EB	5	1245	1315	0
06/01/2023	2022/2023 NBR	TH	2	1015	1315	3
06/01/2023	2022/2023 NBR	TH	2	1345	1545	2
06/01/2023	2022/2023 NBR	EB	5	1000	1300	3
06/01/2023	2022/2023 NBR	EB	5	1330	1530	2
25/01/2023	2022/2023 NBR	EB	2	1030	1330	3
25/01/2023	2022/2023 NBR	EB	2	1400	1600	2
27/01/2023	2022/2023 NBR	TH	3	1000	1300	3

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
27/01/2023	2022/2023 NBR	TH	3	1330	1530	2
27/01/2023	2022/2023 NBR	EB	4	1010	1310	2
27/01/2023	2022/2023 NBR	EB	4	1340	1440	0
30/01/2023	2022/2023 NBR	TH	3	1300	1500	2
30/01/2023	2022/2023 NBR	TH	5	0945	1245	3
31/01/2023	2022/2023 NBR	TH	2	1030	1330	3
31/01/2023	2022/2023 NBR	TH	2	1400	1600	2
08/02/2023	2022/2023 NBR	EB	4	1020	1320	3
08/02/2023	2022/2023 NBR	EB	4	1350	1550	2
13/02/2023	2022/2023 NBR	MW	3	0830	1130	3
13/02/2023	2022/2023 NBR	MW	3	1200	1400	2
14/02/2023	2022/2023 NBR	MW	5	0745	1045	3
14/02/2023	2022/2023 NBR	MW	5	1115	1315	2
21/02/2023	2022/2023 NBR	JRM	1	0820	1120	3
21/02/2023	2022/2023 NBR	JRM	1	1150	1350	2
28/02/2023	2022/2023 NBR	TH	1	0945	1245	3
28/02/2023	2022/2023 NBR	TH	1	1315	1615	3
03/03/2023	2022/2023 NBR	MW	5	0730	1030	3
03/03/2023	2022/2023 NBR	MW	5	1100	1300	2
09/03/2023	2022/2023 NBR	MW	1	1030	1130	1
09/03/2023	2022/2023 NBR	MW	3	0700	1000	3
09/03/2023	2022/2023 NBR	MW	3	1145	1215	0.5
10/03/2023	2022/2023 NBR	HEC	2	0945	1245	3
10/03/2023	2022/2023 NBR	HEC	2	1315	1615	3
10/03/2023	2022/2023 NBR	EB	4	0945	1245	3
10/03/2023	2022/2023 NBR	EB	4	1315	1615	3
13/03/2023	2022/2023 NBR	TH	4	0945	1245	3
13/03/2023	2022/2023 NBR	TH	4	1315	1615	3
20/03/2023	2023 BR	ENS	1	1245	1545	3
20/03/2023	2023 BR	ENS	1	1615	1715	1
20/03/2023	2023 BR	ENS	2	1030	1215	1
20/03/2023	2023 BR	TH	3	1020	1320	3
20/03/2023	2023 BR	TH	3	1350	1650	2.5
20/03/2023	2023 BR	HEC	4	1045	1145	0
22/03/2023	2023 BR	ENS	2	0930	1230	3
22/03/2023	2023 BR	ENS	2	1300	1600	3

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
22/03/2023	2023 BR	HEC	4	1000	1300	3
22/03/2023	2023 BR	HEC	4	1330	1630	3
05/04/2023	2023 BR	ENS	1	0845	1145	3
05/04/2023	2023 BR	ENS	1	1215	1415	0.5
05/04/2023	2023 BR	NW	3	0910	1210	3
05/04/2023	2023 BR	NW	3	1240	1540	2.5
05/04/2023	2023 BR	TH	4	0920	1220	0
05/04/2023	2023 BR	TH	4	1250	1450	0
06/04/2023	2023 BR	TH	2	0830	1130	3
06/04/2023	2023 BR	HEC	3	0830	1130	3
06/04/2023	2023 BR	EB	4	0845	1145	3
05/05/2023	2023 BR	HEC	1	0700	1000	3
05/05/2023	2023 BR	EB	3	0700	1000	3
10/05/2023	2023 BR	HEC	2	0945	1245	3
15/05/2023	2023 BR	EB	2	0945	1245	3
15/05/2023	2023 BR	EB	2	1315	1615	3
15/05/2023	2023 BR	ENS	4	0945	1245	3
15/05/2023	2023 BR	ENS	4	1315	1615	3
30/05/2023	2023 BR	ENS	1	0855	1155	3
30/05/2023	2023 BR	ENS	1	1225	1525	3
23/06/2023	2023 BR	JB	1	0900	1200	3
23/06/2023	2023 BR	JB	1	1230	1530	3
23/06/2023	2023 BR	NW	3	0910	1210	3
23/06/2023	2023 BR	NW	3	1240	1540	3
26/06/2023	2023 BR	ENS	2	0950	1250	3
26/06/2023	2023 BR	ENS	2	1320	1620	3
27/06/2023	2023 BR	EB	1	1220	1520	3
27/06/2023	2023 BR	EB	3	0850	1150	3
06/07/2023	2023 BR	NW	4	0825	1125	3
06/07/2023	2023 BR	NW	4	1155	1455	3
25/07/2023	2023 BR	NW	2	0920	1220	3
25/07/2023	2023 BR	NW	2	1250	1550	3
25/07/2023	2023 BR	EB	4	0935	1235	3
25/07/2023	2023 BR	EB	4	1305	1605	3
28/07/2023	2023 BR	ENS	1	0915	1215	3
28/07/2023	2023 BR	ENS	1	1245	1545	3

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
28/07/2023	2023 BR	JB	3	0920	1220	3
28/07/2023	2023 BR	JB	3	1250	1550	3
14/08/2023	2023 BR	HEC	1	1500	1600	1
14/08/2023	2023 BR	HEC	2	0910	1210	2.83
14/08/2023	2023 BR	HEC	2	1240	1450	2.17
14/08/2023	2023 BR	JR	3	1255	1525	2.5
14/08/2023	2023 BR	JR	4	0915	1215	3
15/08/2023	2023 BR	JR	1	1000	1300	3
15/08/2023	2023 BR	JR	1	1330	1400	0.5
15/08/2023	2023 BR	JR	3	0810	0940	1.5
15/08/2023	2023 BR	HEC	4	0840	1140	1.83
15/08/2023	2023 BR	HEC	4	1210	1520	3.17
05/09/2023	2023/2024 NBR	HEC	7	0915	1215	3
05/09/2023	2023/2024 NBR	HEC	7	1245	1445	2
06/09/2023	2023/2024 NBR	HEC	8	1000	1300	3
06/09/2023	2023/2024 NBR	HEC	8	1330	1530	2
07/09/2023	2023/2024 NBR	HEC	6	0930	1230	3
07/09/2023	2023/2024 NBR	HEC	6	1300	1500	2
02/10/2023	2023/2024 NBR	MW	6	0800	1100	3
02/10/2023	2023/2024 NBR	MW	6	1130	1430	3
03/10/2023	2023/2024 NBR	MW	8	0730	1030	3
03/10/2023	2023/2024 NBR	MW	8	1100	1400	3
04/10/2023	2023/2024 NBR	MW	7	0730	1030	3
04/10/2023	2023/2024 NBR	MW	7	1100	1400	3
21/11/2023	2023/2024 NBR	EB	6	0930	1230	3
21/11/2023	2023/2024 NBR	EB	6	1300	1600	3
21/11/2023	2023/2024 NBR	TH	7	1015	1315	3
21/11/2023	2023/2024 NBR	TH	7	1345	1545	2
22/11/2023	2023/2024 NBR	EB	6	1215	1515	3
22/11/2023	2023/2024 NBR	EB	8	0930	1145	0
24/11/2023	2023/2024 NBR	EB	8	0940	1240	3
24/11/2023	2023/2024 NBR	EB	8	1310	1510	2
29/11/2023	2023/2024 NBR	EB	8	0945	1245	3
29/11/2023	2023/2024 NBR	EB	8	1315	1515	2
18/12/2023	2023/2024 NBR	TH	6	0930	1230	3
18/12/2023	2023/2024 NBR	TH	6	1300	1500	2

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
19/12/2023	2023/2024 NBR	EB	7	0955	1255	3
19/12/2023	2023/2024 NBR	EB	7	1325	1525	2
19/12/2023	2023/2024 NBR	TH	8	1000	1300	3
19/12/2023	2023/2024 NBR	TH	8	1330	1530	2
19/01/2024	2023/2024 NBR	EB	8	1010	1310	3
19/01/2024	2023/2024 NBR	EB	8	1340	1540	2
30/01/2024	2023/2024 NBR	LS	7	0955	1255	3
30/01/2024	2023/2024 NBR	LS	7	1325	1525	2
30/01/2024	2023/2024 NBR	EB	8	0955	1255	3
30/01/2024	2023/2024 NBR	EB	8	1325	1525	2
15/02/2024	2023/2024 NBR	MW	6	0800	1100	3
15/02/2024	2023/2024 NBR	MW	6	1130	1330	2
26/02/2024	2023/2024 NBR	LS	6	0930	1230	3
26/02/2024	2023/2024 NBR	LS	6	1300	1600	3
26/02/2024	2023/2024 NBR	EB	7	0950	1250	3
26/02/2024	2023/2024 NBR	EB	7	1320	1520	2
13/03/2024	2023/2024 NBR	LS	7	0945	1245	3
13/03/2024	2023/2024 NBR	LS	7	1315	1515	2
18/03/2024	2024 BR	EB	6	0945	1245	3
18/03/2024	2024 BR	EB	6	1315	1615	3
18/03/2024	2024 BR	LS	7	0955	1255	3
18/03/2024	2024 BR	LS	7	1325	1625	3
20/03/2024	2024 BR	MW	8	0730	1030	3
20/03/2024	2024 BR	MW	8	1100	1300	2
02/04/2024	2024 BR	MW	7	0700	1000	1
19/04/2024	2024 BR	JB	6	0800	1100	3
19/04/2024	2024 BR	EB	7	0800	1100	3
26/04/2024	2024 BR	MW	8	0900	1200	3
26/04/2024	2024 BR	MW	8	1230	1430	2
13/05/2024	2024 BR	EB	6	0945	1245	3
13/05/2024	2024 BR	EB	6	1315	1615	3
13/05/2024	2024 BR	LS	7	0940	1240	3
13/05/2024	2024 BR	LS	7	1310	1610	3
24/05/2024	2024 BR	JB	7	0650	0950	1.75
24/05/2024	2024 BR	LS	8	0650	0950	3
12/06/2024	2024 BR	MW	8	0630	0930	3

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
12/06/2024	2024 BR	MW	8	1000	1300	3
27/06/2024	2024 BR	MW	6	0600	0900	3
27/06/2024	2024 BR	MW	6	0930	1230	3
28/06/2024	2024 BR	MW	7	0600	0900	3
28/06/2024	2024 BR	MW	7	0930	1230	3
26/07/2024	2024 BR	MW	8	0530	0830	3
26/07/2024	2024 BR	MW	8	0900	1200	3
30/07/2024	2024 BR	LS	7	0920	1220	3
30/07/2024	2024 BR	LS	7	1250	1550	3
30/07/2024	2024 BR	LS	7	1620	1635	0.25
31/07/2024	2024 BR	IH	6	1300	1600	3
31/07/2024	2024 BR	IH	6	1630	1930	3
12/08/2024	2024 BR	MW	6	0700	1000	3
12/08/2024	2024 BR	MW	6	1030	1330	3
13/08/2024	2024 BR	MW	8	0630	0930	3
13/08/2024	2024 BR	MW	8	1000	1300	3
21/08/2024	2024 BR	IH	8	1015	1315	2
21/08/2024	2024 BR	IH	8	1345	1445	0
26/08/2024	2024 BR	JR	7	0915	1215	2.67
26/08/2024	2024 BR	JR	7	1245	1545	2.83
26/08/2024	2024 BR	JR	7	1615	1645	0.5
29/08/2024	2024 BR	LS	6	1030	1330	3
30/08/2024	2024 BR	LS	8	1015	1315	3
06/09/2024	2024/2025 NBR	IH	7	0945	1245	3
06/09/2024	2024/2025 NBR	IH	7	1315	1615	3
06/09/2024	2024/2025 NBR	LS	8	0930	1230	3
06/09/2024	2024/2025 NBR	LS	8	1300	1600	3
09/09/2024	2024/2025 NBR	LS	6	0915	1215	3
09/09/2024	2024/2025 NBR	LS	6	1245	1545	3
09/09/2024	2024/2025 NBR	IH	8	1000	1300	3
09/09/2024	2024/2025 NBR	IH	8	1330	1630	3
03/10/2024	2024/2025 NBR	MW	8	0730	1030	3
03/10/2024	2024/2025 NBR	MW	8	1100	1300	2
04/10/2024	2024/2025 NBR	TH	6	0915	1215	3
04/10/2024	2024/2025 NBR	TH	6	1245	1515	2.5
04/10/2024	2024/2025 NBR	LS	7	0945	1245	3

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
04/10/2024	2024/2025 NBR	LS	7	1315	1515	2
31/10/2024	2024/2025 NBR	TL	7	1003	1217	0
06/11/2024	2024/2025 NBR	JB	6	0915	1115	0
08/11/2024	2024/2025 NBR	JB	6	0915	1145	0
14/11/2024	2024/2025 NBR	ENS	7	0930	1230	3
14/11/2024	2024/2025 NBR	ENS	7	1300	1500	2
14/11/2024	2024/2025 NBR	EB	8	0945	1245	3
14/11/2024	2024/2025 NBR	EB	8	1315	1515	2
22/11/2024	2024/2025 NBR	TL	7	0940	1240	2.5
22/11/2024	2024/2025 NBR	TL	7	1310	1510	1.5
29/11/2024	2024/2025 NBR	IH	6	0915	1215	2
29/11/2024	2024/2025 NBR	IH	6	1245	1545	3
11/12/2024	2024/2025 NBR	ENS	6	0900	1200	0.5
20/12/2024	2024/2025 NBR	LW	7	1000	1030	0
20/12/2024	2024/2025 NBR	ENS	8	0930	1030	0
07/01/2025	2024/2025 NBR	IH	6	1030	1330	3
07/01/2025	2024/2025 NBR	IH	6	1400	1600	2
14/01/2025	2024/2025 NBR	LS	6	0930	1230	3
14/01/2025	2024/2025 NBR	LS	6	1300	1500	2
14/01/2025	2024/2025 NBR	IH	7	1020	1320	3
14/01/2025	2024/2025 NBR	IH	7	1350	1550	2
20/01/2025	2024/2025 NBR	TL	7	0945	1200	0
20/01/2025	2024/2025 NBR	LW	8	0900	1200	0
21/01/2025	2024/2025 NBR	LW	6	1300	1400	0
21/01/2025	2024/2025 NBR	LW	7	0930	1200	1.5
29/01/2025	2024/2025 NBR	TH	7	1000	1300	3
29/01/2025	2024/2025 NBR	TH	7	1330	1530	2
29/01/2025	2024/2025 NBR	LS	8	1000	1300	3
29/01/2025	2024/2025 NBR	LS	8	1330	1530	2
10/02/2025	2024/2025 NBR	JB	6	0950	1250	3
10/02/2025	2024/2025 NBR	JB	6	1320	1520	2
10/02/2025	2024/2025 NBR	TH	7	1000	1300	3
10/02/2025	2024/2025 NBR	TH	7	1330	1500	1.5
13/02/2025	2024/2025 NBR	TL	8	0940	1240	3
13/02/2025	2024/2025 NBR	TL	8	1310	1510	2
14/02/2025	2024/2025 NBR	ENS	6	1000	1300	3

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
14/02/2025	2024/2025 NBR	ENS	6	1330	1430	1
14/02/2025	2024/2025 NBR	JB	8	1010	1310	3
14/02/2025	2024/2025 NBR	JB	8	1340	1440	1
18/03/2025	2025 BR	TH	6	1015	1315	3
18/03/2025	2025 BR	TH	6	1345	1515	1.5
18/03/2025	2025 BR	LS	7	1045	1245	2
18/03/2025	2025 BR	LS	7	1315	1515	2
26/03/2025	2025 BR	TH	8	1200	1500	3
17/04/2025	2025 BR	LS	6	0920	1220	3
17/04/2025	2025 BR	LS	6	1250	1550	3
17/04/2025	2025 BR	LM	7	1015	1315	3
17/04/2025	2025 BR	LM	7	1345	1645	3
18/04/2025	2025 BR	LM	6	0815	1115	3
18/04/2025	2025 BR	LS	7	0810	1110	3
18/04/2025	2025 BR	IH	8	0815	1115	3
24/04/2025	2025 BR	JB	8	0945	1245	3
24/04/2025	2025 BR	JB	8	1315	1615	3
02/05/2025	2025 BR	IH	7	1000	1300	3
02/05/2025	2025 BR	IH	7	1330	1630	3
09/05/2025	2025 BR	LS	6	0715	0945	2.5
16/05/2025	2025 BR	IH	6	0700	1000	3
16/05/2025	2025 BR	LS	7	0700	0900	2
30/05/2025	2025 BR	LML	8	1045	1345	3
30/05/2025	2025 BR	LML	8	1415	1715	3
25/06/2025	2025 BR	LML	7	1000	1300	3
25/06/2025	2025 BR	LML	7	1330	1630	3
26/06/2025	2025 BR	LML	8	1000	1300	3
26/06/2025	2025 BR	LML	8	1330	1630	3
27/06/2025	2025 BR	MW	6	0630	0930	3
27/06/2025	2025 BR	MW	6	1000	1300	1
14/07/2025	2025 BR	LML	6	0940	1240	3
14/07/2025	2025 BR	LML	6	1310	1610	3
28/07/2025	2025 BR	IH	7	0940	1240	3
28/07/2025	2025 BR	IH	7	1310	1610	3
28/07/2025	2025 BR	LML	8	0950	1250	3
28/07/2025	2025 BR	LML	8	1320	1620	3

Date	Season	Observer	VP	Survey start time	Survey finish time	No. hours[1] surveyed
01/08/2025	2025 BR	LML	6	0920	1020	1
01/08/2025	2025 BR	LML	7	1145	1445	3
13/08/2025	2025 BR	ENS	8	0900	1200	3
13/08/2025	2025 BR	ENS	8	1230	1530	3
22/08/2025	2025 BR	LW	6	0815	1115	3
22/08/2025	2025 BR	LW	6	1145	1445	3

Table C-3: Meteorological conditions during flight activity surveys (sorted chronologically)

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
28/09/2022	2	JRM	0930	1230	1	2	NNW	0	1	2	2	0	0
28/09/2022	2	JRM	0930	1230	2	4	NNW	0	4	2	2	0	0
28/09/2022	2	JRM	0930	1230	3	2	NNW	2	7	2	2	0	0
28/09/2022	2	JRM	1300	1500	1	4	NNW	2	7	2	2	0	0
28/09/2022	2	JRM	1300	1500	2	4	NNW	2	7	2	2	0	0
29/09/2022	1	JRM	0830	1130	1	1	NNE	0	5	2	2	0	0
29/09/2022	1	JRM	0830	1130	2	1	NNE	0	6	2	2	0	0
29/09/2022	1	JRM	0830	1130	3	2	NE	0	4	2	2	0	0
29/09/2022	3	JRM	1200	1500	1	2	NE	0	4	2	2	0	0
29/09/2022	3	JRM	1200	1500	2	2	NE	0	5	2	2	0	0
29/09/2022	3	JRM	1200	1500	3	2	NE	0	4	2	2	0	0
30/09/2022	4	MW	0700	1000	1	5	WSW	0	8	2	2	0	0
30/09/2022	4	MW	0700	1000	2	6	WSW	0	8	2	2	0	0
30/09/2022	4	MW	0700	1000	3	6	WSW	0	8	2	2	0	0
30/09/2022	5	MW	1030	1230	1	6	W	4	8	2	2	0	0
30/09/2022	5	MW	1030	1230	2	7	W	4	8	1	1	0	0
10/10/2022	2	MW	0830	1130	1	5	WNW	0	8	2	2	0	0
10/10/2022	2	MW	0830	1130	2	5	WNW	0	7	2	2	0	0
10/10/2022	2	MW	0830	1130	3	5	WNW	0	7	2	2	0	0
10/10/2022	2	MW	1200	1400	1	6	WNW	0	6	2	2	0	0
10/10/2022	2	MW	1200	1400	2	6	WNW	4	8	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
11/10/2022	3	MW	0715	1015	1	4	SW	0	8	2	2	0	0
11/10/2022	3	MW	0715	1015	1	5	SW	0	8	2	2	0	0
11/10/2022	3	MW	0715	1015	2	4	SW	0	8	2	2	0	0
11/10/2022	3	MW	0715	1015	2	5	SW	0	8	2	2	0	0
11/10/2022	3	MW	0715	1015	3	5	SW	0	6	2	2	0	0
11/10/2022	3	MW	0715	1015	3	5	SW	0	7	2	2	0	0
12/10/2022	5	MW	0730	1030	1	5	S	4	8	2	1	0	0
12/10/2022	5	MW	0730	1030	2	5	S	4	8	2	2	0	0
12/10/2022	5	MW	0730	1030	3	5	S	4	8	2	1	0	0
12/10/2022	5	MW	1100	1400	1	5	S	3	8	2	2	0	0
12/10/2022	5	MW	1100	1400	2	5	S	3	8	2	2	0	0
12/10/2022	5	MW	1100	1400	3	5	S	3	8	2	2	0	0
13/10/2022	4	MW	0730	1030	1	4	SSW	0	1	2	2	0	0
13/10/2022	4	MW	0730	1030	2	4	SSW	0	2	2	2	0	0
13/10/2022	4	MW	0730	1030	3	5	SSW	0	4	2	2	0	0
13/10/2022	4	MW	1100	1300	1	5	SSW	0	8	2	2	0	0
13/10/2022	4	MW	1100	1300	2	5	SSW	0	8	2	2	0	0
14/10/2022	1	MW	0745	1045	1	4	SW	4	8	1	1	0	0
14/10/2022	1	MW	0745	1045	1	5	SW	4	8	1	1	0	0
14/10/2022	1	MW	0745	1045	2	4	SW	4	8	1	1	0	0
14/10/2022	1	MW	0745	1045	2	5	SW	4	8	1	1	0	0
14/10/2022	1	MW	0745	1045	3	4	SW	4	8	1	1	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
08/11/2022	3	MW	0800	1100	1	3	SW	4	8	1	1	0	0
08/11/2022	3	MW	0800	1100	2	3	SW	4	8	1	1	0	0
08/11/2022	3	MW	0800	1100	3	3	SW	4	8	1	1	0	0
08/11/2022	3	MW	1130	1330	1	3	SW	3	8	1	1	0	0
08/11/2022	3	MW	1130	1330	2	4	SW	4	8	1	1	0	0
14/11/2022	1	JR	0830	1130	1	2	S	0	5	2	2	0	0
14/11/2022	1	JR	0830	1130	2	2	SSE	0	6	2	2	0	0
14/11/2022	1	JR	0830	1130	3	2	SSE	0	7	2	2	0	0
14/11/2022	1	JR	1200	1400	1	3	SE	0	7	2	2	0	0
14/11/2022	1	JR	1200	1400	2	3	SE	0	7	2	2	0	0
15/11/2022	2	JR	0830	1230	1	3	SE	4	8	1	0	0	0
15/11/2022	2	JR	0830	1230	1	4	SE	4	8	1	0	0	0
15/11/2022	2	JR	0830	1230	2	4	SE	4	8	1	0	0	0
15/11/2022	2	JR	0830	1230	3	4	SE	4	8	1	0	0	0
21/11/2022	5	JR	0900	1200	1	2	SE	0	5	2	2	1	0
21/11/2022	5	JR	0900	1200	2	2	SE	2	7	2	1	0	0
21/11/2022	5	JR	0900	1200	3	2	SE	2	8	1	1	0	0
21/11/2022	5	JR	1230	1430	1	2	ESE	0	6	2	2	0	0
21/11/2022	5	JR	1230	1430	2	2	ESE	0	5	2	2	0	0
22/11/2022	4	JR	0930	1230	1	2	NE	0	2	2	2	1	0
22/11/2022	4	JR	0930	1230	2	2	NE	0	2	2	2	1	0
22/11/2022	4	JR	0930	1230	3	1	NE	0	3	2	2	1	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
22/11/2022	4	JR	1300	1500	1	0	NNE	0	2	2	2	0	0
22/11/2022	4	JR	1300	1500	2	1	WSW	0	2	2	2	0	0
05/12/2022	1	MW	0815	1115	1	3	NE	0	4	2	2	1	0
05/12/2022	1	MW	0815	1115	2	3	NE	0	4	2	2	1	0
05/12/2022	1	MW	0815	1115	3	3	NE	0	5	2	2	1	0
05/12/2022	1	MW	1145	1345	1	4	NE	0	5	2	2	1	0
05/12/2022	1	MW	1145	1345	2	4	NE	0	6	2	2	0	0
06/12/2022	2	MW	0800	1100	1	2	NNE	0	3	2	2	1	1
06/12/2022	2	MW	0800	1100	2	3	NNE	0	3	2	2	1	1
06/12/2022	2	MW	0800	1100	3	3	NNE	0	4	2	2	1	1
06/12/2022	2	MW	1130	1330	1	2	NNE	0	4	2	2	1	1
06/12/2022	2	MW	1130	1330	2	2	NNE	0	4	2	2	1	1
07/12/2022	3	MW	0800	1100	1	1	N	0	1	2	2	1	0
07/12/2022	3	MW	0800	1100	2	2	N	0	1	2	2	1	0
07/12/2022	3	MW	0800	1100	3	2	N	0	2	2	2	1	0
07/12/2022	3	MW	1130	1330	1	3	NNW	0	2	2	2	1	0
07/12/2022	3	MW	1130	1330	2	3	NNW	0	3	2	2	1	0
08/12/2022	5	MW	0800	1100	1	1	NNW	0	1	2	2	1	0
08/12/2022	5	MW	0800	1100	2	2	NNW	0	1	2	2	1	0
08/12/2022	5	MW	0800	1100	3	3	NNW	0	2	2	2	1	0
08/12/2022	5	MW	1130	1330	1	3	NNW	0	3	2	2	1	0
08/12/2022	5	MW	1130	1330	2	3	NNW	0	6	2	2	1	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
09/12/2022	4	MW	0800	1100	1	1	N	0	1	2	2	1	1
09/12/2022	4	MW	0800	1100	2	2	N	0	1	2	2	1	1
09/12/2022	4	MW	0800	1100	3	2	NNW	0	2	2	2	1	1
09/12/2022	4	MW	1130	1230	1	3	NNW	0	2	2	2	1	1
05/01/2023	1	TH	0930	1230	1	2	W	1	8	1	1	0	0
05/01/2023	1	TH	0930	1230	2	2	W	2	8	1	1	0	0
05/01/2023	1	TH	0930	1230	3	2	W	2	8	1	1	0	0
05/01/2023	1	TH	1300	1600	1	2	W	3	8	1	1	0	0
05/01/2023	1	TH	1300	1600	2	2	W	1	8	1	1	0	0
05/01/2023	1	TH	1300	1600	3	3	W	3	8	1	1	0	0
05/01/2023	3	EB	1330	1530	1	6	SSE	1	8	0	1	0	0
05/01/2023	3	EB	1330	1530	2	5	SSE	2	8	0	1	0	0
05/01/2023	4	EB	1015	1215	1	5	SSE	2	8	0	0	0	0
05/01/2023	4	EB	1015	1215	2	5	SSE	3	8	0	0	0	0
05/01/2023	5	EB	1245	1315	1	6	SSE	2	8	0	0	0	0
06/01/2023	2	TH	1015	1315	1	4	SSW	0	5	2	2	0	0
06/01/2023	2	TH	1015	1315	2	3	SW	0	3	2	2	0	0
06/01/2023	2	TH	1015	1315	3	3	SW	0	3	2	2	0	0
06/01/2023	2	TH	1345	1545	1	3	S	0	6	2	2	0	0
06/01/2023	2	TH	1345	1545	2	3	S	0	8	2	2	0	0
06/01/2023	5	EB	1000	1300	1	6	S	0	8	1	2	0	0
06/01/2023	5	EB	1000	1300	2	5	S	0	7	1	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
06/01/2023	5	EB	1000	1300	3	5	S	0	6	2	2	0	0
06/01/2023	5	EB	1330	1530	1	4	S	0	6	2	2	0	0
06/01/2023	5	EB	1330	1530	2	4	S	0	8	2	2	0	0
25/01/2023	2	EB	1030	1330	1	5	WSW	0	6	1	2	0	0
25/01/2023	2	EB	1030	1330	2	4	WSW	0	5	2	2	0	0
25/01/2023	2	EB	1030	1330	3	4	WSW	0	7	2	2	0	0
25/01/2023	2	EB	1400	1600	1	4	W	0	6	2	2	0	0
25/01/2023	2	EB	1400	1600	2	4	WSW	0	4	2	2	0	0
27/01/2023	3	TH	1000	1300	1	2	S	0	8	2	2	0	2
27/01/2023	3	TH	1000	1300	2	2	S	0	7	2	2	0	2
27/01/2023	3	TH	1000	1300	3	2	S	0	8	2	2	0	2
27/01/2023	3	TH	1330	1530	1	2	S	0	7	2	2	0	2
27/01/2023	3	TH	1330	1530	2	2	S	0	7	2	2	0	2
27/01/2023	4	EB	1010	1310	1	4	SW	0	7	2	2	1	0
27/01/2023	4	EB	1010	1310	2	4	SW	0	8	0	1	1	0
27/01/2023	4	EB	1010	1310	3	3	SW	0	8	0	0	1	0
27/01/2023	4	EB	1340	1440	1	3	SW	0	8	0	0	1	0
30/01/2023	3	TH	1300	1500	1	3	W	0	5	2	2	0	2
30/01/2023	3	TH	1300	1500	2	2	W	0	7	2	2	0	2
30/01/2023	5	TH	0945	1245	1	2	W	0	4	2	2	0	2
30/01/2023	5	TH	0945	1245	2	2	W	0	5	2	2	0	2
30/01/2023	5	TH	0945	1245	3	2	W	0	5	2	2	0	2

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
31/01/2023	2	TH	1030	1330	1	5	W	3	8	1	1	0	2
31/01/2023	2	TH	1030	1330	2	4	W	2	8	1	1	0	2
31/01/2023	2	TH	1030	1330	3	4	W	3	8	1	1	0	2
31/01/2023	2	TH	1400	1600	1	4	W	3	8	1	1	0	2
31/01/2023	2	TH	1400	1600	2	4	W	0	6	2	2	0	2
08/02/2023	4	EB	1020	1320	1	6	S	0	8	1	1	0	0
08/02/2023	4	EB	1020	1320	2	5	S	0	8	1	1	0	0
08/02/2023	4	EB	1020	1320	3	5	S	0	8	2	2	0	0
08/02/2023	4	EB	1350	1550	1	5	S	0	8	2	2	0	0
08/02/2023	4	EB	1350	1550	2	6	S	0	8	1	1	0	0
13/02/2023	3	MW	0830	1130	1	3	SSW	0	8	2	2	0	1
13/02/2023	3	MW	0830	1130	2	3	SSW	0	8	2	2	0	1
13/02/2023	3	MW	0830	1130	3	4	SSW	0	8	2	2	0	1
13/02/2023	3	MW	1200	1400	1	4	SSW	0	8	2	2	0	1
13/02/2023	3	MW	1200	1400	2	4	SSW	0	8	2	2	0	1
14/02/2023	5	MW	0745	1045	1	1	SSW	0	8	1	1	0	0
14/02/2023	5	MW	0745	1045	2	2	SSW	0	8	1	1	0	0
14/02/2023	5	MW	0745	1045	3	3	SSW	0	8	2	2	0	0
14/02/2023	5	MW	1115	1315	1	4	SSW	0	7	2	2	0	0
14/02/2023	5	MW	1115	1315	2	5	SSW	0	6	2	2	0	0
21/02/2023	1	JRM	0820	1120	1	2	SW	2	8	1	2	0	0
21/02/2023	1	JRM	0820	1120	2	2	SSW	2	8	1	1	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
21/02/2023	1	JRM	0820	1120	3	2	SSW	2	8	2	2	0	0
21/02/2023	1	JRM	1150	1350	1	2	WSW	0	8	2	2	0	0
21/02/2023	1	JRM	1150	1350	2	3	WSW	0	8	2	2	0	0
28/02/2023	1	TH	0945	1245	1	2	E	0	8	1	2	0	0
28/02/2023	1	TH	0945	1245	2	2	E	0	8	1	2	0	0
28/02/2023	1	TH	0945	1245	3	2	E	0	8	2	2	0	0
28/02/2023	1	TH	1315	1615	1	3	E	0	8	2	2	0	0
28/02/2023	1	TH	1315	1615	2	2	E	0	8	2	2	0	0
28/02/2023	1	TH	1315	1615	3	2	E	1	8	2	2	0	0
03/03/2023	5	MW	0730	1030	1	3	N	0	8	2	2	0	1
03/03/2023	5	MW	0730	1030	2	3	N	0	8	2	2	0	1
03/03/2023	5	MW	0730	1030	3	3	N	0	8	2	2	0	1
03/03/2023	5	MW	1100	1300	1	4	N	0	8	2	2	0	1
03/03/2023	5	MW	1100	1300	2	4	NNE	0	8	2	2	0	1
09/03/2023	1	MW	1030	1130	1	5	NNW	0	8	2	2	1	0
09/03/2023	3	MW	0700	1000	1	4	NNW	0	3	2	2	1	0
09/03/2023	3	MW	0700	1000	2	4	NNW	0	4	2	2	1	0
09/03/2023	3	MW	0700	1000	3	5	NNW	0	5	2	2	1	0
09/03/2023	3	MW	1145	1215	1	5	NNW	0	7	2	2	1	0
10/03/2023	2	HEC	0945	1245	1	2	S	0	1	2	2	0	1
10/03/2023	2	HEC	0945	1245	2	2	S	0	1	2	2	0	1
10/03/2023	2	HEC	0945	1245	3	2	S	0	2	2	2	0	1

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
10/03/2023	2	HEC	1315	1615	1	3	SE	0	3	2	2	0	1
10/03/2023	2	HEC	1315	1615	2	3	SE	0	2	2	2	0	1
10/03/2023	2	HEC	1315	1615	3	2	SE	0	1	2	2	0	1
10/03/2023	4	EB	0945	1245	1	5	N	0	1	2	2	2	2
10/03/2023	4	EB	0945	1245	2	4	N	0	1	2	2	2	2
10/03/2023	4	EB	0945	1245	3	4	N	0	2	2	2	2	2
10/03/2023	4	EB	1315	1615	1	4	N	0	1	2	2	2	2
10/03/2023	4	EB	1315	1615	2	4	N	0	1	2	2	2	2
10/03/2023	4	EB	1315	1615	3	5	N	0	1	2	2	2	2
13/03/2023	4	TH	0945	1245	1	4	SW	3	8	1	1	0	0
13/03/2023	4	TH	0945	1245	2	4	SW	2	8	1	1	0	0
13/03/2023	4	TH	0945	1245	3	4	SW	3	8	1	1	0	0
13/03/2023	4	TH	1315	1615	1	3	SW	1	8	2	2	0	0
13/03/2023	4	TH	1315	1615	2	3	SW	0	8	2	2	0	0
13/03/2023	4	TH	1315	1615	3	3	SW	0	8	2	2	0	0
20/03/2023	1	ENS	1245	1545	1	2	SSW	1	8	0	1	0	0
20/03/2023	1	ENS	1245	1545	2	2	SSW	2	8	0	1	0	0
20/03/2023	1	ENS	1245	1545	3	2	SSW	2	8	0	1	0	0
20/03/2023	1	ENS	1615	1715	1	1	SSW	2	8	0	1	0	0
20/03/2023	2	ENS	1030	1215	1	5	SSW	1	8	0	1	0	0
20/03/2023	2	ENS	1030	1215	2	4	SSW	1	8	0	0	0	0
20/03/2023	3	TH	1020	1320	1	3	SE	2	8	0	1	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
20/03/2023	3	TH	1020	1320	2	3	S	1	8	0	1	0	0
20/03/2023	3	TH	1020	1320	3	3	S	1	8	0	1	0	0
20/03/2023	3	TH	1350	1650	1	3	S	2	8	1	1	0	0
20/03/2023	3	TH	1350	1650	2	3	S	1	8	0	1	0	0
20/03/2023	3	TH	1350	1650	3	3	S	1	8	0	1	0	0
20/03/2023	4	HEC	1045	1145	1	3	SSW	1	8	0	0	0	0
22/03/2023	2	ENS	0930	1230	1	6	SSW	0	6	2	2	0	0
22/03/2023	2	ENS	0930	1230	2	6	SSW	0	7	2	2	0	0
22/03/2023	2	ENS	0930	1230	3	6	SSW	0	8	2	2	0	0
22/03/2023	2	ENS	1300	1600	1	6	SSW	1	8	2	2	0	0
22/03/2023	2	ENS	1300	1600	2	6	SSW	1	8	2	2	0	0
22/03/2023	2	ENS	1300	1600	3	6	SSW	1	7	2	2	0	0
22/03/2023	4	HEC	1000	1300	1	5	SSE	0	7	1	2	0	0
22/03/2023	4	HEC	1000	1300	2	5	SSE	0	8	1	2	0	0
22/03/2023	4	HEC	1000	1300	3	5	S	0	8	1	2	0	0
22/03/2023	4	HEC	1330	1630	1	5	S	1	8	1	2	0	0
22/03/2023	4	HEC	1330	1630	2	5	SSW	0	8	1	2	0	0
22/03/2023	4	HEC	1330	1630	3	5	SSW	0	7	1	2	0	0
05/04/2023	1	ENS	0845	1145	1	1	SSW	1	8	0	1	0	0
05/04/2023	1	ENS	0845	1145	2	1	SSW	2	8	0	1	0	0
05/04/2023	1	ENS	0845	1145	3	1	SSW	1	8	0	1	0	0
05/04/2023	1	ENS	1215	1415	1	1	SE	1	8	0	1	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
05/04/2023	1	ENS	1215	1415	2	1	SE	1	8	0	0	0	0
05/04/2023	3	NW	0910	1210	1	3	SE	1	8	1	1	0	0
05/04/2023	3	NW	0910	1210	2	3	SE	1	8	1	1	0	0
05/04/2023	3	NW	0910	1210	3	2	SE	1	8	0	1	0	0
05/04/2023	3	NW	1240	1540	1	3	SSE	1	8	0	1	0	0
05/04/2023	3	NW	1240	1540	2	3	SE	1	8	1	1	0	0
05/04/2023	3	NW	1240	1540	3	3	SE	2	8	1	1	0	0
05/04/2023	4	TH	0920	1220	1	4	SE	2	8	0	0	0	0
05/04/2023	4	TH	0920	1220	2	5	SE	2	8	0	0	0	0
05/04/2023	4	TH	0920	1220	3	4	SE	2	8	0	0	0	0
05/04/2023	4	TH	1250	1450	1	4	SE	2	8	0	0	0	0
05/04/2023	4	TH	1250	1450	2	4	SE	2	8	0	0	0	0
06/04/2023	2	TH	0830	1130	1	3	W	0	6	2	2	0	0
06/04/2023	2	TH	0830	1130	2	2	W	0	5	2	2	0	0
06/04/2023	2	TH	0830	1130	3	2	W	0	4	2	2	0	0
06/04/2023	3	HEC	0830	1130	1	3	NE	0	8	1	2	0	0
06/04/2023	3	HEC	0830	1130	2	4	WNW	2	7	1	2	0	0
06/04/2023	3	HEC	0830	1130	3	4	WNW	0	4	2	2	0	0
06/04/2023	4	EB	0845	1145	1	5	NW	1	8	2	2	0	0
06/04/2023	4	EB	0845	1145	2	6	NW	0	7	2	2	0	0
06/04/2023	4	EB	0845	1145	3	5	NW	0	8	2	2	0	0
05/05/2023	1	HEC	0700	1000	1	2	SE	1	8	0	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
05/05/2023	1	HEC	0700	1000	2	3	E	1	8	0	2	0	0
05/05/2023	1	HEC	0700	1000	3	3	E	1	8	0	1	0	0
05/05/2023	3	EB	0700	1000	1	3	NNW	0	8	0	1	0	0
05/05/2023	3	EB	0700	1000	2	3	NNW	0	8	0	1	0	0
05/05/2023	3	EB	0700	1000	3	3	N	0	8	0	1	0	0
10/05/2023	2	HEC	0945	1245	1	4	SW	1	7	1	1	0	0
10/05/2023	2	HEC	0945	1245	2	5	SW	3	7	1	1	0	0
10/05/2023	2	HEC	0945	1245	3	5	SW	3	7	1	1	0	0
15/05/2023	2	EB	0945	1245	1	3	NW	0	6	2	2	0	0
15/05/2023	2	EB	0945	1245	2	3	NW	0	7	2	2	0	0
15/05/2023	2	EB	0945	1245	3	3	NNW	0	7	2	2	0	0
15/05/2023	2	EB	1315	1615	1	3	NNW	2	8	2	2	0	0
15/05/2023	2	EB	1315	1615	2	3	NNW	0	5	2	2	0	0
15/05/2023	2	EB	1315	1615	3	3	NNW	0	6	2	2	0	0
15/05/2023	4	ENS	0945	1245	1	5	NW	0	5	2	2	0	0
15/05/2023	4	ENS	0945	1245	2	5	NW	0	6	2	2	0	0
15/05/2023	4	ENS	0945	1245	3	5	NW	2	6	2	2	0	0
15/05/2023	4	ENS	1315	1615	1	6	NW	2	6	2	2	0	0
15/05/2023	4	ENS	1315	1615	2	5	NW	0	5	2	2	0	0
15/05/2023	4	ENS	1315	1615	3	5	NW	2	6	2	2	0	0
30/05/2023	1	ENS	0855	1155	1	0	-	0	0	2	2	0	0
30/05/2023	1	ENS	0855	1155	2	0	-	0	0	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
30/05/2023	1	ENS	0855	1155	3	1	WNW	0	0	2	2	0	0
30/05/2023	1	ENS	1225	1525	1	0	-	0	1	2	2	0	0
30/05/2023	1	ENS	1225	1525	2	0	-	0	1	2	2	0	0
30/05/2023	1	ENS	1225	1525	3	1	WNW	0	1	2	2	0	0
23/06/2023	1	JB	0900	1200	1	1	ESE	1	8	1	2	0	0
23/06/2023	1	JB	0900	1200	2	1	ESE	1	8	1	2	0	0
23/06/2023	1	JB	0900	1200	3	1	ESE	0	8	2	2	0	0
23/06/2023	1	JB	1230	1530	1	1	NNE	1	8	2	2	0	0
23/06/2023	1	JB	1230	1530	2	1	NNE	1	8	2	2	0	0
23/06/2023	1	JB	1230	1530	3	1	NNE	0	7	2	2	0	0
23/06/2023	3	NW	0910	1210	1	1	SSW	2	8	1	2	0	0
23/06/2023	3	NW	0910	1210	2	1	SSW	1	8	1	2	0	0
23/06/2023	3	NW	0910	1210	3	2	SW	0	7	2	2	0	0
23/06/2023	3	NW	1240	1540	1	2	SW	0	8	2	2	0	0
23/06/2023	3	NW	1240	1540	2	2	SSW	0	7	2	2	0	0
23/06/2023	3	NW	1240	1540	3	2	SW	1	8	2	2	0	0
26/06/2023	2	ENS	0950	1250	1	4	WSW	1	7	2	2	0	0
26/06/2023	2	ENS	0950	1250	2	4	WSW	3	6	2	2	0	0
26/06/2023	2	ENS	0950	1250	3	4	WSW	0	6	2	2	0	0
26/06/2023	2	ENS	1320	1620	1	4	W	0	7	2	2	0	0
26/06/2023	2	ENS	1320	1620	2	4	W	0	6	2	2	0	0
26/06/2023	2	ENS	1320	1620	3	4	W	0	6	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
27/06/2023	1	EB	1220	1520	1	3	SW	2	8	0	1	0	0
27/06/2023	1	EB	1220	1520	2	3	SW	3	8	0	1	0	0
27/06/2023	1	EB	1220	1520	3	3	SW	2	8	1	1	0	0
27/06/2023	3	EB	0850	1150	1	4	SSW	3	8	1	2	0	0
27/06/2023	3	EB	0850	1150	2	4	SSW	3	8	1	2	0	0
27/06/2023	3	EB	0850	1150	3	3	SSW	3	8	0	1	0	0
06/07/2023	4	NW	0825	1125	1	3	SW	0	7	2	2	0	0
06/07/2023	4	NW	0825	1125	2	4	SW	0	6	2	2	0	0
06/07/2023	4	NW	0825	1125	3	4	SW	0	7	2	2	0	0
06/07/2023	4	NW	1155	1455	1	5	SW	2	8	2	2	0	0
06/07/2023	4	NW	1155	1455	2	5	SW	2	8	1	1	0	0
06/07/2023	4	NW	1155	1455	3	5	SW	0	8	2	2	0	0
25/07/2023	2	NW	0920	1220	1	2	WNW	0	5	2	2	0	0
25/07/2023	2	NW	0920	1220	2	2	WNW	0	6	2	2	0	0
25/07/2023	2	NW	0920	1220	3	3	WNW	0	7	2	2	0	0
25/07/2023	2	NW	1250	1550	1	3	W	0	7	2	2	0	0
25/07/2023	2	NW	1250	1550	2	3	WNW	0	6	2	2	0	0
25/07/2023	2	NW	1250	1550	3	3	WNW	0	5	2	2	0	0
25/07/2023	4	EB	0935	1235	1	5	WNW	0	8	2	2	0	0
25/07/2023	4	EB	0935	1235	2	5	WNW	0	8	2	2	0	0
25/07/2023	4	EB	0935	1235	3	5	WNW	0	7	2	2	0	0
25/07/2023	4	EB	1305	1605	1	4	WNW	0	7	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
25/07/2023	4	EB	1305	1605	2	4	WNW	0	6	2	2	0	0
25/07/2023	4	EB	1305	1605	3	5	WNW	0	6	2	2	0	0
28/07/2023	1	ENS	0915	1215	1	1	WSW	0	7	2	2	0	0
28/07/2023	1	ENS	0915	1215	2	1	WSW	0	6	2	2	0	0
28/07/2023	1	ENS	0915	1215	3	1	SW	0	6	2	2	0	0
28/07/2023	1	ENS	1245	1545	1	2	SSW	0	6	2	2	0	0
28/07/2023	1	ENS	1245	1545	2	2	SSW	0	7	2	2	0	0
28/07/2023	1	ENS	1245	1545	3	2	SSW	0	7	2	2	0	0
28/07/2023	3	JB	0920	1220	1	1	NNE	0	8	2	2	0	0
28/07/2023	3	JB	0920	1220	2	1	NNE	0	8	1	1	0	0
28/07/2023	3	JB	0920	1220	3	1	NNE	0	5	2	2	0	0
28/07/2023	3	JB	1250	1550	1	1	NNE	0	6	2	2	0	0
28/07/2023	3	JB	1250	1550	2	2	NNE	0	4	2	2	0	0
28/07/2023	3	JB	1250	1550	3	1	NNE	0	7	2	2	0	0
14/08/2023	1	HEC	1500	1600	1	3	ESE	0	6	2	2	0	0
14/08/2023	2	HEC	0910	1210	1	3	E	0	8	0	1	0	0
14/08/2023	2	HEC	0910	1210	2	2	E	0	8	1	2	0	0
14/08/2023	2	HEC	0910	1210	3	3	SE	0	8	1	2	0	0
14/08/2023	2	HEC	1240	1450	1	3	SE	0	7	2	2	0	0
14/08/2023	2	HEC	1240	1450	2	3	SE	0	7	2	2	0	0
14/08/2023	2	HEC	1240	1450	3	3	SE	0	7	2	2	0	0
14/08/2023	3	JR	1255	1525	1	2	E	0	6	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
14/08/2023	3	JR	1255	1525	2	2	ESE	0	6	2	2	0	0
14/08/2023	3	JR	1255	1525	3	2	ESE	0	6	2	2	0	0
14/08/2023	4	JR	0915	1215	1	1	SE	0	7	2	2	0	0
14/08/2023	4	JR	0915	1215	2	2	E	0	8	2	2	0	0
14/08/2023	4	JR	0915	1215	3	2	E	0	6	2	2	0	0
15/08/2023	1	JR	1000	1300	1	2	WNW	0	7	2	2	0	0
15/08/2023	1	JR	1000	1300	2	2	WNW	0	7	2	2	0	0
15/08/2023	1	JR	1000	1300	3	2	W	0	7	2	2	0	0
15/08/2023	1	JR	1330	1400	1	2	W	0	7	2	2	0	0
15/08/2023	3	JR	0810	0940	1	1	W	2	7	2	2	0	0
15/08/2023	3	JR	0810	0940	2	1	WNW	0	7	2	2	0	0
15/08/2023	4	HEC	0840	1140	1	3	NW	1	8	0	0	0	0
15/08/2023	4	HEC	0840	1140	2	3	NW	0	8	0	1	0	0
15/08/2023	4	HEC	0840	1140	3	3	WNW	0	8	0	2	0	0
15/08/2023	4	HEC	1210	1520	1	3	WNW	0	8	1	2	0	0
15/08/2023	4	HEC	1210	1520	1	4	W	0	7	1	2	0	0
15/08/2023	4	HEC	1210	1520	2	4	W	0	7	1	2	0	0
15/08/2023	4	HEC	1210	1520	3	4	W	0	7	1	2	0	0
05/09/2023	7	HEC	0915	1215	1	2	SSE	0	0	2	2	0	0
05/09/2023	7	HEC	0915	1215	2	3	SE	0	1	2	2	0	0
05/09/2023	7	HEC	0915	1215	3	3	SE	0	1	2	2	0	0
05/09/2023	7	HEC	1245	1445	1	4	E	0	1	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
05/09/2023	7	HEC	1245	1445	2	4	E	0	1	2	2	0	0
06/09/2023	8	HEC	1000	1300	1	1	S	0	3	2	2	0	0
06/09/2023	8	HEC	1000	1300	2	2	S	0	5	2	2	0	0
06/09/2023	8	HEC	1000	1300	3	3	S	0	4	2	2	0	0
06/09/2023	8	HEC	1330	1530	1	2	SSW	0	2	2	2	0	0
06/09/2023	8	HEC	1330	1530	2	3	SSW	0	3	2	2	0	0
07/09/2023	6	HEC	0930	1230	1	2	SE	0	5	2	2	0	0
07/09/2023	6	HEC	0930	1230	2	3	SE	0	6	2	2	0	0
07/09/2023	6	HEC	0930	1230	3	3	SE	3	7	2	2	0	0
07/09/2023	6	HEC	1300	1500	1	3	SE	2	7	2	2	0	0
07/09/2023	6	HEC	1300	1500	2	4	SSE	0	7	2	2	0	0
02/10/2023	6	MW	0800	1100	1	5	WSW	0	6	2	2	0	0
02/10/2023	6	MW	0800	1100	2	5	WSW	0	7	2	2	0	0
02/10/2023	6	MW	0800	1100	3	5	WSW	0	8	2	2	0	0
02/10/2023	6	MW	1130	1430	1	5	WSW	0	8	2	2	0	0
02/10/2023	6	MW	1130	1430	2	5	WSW	0	8	2	2	0	0
02/10/2023	6	MW	1130	1430	3	5	WSW	0	8	2	2	0	0
03/10/2023	8	MW	0730	1030	1	5	SSW	0	8	2	2	0	0
03/10/2023	8	MW	0730	1030	2	5	SSW	3	8	2	2	0	0
03/10/2023	8	MW	0730	1030	3	6	SSW	4	8	1	1	0	0
03/10/2023	8	MW	1100	1400	1	5	SSW	3	8	1	1	0	0
03/10/2023	8	MW	1100	1400	2	5	SSW	4	8	1	1	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
03/10/2023	8	MW	1100	1400	3	5	SSW	3	8	1	1	0	0
04/10/2023	7	MW	0730	1030	1	6	SW	0	8	2	2	0	0
04/10/2023	7	MW	0730	1030	2	6	SW	0	8	2	2	0	0
04/10/2023	7	MW	0730	1030	3	6	SW	0	8	2	2	0	0
04/10/2023	7	MW	1100	1400	1	7	SW	2	8	2	2	0	0
04/10/2023	7	MW	1100	1400	2	7	SW	2	8	1	1	0	0
04/10/2023	7	MW	1100	1400	3	8	SW	2	8	1	1	0	0
21/11/2023	6	EB	0930	1230	1	1	SW	0	1	2	2	0	0
21/11/2023	6	EB	0930	1230	2	2	SW	0	4	2	2	0	0
21/11/2023	6	EB	0930	1230	3	2	SW	0	6	2	2	0	0
21/11/2023	6	EB	1300	1600	1	2	SW	0	7	2	2	0	0
21/11/2023	6	EB	1300	1600	2	2	SW	0	8	2	2	0	0
21/11/2023	6	EB	1300	1600	3	2	SW	0	8	2	2	0	0
21/11/2023	7	TH	1015	1315	1	1	NW	0	2	2	2	0	0
21/11/2023	7	TH	1015	1315	2	1	NW	0	2	2	2	0	0
21/11/2023	7	TH	1015	1315	3	1	NW	0	6	2	2	0	0
21/11/2023	7	TH	1345	1545	1	1	NW	0	6	2	2	0	0
21/11/2023	7	TH	1345	1545	2	1	NW	0	6	2	2	0	0
22/11/2023	6	EB	1215	1515	1	5	W	2	8	0	1	0	0
22/11/2023	6	EB	1215	1515	2	6	W	1	8	1	1	0	0
22/11/2023	6	EB	1215	1515	3	6	W	2	8	1	1	0	0
22/11/2023	8	EB	0930	1145	1	5	W	1	8	0	0	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
22/11/2023	8	EB	0930	1145	2	5	W	1	8	0	0	0	0
22/11/2023	8	EB	0930	1145	3	5	W	1	8	0	0	0	0
24/11/2023	8	EB	0940	1240	1	5	N	0	1	2	2	0	0
24/11/2023	8	EB	0940	1240	2	4	N	0	3	2	2	0	0
24/11/2023	8	EB	0940	1240	3	4	N	0	1	2	2	0	0
24/11/2023	8	EB	1310	1510	1	5	N	0	1	2	2	0	0
24/11/2023	8	EB	1310	1510	2	5	N	0	1	2	2	0	0
29/11/2023	8	EB	0945	1245	1	4	N	0	0	2	2	1	0
29/11/2023	8	EB	0945	1245	2	4	N	0	0	2	2	1	0
29/11/2023	8	EB	0945	1245	3	3	N	0	2	2	2	1	0
29/11/2023	8	EB	1315	1515	1	4	N	0	4	2	2	1	0
29/11/2023	8	EB	1315	1515	2	4	N	0	7	2	2	1	0
18/12/2023	6	TH	0930	1230	1	3	SW	1	8	0	1	0	0
18/12/2023	6	TH	0930	1230	2	3	SW	2	8	1	1	0	0
18/12/2023	6	TH	0930	1230	3	2	SW	1	8	1	1	0	0
18/12/2023	6	TH	1300	1500	1	3	SW	3	8	1	1	0	0
18/12/2023	6	TH	1300	1500	2	3	SW	2	8	1	1	0	0
19/12/2023	7	EB	0955	1255	1	6	SW	3	8	1	1	0	0
19/12/2023	7	EB	0955	1255	2	6	SW	2	8	1	1	0	0
19/12/2023	7	EB	0955	1255	3	5	SW	2	8	2	2	0	0
19/12/2023	7	EB	1325	1525	1	6	SW	0	7	2	2	0	0
19/12/2023	7	EB	1325	1525	2	6	SW	0	6	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
19/12/2023	8	TH	1000	1300	1	5	SW	3	8	1	1	0	0
19/12/2023	8	TH	1000	1300	2	4	SW	2	8	1	1	0	0
19/12/2023	8	TH	1000	1300	3	4	SW	3	8	1	1	0	0
19/12/2023	8	TH	1330	1530	1	4	SW	0	8	1	1	0	0
19/12/2023	8	TH	1330	1530	2	4	SW	0	8	1	1	0	0
19/01/2024	8	EB	1010	1310	1	6	W	0	6	2	2	2	1
19/01/2024	8	EB	1010	1310	2	6	W	0	7	2	2	2	1
19/01/2024	8	EB	1010	1310	3	5	W	0	7	2	2	2	1
19/01/2024	8	EB	1340	1540	1	6	W	0	7	2	2	2	1
19/01/2024	8	EB	1340	1540	2	5	WNW	0	5	2	2	2	1
30/01/2024	7	LS	0955	1255	1	6	W	0	0	2	2	0	1
30/01/2024	7	LS	0955	1255	2	6	W	0	1	2	2	0	1
30/01/2024	7	LS	0955	1255	3	5	W	0	1	2	2	0	1
30/01/2024	7	LS	1325	1525	1	3	W	1	5	1	1	0	1
30/01/2024	7	LS	1325	1525	2	3	W	1	7	1	1	0	1
30/01/2024	8	EB	0955	1255	1	5	WNW	0	0	2	2	0	2
30/01/2024	8	EB	0955	1255	2	4	WNW	0	4	2	2	0	2
30/01/2024	8	EB	0955	1255	3	3	WNW	0	8	1	2	0	2
30/01/2024	8	EB	1325	1525	1	4	WNW	0	8	2	2	0	2
30/01/2024	8	EB	1325	1525	2	4	WNW	0	8	1	2	0	2
15/02/2024	6	MW	0800	1100	1	4	S	4	8	1	1	0	0
15/02/2024	6	MW	0800	1100	2	4	S	4	8	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
15/02/2024	6	MW	0800	1100	3	4	S	4	8	2	2	0	0
15/02/2024	6	MW	1130	1330	1	4	S	4	8	1	1	0	0
15/02/2024	6	MW	1130	1330	2	4	S	4	8	2	2	0	0
26/02/2024	6	LS	0930	1230	1	2	W	0	4	2	2	1	0
26/02/2024	6	LS	0930	1230	2	2	W	0	3	2	2	1	0
26/02/2024	6	LS	0930	1230	3	3	W	0	4	2	2	0	0
26/02/2024	6	LS	1300	1600	1	3	W	0	5	2	2	0	0
26/02/2024	6	LS	1300	1600	2	2	W	0	2	2	2	0	0
26/02/2024	6	LS	1300	1600	3	1	W	0	2	2	2	0	0
26/02/2024	7	EB	0950	1250	1	4	WNW	0	2	2	2	1	0
26/02/2024	7	EB	0950	1250	2	4	WNW	0	2	2	2	1	0
26/02/2024	7	EB	0950	1250	3	4	WNW	0	3	2	2	0	0
26/02/2024	7	EB	1320	1520	1	3	WNW	0	3	2	2	0	0
26/02/2024	7	EB	1320	1520	2	3	WNW	0	2	2	2	0	0
13/03/2024	7	LS	0945	1245	1	5	SW	2	8	1	1	0	0
13/03/2024	7	LS	0945	1245	2	5	SW	2	8	1	1	0	0
13/03/2024	7	LS	0945	1245	3	5	SW	1	8	2	2	0	0
13/03/2024	7	LS	1315	1515	1	4	SW	2	8	2	2	0	0
13/03/2024	7	LS	1315	1515	2	4	SW	1	8	2	2	0	0
18/03/2024	6	EB	0945	1245	1	3	S	0	5	2	2	0	0
18/03/2024	6	EB	0945	1245	2	3	S	0	6	2	2	0	0
18/03/2024	6	EB	0945	1245	3	4	S	0	7	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
18/03/2024	6	EB	1315	1615	1	4	S	0	7	2	2	0	0
18/03/2024	6	EB	1315	1615	2	4	S	0	8	2	2	0	0
18/03/2024	6	EB	1315	1615	3	4	S	0	8	2	2	0	0
18/03/2024	7	LS	0955	1255	1	3	S	0	6	2	2	0	0
18/03/2024	7	LS	0955	1255	2	3	S	0	6	2	2	0	0
18/03/2024	7	LS	0955	1255	3	3	S	0	5	2	2	0	0
18/03/2024	7	LS	1325	1625	1	3	S	0	7	2	2	0	0
18/03/2024	7	LS	1325	1625	2	3	S	0	8	1	1	0	0
18/03/2024	7	LS	1325	1625	3	3	S	0	8	1	2	0	0
20/03/2024	8	MW	0730	1030	1	4	N	0	8	1	1	0	0
20/03/2024	8	MW	0730	1030	2	5	N	0	8	1	1	0	0
20/03/2024	8	MW	0730	1030	3	5	N	2	8	1	1	0	0
20/03/2024	8	MW	1100	1300	1	5	N	2	8	1	1	0	0
20/03/2024	8	MW	1100	1300	2	5	N	0	8	1	1	0	0
02/04/2024	7	MW	0700	1000	1	2	NE	1	8	1	1	0	0
02/04/2024	7	MW	0700	1000	2	3	NE	4	8	0	0	0	0
02/04/2024	7	MW	0700	1000	3	3	NE	4	8	0	0	0	0
19/04/2024	6	JB	0800	1100	1	5	NW	0	4	2	2	0	0
19/04/2024	6	JB	0800	1100	2	4	NW	0	5	2	2	0	0
19/04/2024	6	JB	0800	1100	3	4	NW	1	8	1	2	0	0
19/04/2024	7	EB	0800	1100	1	6	NW	0	6	2	2	0	0
19/04/2024	7	EB	0800	1100	2	5	NW	1	7	1	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
19/04/2024	7	EB	0800	1100	3	5	NW	0	5	2	2	0	0
26/04/2024	8	MW	0900	1200	1	3	NE	0	7	2	2	0	0
26/04/2024	8	MW	0900	1200	2	4	NE	2	7	2	2	0	0
26/04/2024	8	MW	0900	1200	3	4	NE	2	6	2	2	0	0
26/04/2024	8	MW	1230	1430	1	4	NE	2	7	2	2	0	0
26/04/2024	8	MW	1230	1430	2	4	NE	2	8	2	2	0	0
13/05/2024	6	EB	0945	1245	1	3	E	0	8	1	2	0	0
13/05/2024	6	EB	0945	1245	2	3	ESE	0	7	2	2	0	0
13/05/2024	6	EB	0945	1245	3	3	E	0	7	2	2	0	0
13/05/2024	6	EB	1315	1615	1	3	E	0	8	2	2	0	0
13/05/2024	6	EB	1315	1615	2	3	ESE	0	8	2	2	0	0
13/05/2024	6	EB	1315	1615	3	3	ESE	0	8	2	2	0	0
13/05/2024	7	LS	0940	1240	1	5	SSE	1	8	1	1	0	0
13/05/2024	7	LS	0940	1240	2	4	SSE	0	8	2	2	0	0
13/05/2024	7	LS	0940	1240	3	4	SSE	0	8	2	2	0	0
13/05/2024	7	LS	1310	1610	1	4	SSE	0	7	2	2	0	0
13/05/2024	7	LS	1310	1610	2	4	SSE	0	7	2	2	0	0
13/05/2024	7	LS	1310	1610	3	3	SSE	0	6	2	2	0	0
24/05/2024	7	JB	0650	0950	1	0	-	1	8	0	0	0	0
24/05/2024	7	JB	0650	0950	2	0	-	1	8	0	1	0	0
24/05/2024	7	JB	0650	0950	3	0	-	0	8	0	1	0	0
24/05/2024	8	LS	0650	0950	1	2	SW	1	8	1	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
24/05/2024	8	LS	0650	0950	2	2	SW	1	8	1	2	0	0
24/05/2024	8	LS	0650	0950	3	2	SW	0	8	1	2	0	0
12/06/2024	8	MW	0630	0930	1	3	NW	0	7	2	2	0	0
12/06/2024	8	MW	0630	0930	2	3	NW	0	8	2	2	0	0
12/06/2024	8	MW	0630	0930	3	3	NW	0	8	2	2	0	0
12/06/2024	8	MW	1000	1300	1	3	NW	0	8	2	2	0	0
12/06/2024	8	MW	1000	1300	2	3	NW	0	8	2	2	0	0
12/06/2024	8	MW	1000	1300	3	4	NNW	0	8	2	2	0	0
27/06/2024	6	MW	0600	0900	1	5	SW	0	8	2	2	0	0
27/06/2024	6	MW	0600	0900	2	6	SW	2	8	2	2	0	0
27/06/2024	6	MW	0600	0900	3	6	SW	2	8	2	2	0	0
27/06/2024	6	MW	0930	1230	1	6	SW	3	8	2	2	0	0
27/06/2024	6	MW	0930	1230	2	6	SW	3	8	2	2	0	0
27/06/2024	6	MW	0930	1230	3	6	SW	3	8	2	2	0	0
28/06/2024	7	MW	0600	0900	1	3	NW	2	8	2	2	0	0
28/06/2024	7	MW	0600	0900	2	4	NW	3	8	2	2	0	0
28/06/2024	7	MW	0600	0900	3	4	NW	0	8	2	2	0	0
28/06/2024	7	MW	0930	1230	1	5	NW	3	8	2	2	0	0
28/06/2024	7	MW	0930	1230	2	5	NW	3	8	2	2	0	0
28/06/2024	7	MW	0930	1230	3	5	NW	3	8	2	2	0	0
26/07/2024	8	MW	0530	0830	1	4	S	0	8	2	2	0	0
26/07/2024	8	MW	0530	0830	2	5	S	0	7	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
26/07/2024	8	MW	0530	0830	3	5	S	0	6	2	2	0	0
26/07/2024	8	MW	0900	1200	1	5	S	2	6	2	2	0	0
26/07/2024	8	MW	0900	1200	2	5	S	0	8	2	2	0	0
26/07/2024	8	MW	0900	1200	3	5	S	0	8	2	2	0	0
30/07/2024	7	LS	0920	1220	1	5	W	0	4	2	2	0	0
30/07/2024	7	LS	0920	1220	2	5	W	0	4	2	2	0	0
30/07/2024	7	LS	0920	1220	3	5	W	0	4	2	2	0	0
30/07/2024	7	LS	1250	1550	1	4	W	0	4	2	2	0	0
30/07/2024	7	LS	1250	1550	2	4	W	0	5	2	2	0	0
30/07/2024	7	LS	1250	1550	3	4	W	0	4	2	2	0	0
30/07/2024	7	LS	1620	1635	1	4	W	0	4	2	2	0	0
31/07/2024	6	IH	1300	1600	1	1	SW	0	1	2	2	0	0
31/07/2024	6	IH	1300	1600	2	1	SW	0	1	2	2	0	0
31/07/2024	6	IH	1300	1600	3	1	SW	0	1	2	2	0	0
31/07/2024	6	IH	1630	1930	1	1	SW	0	1	2	2	0	0
31/07/2024	6	IH	1630	1930	2	1	SW	0	1	2	2	0	0
31/07/2024	6	IH	1630	1930	3	1	SW	0	1	2	2	0	0
12/08/2024	6	MW	0700	1000	1	5	SW	1	8	1	1	0	0
12/08/2024	6	MW	0700	1000	2	5	SW	1	8	1	1	0	0
12/08/2024	6	MW	0700	1000	3	5	SW	1	8	1	1	0	0
12/08/2024	6	MW	1030	1330	1	6	SW	1	8	1	1	0	0
12/08/2024	6	MW	1030	1330	2	6	SW	1	8	1	1	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
12/08/2024	6	MW	1030	1330	3	6	SW	1	8	1	1	0	0
13/08/2024	8	MW	0630	0930	1	5	SW	0	8	2	2	0	0
13/08/2024	8	MW	0630	0930	2	5	SW	0	8	2	2	0	0
13/08/2024	8	MW	0630	0930	3	5	WSW	2	8	2	2	0	0
13/08/2024	8	MW	1000	1300	1	6	WSW	2	8	2	2	0	0
13/08/2024	8	MW	1000	1300	2	6	WSW	2	8	2	2	0	0
13/08/2024	8	MW	1000	1300	3	6	WSW	4	8	2	2	0	0
21/08/2024	8	IH	1015	1315	1	6	SW	1	8	2	2	0	0
21/08/2024	8	IH	1015	1315	2	6	SW	1	8	1	1	0	0
21/08/2024	8	IH	1015	1315	3	7	SW	3	8	0	0	0	0
21/08/2024	8	IH	1345	1445	1	7	SW	3	8	0	0	0	0
26/08/2024	7	JR	0915	1215	1	3	S	1	8	2	2	0	0
26/08/2024	7	JR	0915	1215	2	3	SSW	2	7	2	1	0	0
26/08/2024	7	JR	0915	1215	3	3	SSW	3	7	1	1	0	0
26/08/2024	7	JR	1245	1545	1	3	SSW	3	7	2	1	0	0
26/08/2024	7	JR	1245	1545	2	3	SSW	3	7	2	2	0	0
26/08/2024	7	JR	1245	1545	3	3	SSW	4	8	1	1	0	0
26/08/2024	7	JR	1615	1645	1	3	SSW	4	8	1	1	0	0
29/08/2024	6	LS	1030	1330	1	3	SW	0	5	2	2	0	0
29/08/2024	6	LS	1030	1330	2	4	SW	0	5	2	2	0	0
29/08/2024	6	LS	1030	1330	3	4	SW	2	5	2	2	0	0
30/08/2024	8	LS	1015	1315	1	3	W	0	7	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
30/08/2024	8	LS	1015	1315	2	3	W	0	6	2	2	0	0
30/08/2024	8	LS	1015	1315	3	3	W	0	6	2	2	0	0
06/09/2024	7	IH	0945	1245	1	3	NE	0	0	2	2	0	0
06/09/2024	7	IH	0945	1245	2	4	NE	0	0	2	2	0	0
06/09/2024	7	IH	0945	1245	3	5	NE	0	0	2	2	0	0
06/09/2024	7	IH	1315	1615	1	5	NE	0	0	2	2	0	0
06/09/2024	7	IH	1315	1615	2	4	NE	0	0	2	2	0	0
06/09/2024	7	IH	1315	1615	3	3	NE	0	0	2	2	0	0
06/09/2024	8	LS	0930	1230	1	3	N	0	0	2	2	0	0
06/09/2024	8	LS	0930	1230	2	3	N	0	0	2	2	0	0
06/09/2024	8	LS	0930	1230	3	4	NNW	0	0	2	2	0	0
06/09/2024	8	LS	1300	1600	1	4	NNE	0	1	2	2	0	0
06/09/2024	8	LS	1300	1600	2	4	NE	0	0	2	2	0	0
06/09/2024	8	LS	1300	1600	3	4	NE	0	0	2	2	0	0
09/09/2024	6	LS	0915	1215	1	4	NW	0	4	2	2	0	0
09/09/2024	6	LS	0915	1215	2	4	NW	0	4	2	2	0	0
09/09/2024	6	LS	0915	1215	3	4	NW	0	7	2	2	0	0
09/09/2024	6	LS	1245	1545	1	4	NW	0	7	2	2	0	0
09/09/2024	6	LS	1245	1545	2	4	NW	0	8	2	2	0	0
09/09/2024	6	LS	1245	1545	3	5	NW	0	8	2	2	0	0
09/09/2024	8	IH	1000	1300	1	4	W	0	5	2	2	0	0
09/09/2024	8	IH	1000	1300	2	4	W	0	7	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
09/09/2024	8	IH	1000	1300	3	3	W	0	7	2	2	0	0
09/09/2024	8	IH	1330	1630	1	4	W	0	5	2	2	0	0
09/09/2024	8	IH	1330	1630	2	4	W	0	8	2	2	0	0
09/09/2024	8	IH	1330	1630	3	5	W	0	8	2	2	0	0
03/10/2024	8	MW	0730	1030	1	1	E	0	4	1	1	1	0
03/10/2024	8	MW	0730	1030	2	2	E	0	3	2	2	0	0
03/10/2024	8	MW	0730	1030	3	3	E	0	5	2	2	0	0
03/10/2024	8	MW	1100	1300	1	3	E	0	8	1	1	0	0
03/10/2024	8	MW	1100	1300	2	4	E	0	8	2	2	0	0
04/10/2024	6	TH	0915	1215	1	3	S	0	7	2	2	0	0
04/10/2024	6	TH	0915	1215	2	4	S	1	8	2	2	0	0
04/10/2024	6	TH	0915	1215	3	4	S	0	8	2	2	0	0
04/10/2024	6	TH	1245	1515	1	4	S	0	8	2	2	0	0
04/10/2024	6	TH	1245	1515	2	3	S	0	8	2	2	0	0
04/10/2024	6	TH	1245	1515	3	2	S	0	8	2	2	0	0
04/10/2024	7	LS	0945	1245	1	4	SSW	0	8	2	2	0	0
04/10/2024	7	LS	0945	1245	2	4	SSW	0	8	2	2	0	0
04/10/2024	7	LS	0945	1245	3	3	SSW	0	8	2	2	0	0
04/10/2024	7	LS	1315	1515	1	3	SSW	0	8	2	2	0	0
04/10/2024	7	LS	1315	1515	2	3	SSW	0	8	2	2	0	0
31/10/2024	7	TL	1003	1217	1	3	NNE	1	8	0	0	0	0
31/10/2024	7	TL	1003	1217	2	3	NNE	1	8	0	0	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
06/11/2024	6	JB	0915	1115	1	2	S	1	8	0	0	0	0
06/11/2024	6	JB	0915	1115	2	2	S	1	8	0	0	0	0
08/11/2024	6	JB	0915	1145	1	1	SSE	1	8	0	0	0	0
08/11/2024	6	JB	0915	1145	2	2	SE	0	8	0	0	0	0
08/11/2024	6	JB	0915	1145	3	2	SE	0	8	0	0	0	0
14/11/2024	7	ENS	0930	1230	1	1	NW	0	1	2	2	0	0
14/11/2024	7	ENS	0930	1230	2	1	W	0	2	2	2	0	0
14/11/2024	7	ENS	0930	1230	3	1	W	0	2	2	2	0	0
14/11/2024	7	ENS	1300	1500	1	1	W	0	2	2	2	0	0
14/11/2024	7	ENS	1300	1500	2	1	W	0	2	2	2	0	0
14/11/2024	8	EB	0945	1245	1	1	NNE	0	1	2	2	1	0
14/11/2024	8	EB	0945	1245	2	1	NNE	0	2	2	2	0	0
14/11/2024	8	EB	0945	1245	3	1	NNE	0	2	2	2	0	0
14/11/2024	8	EB	1315	1515	1	1	NNE	0	3	2	2	0	0
14/11/2024	8	EB	1315	1515	2	1	NNE	0	1	2	2	0	0
22/11/2024	7	TL	0940	1240	1	4	NE	0	7	2	2	2	0
22/11/2024	7	TL	0940	1240	2	5	NE	0	6	1	2	2	2
22/11/2024	7	TL	0940	1240	3	4	NE	0	8	2	2	2	0
22/11/2024	7	TL	1310	1510	1	4	NE	0	7	2	2	2	0
22/11/2024	7	TL	1310	1510	2	5	NE	0	8	1	2	2	0
29/11/2024	6	IH	0915	1215	1	5	S	0	8	1	0	0	1
29/11/2024	6	IH	0915	1215	2	5	S	0	8	2	2	0	1

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
29/11/2024	6	IH	0915	1215	3	5	S	0	7	2	2	0	1
29/11/2024	6	IH	1245	1545	1	5	S	0	7	2	2	0	1
29/11/2024	6	IH	1245	1545	2	5	S	0	7	2	2	0	1
29/11/2024	6	IH	1245	1545	3	5	S	0	8	2	2	0	1
11/12/2024	6	ENS	0900	1200	1	1	ENE	0	8	0	0	2	0
11/12/2024	6	ENS	0900	1200	2	1	SSW	0	8	0	0	2	0
11/12/2024	6	ENS	0900	1200	3	1	SSW	0	8	0	0	2	0
20/12/2024	7	LW	1000	1030	1	6	W	3	8	0	0	0	0
20/12/2024	8	ENS	0930	1030	1	5	SW	4	8	1	0	0	0
07/01/2025	6	IH	1030	1330	1	5	W	0	2	2	2	2	1
07/01/2025	6	IH	1030	1330	2	6	W	0	2	2	2	2	1
07/01/2025	6	IH	1030	1330	3	6	W	0	2	2	2	2	1
07/01/2025	6	IH	1400	1600	1	4	W	0	2	2	2	2	1
07/01/2025	6	IH	1400	1600	2	4	W	0	2	2	2	2	1
14/01/2025	6	LS	0930	1230	1	4	SW	0	4	2	2	0	0
14/01/2025	6	LS	0930	1230	2	4	SW	0	3	2	2	0	0
14/01/2025	6	LS	0930	1230	3	3	W	0	6	2	2	0	0
14/01/2025	6	LS	1300	1500	1	3	W	0	5	2	2	0	0
14/01/2025	6	LS	1300	1500	2	2	W	0	3	2	2	0	0
14/01/2025	7	IH	1020	1320	1	6	W	0	3	2	2	0	0
14/01/2025	7	IH	1020	1320	2	5	W	0	3	1	1	0	0
14/01/2025	7	IH	1020	1320	3	4	W	0	3	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
14/01/2025	7	IH	1350	1550	1	4	W	0	3	1	2	0	0
14/01/2025	7	IH	1350	1550	2	4	W	0	3	2	2	0	0
20/01/2025	8	LW	0900	1200	1	3	SSE	1	8	1	0	0	0
20/01/2025	8	LW	0900	1200	2	3	SSE	1	8	1	0	0	0
20/01/2025	8	LW	0900	1200	3	3	SSE	1	8	1	0	0	0
20/01/2025	7	TL	0945	1200	1	2	SSE	0	8	0	0	0	0
20/01/2025	7	TL	0945	1200	2	2	SSE	0	8	0	0	0	0
21/01/2025	6	LW	1300	1400	1	2	SW	1	6	1	0	0	0
21/01/2025	7	LW	0930	1200	1	2	SW	0	8	1	1	0	0
21/01/2025	7	LW	0930	1200	2	2	SSW	1	8	1	1	0	0
21/01/2025	7	LW	0930	1200	3	3	SSW	1	8	1	0	0	0
29/01/2025	7	TH	1000	1300	1	5	NW	0	2	2	2	1	2
29/01/2025	7	TH	1000	1300	2	5	NW	0	2	2	2	1	2
29/01/2025	7	TH	1000	1300	3	5	NW	0	4	2	2	1	2
29/01/2025	7	TH	1330	1530	1	5	NW	0	4	2	2	1	2
29/01/2025	7	TH	1330	1530	2	5	NW	0	3	2	2	1	2
29/01/2025	8	LS	1000	1300	1	5	N	0	1	2	2	1	2
29/01/2025	8	LS	1000	1300	2	5	N	0	1	2	2	1	2
29/01/2025	8	LS	1000	1300	3	5	N	0	1	2	2	1	2
29/01/2025	8	LS	1330	1530	1	4	N	0	1	2	2	0	2
29/01/2025	8	LS	1330	1530	2	4	N	0	2	2	2	0	2
10/02/2025	6	JB	0950	1250	1	1	ESE	0	6	1	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
10/02/2025	6	JB	0950	1250	2	3	ESE	0	8	1	2	0	1
10/02/2025	6	JB	0950	1250	3	3	ESE	0	7	1	2	0	0
10/02/2025	6	JB	1320	1520	1	3	ESE	0	4	1	2	0	0
10/02/2025	6	JB	1320	1520	2	3	ESE	0	8	1	2	0	0
10/02/2025	7	TH	1000	1300	1	4	E	2	8	1	1	2	1
10/02/2025	7	TH	1000	1300	2	5	E	2	8	1	1	2	1
10/02/2025	7	TH	1000	1300	3	5	E	2	8	1	1	2	1
10/02/2025	7	TH	1330	1500	1	5	E	0	6	2	2	2	1
10/02/2025	7	TH	1330	1500	2	4	E	0	6	2	2	2	1
13/02/2025	8	TL	0940	1240	1	4	W	0	8	2	2	2	0
13/02/2025	8	TL	0940	1240	2	4	W	0	8	2	2	2	0
13/02/2025	8	TL	0940	1240	3	4	NW	0	8	2	2	2	1
13/02/2025	8	TL	1310	1510	1	4	NW	0	8	2	2	2	0
13/02/2025	8	TL	1310	1510	2	4	NW	0	8	2	2	2	0
14/02/2025	6	ENS	1000	1300	1	5	E	0	7	2	2	1	1
14/02/2025	6	ENS	1000	1300	2	5	SE	0	5	2	2	1	1
14/02/2025	6	ENS	1000	1300	3	5	SE	0	4	2	2	1	1
14/02/2025	6	ENS	1330	1430	1	4	SE	0	5	2	2	1	1
14/02/2025	8	JB	1010	1310	1	5	ESE	0	6	1	2	0	0
14/02/2025	8	JB	1010	1310	2	5	ESE	0	5	1	2	0	0
14/02/2025	8	JB	1010	1310	3	5	ESE	0	4	1	2	0	0
14/02/2025	8	JB	1340	1440	1	5	ESE	0	5	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
18/03/2025	6	TH	1015	1315	1	3	SE	0	2	2	2	0	0
18/03/2025	6	TH	1015	1315	2	3	SE	0	2	2	2	0	0
18/03/2025	6	TH	1015	1315	3	3	SE	0	1	2	2	0	0
18/03/2025	6	TH	1345	1515	1	3	SE	0	0	2	2	0	0
18/03/2025	6	TH	1345	1515	2	3	SE	0	0	2	2	0	0
18/03/2025	7	LS	1045	1245	1	3	SE	0	1	2	2	0	0
18/03/2025	7	LS	1045	1245	2	3	SE	0	1	2	2	0	0
18/03/2025	7	LS	1045	1245	3	3	SE	0	2	2	2	0	0
18/03/2025	7	LS	1315	1515	1	3	SE	0	0	2	2	0	0
26/03/2025	8	TH	1200	1500	1	3	SW	0	4	2	2	0	0
26/03/2025	8	TH	1200	1500	2	4	SW	0	4	2	2	0	0
26/03/2025	8	TH	1200	1500	3	4	SW	0	4	2	2	0	0
17/04/2025	6	LS	0920	1220	1	3	SW	1	8	1	2	0	0
17/04/2025	6	LS	0920	1220	2	3	SW	1	7	2	2	0	0
17/04/2025	6	LS	0920	1220	3	3	SW	2	7	2	2	0	0
17/04/2025	6	LS	1250	1550	1	3	WSW	1	7	2	2	0	0
17/04/2025	6	LS	1250	1550	2	2	WSW	0	6	2	2	0	0
17/04/2025	6	LS	1250	1550	3	3	WSW	0	5	2	2	0	0
17/04/2025	7	LM	1015	1315	1	5	W	1	8	2	2	0	0
17/04/2025	7	LM	1015	1315	2	5	W	1	8	2	1	0	0
17/04/2025	7	LM	1015	1315	3	5	W	2	8	1	1	0	0
17/04/2025	7	LM	1345	1645	1	4	W	1	8	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
17/04/2025	7	LM	1345	1645	2	4	W	0	8	2	2	0	0
17/04/2025	7	LM	1345	1645	3	4	W	0	8	2	2	0	0
18/04/2025	6	LM	0815	1115	1	3	E	1	8	2	2	0	0
18/04/2025	6	LM	0815	1115	2	3	E	0	8	2	2	0	0
18/04/2025	6	LM	0815	1115	3	3	E	0	8	2	2	0	0
18/04/2025	7	LS	0810	1110	1	2	ENE	1	8	2	2	0	0
18/04/2025	7	LS	0810	1110	2	3	E	0	8	2	2	0	0
18/04/2025	7	LS	0810	1110	3	3	E	0	7	2	2	0	0
18/04/2025	8	IH	0815	1115	1	3	E	1	8	2	2	0	0
18/04/2025	8	IH	0815	1115	2	3	E	0	8	2	2	0	0
18/04/2025	8	IH	0815	1115	3	4	E	0	8	2	2	0	0
24/04/2025	8	JB	0945	1245	1	2	SE	0	6	1	2	0	0
24/04/2025	8	JB	0945	1245	2	2	SE	0	4	2	2	0	0
24/04/2025	8	JB	0945	1245	3	2	SE	0	6	1	2	0	0
24/04/2025	8	JB	1315	1615	1	2	SE	0	3	2	2	0	0
24/04/2025	8	JB	1315	1615	2	2	SE	0	2	2	2	0	0
24/04/2025	8	JB	1315	1615	3	2	SE	0	3	2	2	0	0
02/05/2025	7	IH	1000	1300	1	5	NW	0	4	2	2	0	0
02/05/2025	7	IH	1000	1300	2	5	NW	0	4	2	2	0	0
02/05/2025	7	IH	1000	1300	3	5	NW	0	5	2	2	0	0
02/05/2025	7	IH	1330	1630	1	5	NW	0	7	2	2	0	0
02/05/2025	7	IH	1330	1630	2	5	NW	0	8	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
02/05/2025	7	IH	1330	1630	3	5	NW	0	6	2	2	0	0
09/05/2025	6	LS	0715	0945	1	1	SSE	0	0	2	2	0	0
09/05/2025	6	LS	0715	0945	2	1	SSE	0	0	2	2	0	0
09/05/2025	6	LS	0715	0945	3	1	SSE	0	0	2	2	0	0
16/05/2025	6	IH	0700	1000	1	1	N	0	0	2	2	0	0
16/05/2025	6	IH	0700	1000	2	2	ENE	0	0	2	2	0	0
16/05/2025	6	IH	0700	1000	3	2	NE	0	0	2	2	0	0
16/05/2025	7	LS	0700	0900	1	1	N	0	0	2	2	0	0
16/05/2025	7	LS	0700	0900	2	1	N	0	0	2	2	0	0
30/05/2025	8	LML	1045	1345	1	4	W	1	7	2	2	0	0
30/05/2025	8	LML	1045	1345	2	4	W	0	6	2	2	0	0
30/05/2025	8	LML	1045	1345	3	4	W	0	6	2	2	0	0
30/05/2025	8	LML	1415	1715	1	4	WSW	0	6	2	2	0	0
30/05/2025	8	LML	1415	1715	2	4	W	0	5	2	2	0	0
30/05/2025	8	LML	1415	1715	3	4	W	0	5	2	2	0	0
25/06/2025	7	LML	1000	1300	1	2	SW	0	8	2	2	0	0
25/06/2025	7	LML	1000	1300	2	2	SW	0	8	2	2	0	0
25/06/2025	7	LML	1000	1300	3	3	SSW	1	8	2	2	0	0
25/06/2025	7	LML	1330	1630	1	2	SSW	1	8	2	2	0	0
25/06/2025	7	LML	1330	1630	2	2	SW	0	8	2	2	0	0
25/06/2025	7	LML	1330	1630	3	2	SW	0	8	2	2	0	0
26/06/2025	8	LML	1000	1300	1	5	SW	1	8	2	1	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
26/06/2025	8	LML	1000	1300	2	4	SW	0	8	2	2	0	0
26/06/2025	8	LML	1000	1300	3	4	SW	0	6	2	2	0	0
26/06/2025	8	LML	1330	1630	1	5	WSW	0	4	2	2	0	0
26/06/2025	8	LML	1330	1630	2	4	WSW	0	6	2	2	0	0
26/06/2025	8	LML	1330	1630	3	5	WSW	0	6	2	2	0	0
27/06/2025	6	MW	0630	0930	1	3	SW	1	8	1	1	0	0
27/06/2025	6	MW	0630	0930	2	4	SW	1	8	1	1	0	0
27/06/2025	6	MW	0630	0930	3	4	SW	2	8	1	1	0	0
27/06/2025	6	MW	1000	1300	1	4	SW	2	8	1	1	0	0
27/06/2025	6	MW	1000	1300	2	4	SW	1	8	0	0	0	0
27/06/2025	6	MW	1000	1300	3	4	SW	1	8	0	0	0	0
14/07/2025	6	LML	0940	1240	1	3	SE	1	8	1	1	0	0
14/07/2025	6	LML	0940	1240	2	4	SE	4	8	2	2	0	0
14/07/2025	6	LML	0940	1240	3	3	S	3	8	2	2	0	0
14/07/2025	6	LML	1310	1610	1	3	S	2	8	2	2	0	0
14/07/2025	6	LML	1310	1610	2	3	S	0	8	2	2	0	0
14/07/2025	6	LML	1310	1610	3	4	S	2	8	2	2	0	0
28/07/2025	7	IH	0940	1240	1	4	W	2	8	1	1	0	0
28/07/2025	7	IH	0940	1240	2	3	W	0	8	2	2	0	0
28/07/2025	7	IH	0940	1240	3	3	W	0	8	2	2	0	0
28/07/2025	7	IH	1310	1610	1	3	W	0	8	2	2	0	0
28/07/2025	7	IH	1310	1610	2	3	W	0	8	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
28/07/2025	7	IH	1310	1610	3	4	W	1	8	2	2	0	0
28/07/2025	8	LML	0950	1250	1	3	W	2	8	2	2	0	0
28/07/2025	8	LML	0950	1250	2	3	W	0	8	2	2	0	0
28/07/2025	8	LML	0950	1250	3	3	W	0	8	2	2	0	0
28/07/2025	8	LML	1320	1620	1	3	W	0	8	2	2	0	0
28/07/2025	8	LML	1320	1620	2	3	WNW	0	7	2	2	0	0
28/07/2025	8	LML	1320	1620	3	3	WNW	0	7	2	2	0	0
01/08/2025	6	LML	0920	1020	1	3	NNW	0	8	2	2	0	0
01/08/2025	7	LML	1145	1445	1	4	NNW	0	8	2	2	0	0
01/08/2025	7	LML	1145	1445	2	4	NNW	0	8	2	2	0	0
01/08/2025	7	LML	1145	1445	3	4	NW	0	8	2	2	0	0
13/08/2025	8	ENS	0900	1200	1	1	SE	0	1	2	2	0	0
13/08/2025	8	ENS	0900	1200	2	2	SSE	0	0	2	2	0	0
13/08/2025	8	ENS	0900	1200	3	2	SSE	0	0	2	2	0	0
13/08/2025	8	ENS	1230	1530	1	2	SSE	0	1	2	2	0	0
13/08/2025	8	ENS	1230	1530	2	2	SSE	0	1	2	2	0	0
13/08/2025	8	ENS	1230	1530	3	2	SSE	0	1	2	2	0	0
22/08/2025	6	LW	0815	1115	1	4	NW	0	7	2	2	0	0
22/08/2025	6	LW	0815	1115	2	3	NW	0	6	2	2	0	0
22/08/2025	6	LW	0815	1115	3	3	NW	0	6	2	2	0	0
22/08/2025	6	LW	1145	1445	1	3	NW	0	6	2	2	0	0
22/08/2025	6	LW	1145	1445	2	3	NW	0	5	2	2	0	0

Date	VP	Observer	Survey Start Time	Survey Finish Time	Survey Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
22/08/2025	6	LW	1145	1445	3	3	NW	0	6	2	2	0	0

C.2 Scarce Breeding Bird Surveys

Scarce breeding bird surveys were undertaken during the 2023, 2024 and 2025 breeding seasons. **Table C-4** details survey dates and weather data recorded.

Table C-4: Meteorological conditions during scarce breeding bird surveys (sorted chronologically)

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
16/03/2023	1	MW	0700	1300	1	6	SSW	4	8	1	1	0	1
16/03/2023	1	MW	0700	1300	2	6	SSW	4	8	1	1	0	1
16/03/2023	1	MW	0700	1300	3	6	SSW	4	8	1	1	0	1
16/03/2023	1	MW	0700	1300	4	6	SSW	4	8	1	1	0	1
16/03/2023	1	MW	0700	1300	5	7	SSW	3	8	1	1	0	1
16/03/2023	1	MW	0700	1300	6	6	SSW	3	8	1	1	0	1
17/03/2023	1	MW	0645	1145	1	3	SSW	4	8	1	1	0	0
17/03/2023	1	MW	0645	1145	2	3	SSW	4	8	1	1	0	0
17/03/2023	1	MW	0645	1145	3	4	SSW	4	8	1	1	0	0
17/03/2023	1	MW	0645	1145	4	4	SSW	4	8	1	1	0	0
17/03/2023	1	MW	0645	1145	5	4	SSW	3	8	1	1	0	0
20/03/2023	1	MW	0730	1330	1	3	S	2	8	1	1	0	0
20/03/2023	1	MW	0730	1330	2	3	S	2	8	1	1	0	0
20/03/2023	1	MW	0730	1330	3	4	S	3	8	1	1	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
20/03/2023	1	MW	0730	1330	4	4	S	3	8	1	1	0	0
20/03/2023	1	MW	0730	1330	5	4	S	2	8	1	1	0	0
20/03/2023	1	MW	0730	1330	6	4	S	2	8	1	1	0	0
13/04/2023	2	JR	0800	1400	1	2	SW	1	8	1	0	0	0
13/04/2023	2	JR	0800	1400	2	2	SW	1	7	1	1	0	0
13/04/2023	2	JR	0800	1400	3	2	SW	0	7	2	2	0	0
13/04/2023	2	JR	0800	1400	4	2	W	0	6	2	2	0	0
13/04/2023	2	JR	0800	1400	5	2	NW	0	5	2	2	0	0
13/04/2023	2	JR	0800	1400	6	2	NW	0	5	2	2	0	0
13/04/2023	2	JRM	0800	1400	1	2	WNW	1	8	1	0	0	2
13/04/2023	2	JRM	0800	1400	2	2	NW	1	7	1	1	0	2
13/04/2023	2	JRM	0800	1400	3	2	NW	0	7	2	2	0	0
13/04/2023	2	JRM	0800	1400	4	2	NW	0	6	2	2	0	0
13/04/2023	2	JRM	0800	1400	5	2	NW	0	6	2	2	0	0
13/04/2023	2	JRM	0800	1400	6	2	NW	0	5	2	2	0	0
14/04/2023	2	JR	0745	1345	1	3	SW	0	3	2	2	0	0
14/04/2023	2	JR	0745	1345	2	3	SW	0	2	2	2	0	0
14/04/2023	2	JR	0745	1345	3	4	SSW	0	4	2	2	0	0
14/04/2023	2	JR	0745	1345	4	2	S	0	5	2	2	0	0
14/04/2023	2	JR	0745	1345	5	2	S	2	6	2	2	0	0
14/04/2023	2	JR	0745	1345	6	2	S	2	7	2	2	0	0
14/04/2023	2	JRM	0745	1345	1	4	S	0	3	1	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
14/04/2023	2	JRM	0745	1345	2	3	SSE	0	2	2	2	0	0
14/04/2023	2	JRM	0745	1345	3	3	SE	0	3	2	2	0	0
14/04/2023	2	JRM	0745	1345	4	2	S	0	5	2	2	0	0
14/04/2023	2	JRM	0745	1345	5	2	S	0	6	2	2	0	0
14/04/2023	2	JRM	0745	1345	6	2	S	0	7	2	2	0	0
08/05/2023	3	JR	0820	1420	1	2	S	4	8	1	1	0	0
08/05/2023	3	JR	0820	1420	2	3	S	4	8	1	1	0	0
08/05/2023	3	JR	0820	1420	3	3	SSW	3	8	1	1	0	0
08/05/2023	3	JR	0820	1420	4	2	SSW	3	8	0	1	0	0
08/05/2023	3	JR	0820	1420	5	3	SSW	2	8	1	1	0	0
08/05/2023	3	JR	0820	1420	6	3	SSW	2	8	1	0	0	0
10/05/2023	3	JR	0815	1415	1	2	SW	1	8	1	1	0	0
10/05/2023	3	JR	0815	1415	2	2	SW	2	8	1	1	0	0
10/05/2023	3	JR	0815	1415	3	2	SW	3	7	2	2	0	0
10/05/2023	3	JR	0815	1415	4	3	SW	3	7	2	2	0	0
10/05/2023	3	JR	0815	1415	5	3	SW	3	7	2	2	0	0
10/05/2023	3	JR	0815	1415	6	3	SW	3	7	2	2	0	0
11/05/2023	3	JR	0745	1345	1	2	SSE	0	7	2	2	0	0
11/05/2023	3	JR	0745	1345	2	2	SSE	0	7	2	2	0	0
11/05/2023	3	JR	0745	1345	3	2	SSE	0	5	2	2	0	0
11/05/2023	3	JR	0745	1345	4	2	SE	0	4	2	2	0	0
11/05/2023	3	JR	0745	1345	5	2	SE	0	4	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
11/05/2023	3	JR	0745	1345	6	1	SSE	2	7	2	2	0	0
12/05/2023	3	JR	0750	1350	1	1	NE	0	7	1	2	0	0
12/05/2023	3	JR	0750	1350	2	1	NE	0	7	2	2	0	0
12/05/2023	3	JR	0750	1350	3	1	NE	0	6	2	2	0	0
12/05/2023	3	JR	0750	1350	4	1	NNE	0	7	2	2	0	0
12/05/2023	3	JR	0750	1350	5	2	NNE	0	5	2	2	0	0
12/05/2023	3	JR	0750	1350	6	2	NNE	0	4	2	2	0	0
26/06/2023	4	JRM	0720	1520	1	2	W	0	3	2	2	0	0
26/06/2023	4	JRM	0720	1520	2	2	WSW	0	5	2	2	0	0
26/06/2023	4	JRM	0720	1520	3	3	WSW	0	5	2	2	0	0
26/06/2023	4	JRM	0720	1520	4	3	W	0	4	2	2	0	0
26/06/2023	4	JRM	0720	1520	5	3	W	0	4	2	2	0	0
26/06/2023	4	JRM	0720	1520	6	3	W	0	4	2	2	0	0
26/06/2023	4	JRM	0720	1520	7	3	W	0	4	2	2	0	0
26/06/2023	4	JRM	0720	1520	8	3	W	0	4	2	2	0	0
27/06/2023	4	JRM	1040	1440	1	3	SSW	3	8	0	1	0	0
27/06/2023	4	JRM	1040	1440	2	3	SSW	2	8	0	1	0	0
27/06/2023	4	JRM	1040	1440	3	3	SSW	2	8	0	1	0	0
27/06/2023	4	JRM	1040	1440	4	3	SSW	2	8	0	1	0	0
28/06/2023	4	JRM	0830	1330	1	1	S	0	8	0	1	0	0
28/06/2023	4	JRM	0830	1330	2	1	WNW	2	8	0	1	0	0
28/06/2023	4	JRM	0830	1330	3	1	NNW	2	8	0	1	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
28/06/2023	4	JRM	0830	1330	4	1	NNW	3	8	0	1	0	0
28/06/2023	4	JRM	0830	1330	5	2	NNW	4	8	0	1	0	0
05/07/2023	5	JR	0720	1320	1	1	W	0	7	2	2	0	0
05/07/2023	5	JR	0720	1320	2	2	W	2	6	2	2	0	0
05/07/2023	5	JR	0720	1320	3	2	W	0	7	2	2	0	0
05/07/2023	5	JR	0720	1320	4	2	W	0	6	2	2	0	0
05/07/2023	5	JR	0720	1320	5	2	WSW	0	6	2	2	0	0
06/07/2023	5	JR	0745	1445	1	3	SW	0	6	2	2	0	0
06/07/2023	5	JR	0745	1445	2	4	SW	0	8	2	2	0	0
06/07/2023	5	JR	0745	1445	3	4	SW	0	7	2	2	0	0
06/07/2023	5	JR	0745	1445	4	4	SW	2	7	2	2	0	0
06/07/2023	5	JR	0745	1445	5	4	SSW	2	8	2	2	0	0
06/07/2023	5	JR	0745	1445	6	3	SSW	2	8	1	1	0	0
06/07/2023	5	JR	0745	1445	7	4	SSW	2	8	2	2	0	0
09/08/2023	6	JRM	0720	1320	1	3	SW	0	8	2	2	0	0
09/08/2023	6	JRM	0720	1320	2	2	SW	0	7	2	2	0	0
09/08/2023	6	JRM	0720	1320	3	2	SW	0	7	2	2	0	0
09/08/2023	6	JRM	0720	1320	4	2	SW	0	8	2	2	0	0
09/08/2023	6	JRM	0720	1320	5	2	SW	0	8	2	2	0	0
09/08/2023	6	JRM	0720	1320	6	2	SW	0	8	2	2	0	0
10/08/2023	6	JRM	0815	1415	1	1	SSE	1	8	0	0	0	0
10/08/2023	6	JRM	0815	1415	2	1	SSE	1	8	0	0	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
10/08/2023	6	JRM	0815	1415	3	1	SSE	0	8	1	1	0	0
10/08/2023	6	JRM	0815	1415	4	1	SSE	0	8	1	2	0	0
10/08/2023	6	JRM	0815	1415	5	1	SSE	0	8	2	2	0	0
10/08/2023	6	JRM	0815	1415	6	2	SSE	0	7	2	2	0	0
05/03/2024	7	JRM	0820	1420	1	3	S	0	6	2	2	0	0
05/03/2024	7	JRM	0820	1420	2	3	S	0	6	2	2	0	0
05/03/2024	7	JRM	0820	1420	3	3	S	0	5	2	2	0	0
05/03/2024	7	JRM	0820	1420	4	3	S	0	5	2	2	0	0
05/03/2024	7	JRM	0820	1420	5	2	S	0	5	2	2	0	0
05/03/2024	7	JRM	0820	1420	6	2	S	0	5	2	2	0	0
06/03/2024	7	JRM	0815	1415	1	4	SE	0	7	2	2	0	0
06/03/2024	7	JRM	0815	1415	2	4	SE	0	7	2	2	0	0
06/03/2024	7	JRM	0815	1415	3	4	SE	0	7	2	2	0	0
06/03/2024	7	JRM	0815	1415	4	4	SE	0	6	2	2	0	0
06/03/2024	7	JRM	0815	1415	5	4	SE	0	6	2	2	0	0
06/03/2024	7	JRM	0815	1415	6	4	SE	0	7	2	2	0	0
29/04/2024	8	JR	0745	1345	1	3	S	4	8	1	1	0	0
29/04/2024	8	JR	0745	1345	2	3	S	3	8	2	2	0	0
29/04/2024	8	JR	0745	1345	3	4	SSE	3	8	1	1	0	0
29/04/2024	8	JR	0745	1345	4	4	SSE	3	8	1	1	0	0
29/04/2024	8	JR	0745	1345	5	4	SSE	4	8	1	1	0	0
29/04/2024	8	JR	0745	1345	6	4	SSE	4	8	0	1	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
30/04/2024	8	JR	0815	1415	1	2	SSE	3	8	1	1	0	0
30/04/2024	8	JR	0815	1415	2	2	SSE	4	8	1	1	0	0
30/04/2024	8	JR	0815	1415	3	2	SSE	3	8	1	1	0	0
30/04/2024	8	JR	0815	1415	4	3	SE	3	8	2	2	0	0
30/04/2024	8	JR	0815	1415	5	3	SE	1	6	2	2	0	0
30/04/2024	8	JR	0815	1415	6	3	SE	2	8	2	2	0	0
07/05/2024	9	JR	0800	1400	1	1	ESE	0	8	2	2	0	0
07/05/2024	9	JR	0800	1400	2	1	E	0	7	2	2	0	0
07/05/2024	9	JR	0800	1400	3	2	SE	0	6	2	2	0	0
07/05/2024	9	JR	0800	1400	4	3	SE	0	6	2	2	0	0
07/05/2024	9	JR	0800	1400	5	2	SE	0	6	2	2	0	0
07/05/2024	9	JR	0800	1400	6	2	SE	0	7	2	2	0	0
08/05/2024	9	JR	0800	1400	1	2	SSW	1	8	2	2	0	0
08/05/2024	9	JR	0800	1400	2	2	SW	0	8	2	2	0	0
08/05/2024	9	JR	0800	1400	3	3	SSW	0	8	2	2	0	0
08/05/2024	9	JR	0800	1400	4	3	SSW	0	7	2	2	0	0
08/05/2024	9	JR	0800	1400	5	3	SSW	0	6	2	2	0	0
08/05/2024	9	JR	0800	1400	6	3	SSW	0	6	2	2	0	0
19/06/2024	10	JRM	0800	1500	1	1	S	0	8	2	2	0	0
19/06/2024	10	JRM	0800	1500	2	1	S	0	8	2	2	0	0
19/06/2024	10	JRM	0800	1500	3	2	SSW	0	7	2	2	0	0
19/06/2024	10	JRM	0800	1500	4	3	SSW	0	6	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
19/06/2024	10	JRM	0800	1500	5	3	SSW	0	7	2	2	0	0
19/06/2024	10	JRM	0800	1500	6	2	SSW	0	6	2	2	0	0
19/06/2024	10	JRM	0800	1500	7	2	SW	0	5	2	2	0	0
20/06/2024	10	JRM	0825	1325	1	2	SSE	0	8	2	2	0	0
20/06/2024	10	JRM	0825	1325	2	3	SSE	0	8	2	2	0	0
20/06/2024	10	JRM	0825	1325	3	3	S	0	8	2	2	0	0
20/06/2024	10	JRM	0825	1325	4	2	SSW	0	7	2	2	0	0
20/06/2024	10	JRM	0825	1325	5	2	SSW	0	6	2	2	0	0
16/07/2024	11	MW	0700	1300	1	2	WNW	0	8	2	2	0	0
16/07/2024	11	MW	0700	1300	2	3	WNW	0	8	2	2	0	0
16/07/2024	11	MW	0700	1300	3	4	WNW	0	8	2	2	0	0
16/07/2024	11	MW	0700	1300	4	4	WNW	0	8	2	2	0	0
16/07/2024	11	MW	0700	1300	5	5	WNW	0	8	2	2	0	0
16/07/2024	11	MW	0700	1300	6	5	WNW	4	8	1	1	0	0
09/08/2024	12	MW	0600	1200	1	5	WSW	3	8	2	2	0	0
09/08/2024	12	MW	0600	1200	2	5	WSW	3	8	2	2	0	0
09/08/2024	12	MW	0600	1200	3	6	WSW	0	8	2	2	0	0
09/08/2024	12	MW	0600	1200	4	6	WSW	3	8	2	2	0	0
09/08/2024	12	MW	0600	1200	5	6	WSW	2	7	2	2	0	0
09/08/2024	12	MW	0600	1200	6	6	WSW	3	8	2	2	0	0
13/03/2025	13	IH	1030	1600	1	2	NW	0	7	2	2	0	0
13/03/2025	13	IH	1030	1600	2	2	NW	0	7	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
13/03/2025	13	IH	1030	1600	3	2	NW	0	7	2	2	0	0
13/03/2025	13	IH	1030	1600	4	2	NW	0	7	2	2	0	0
13/03/2025	13	IH	1030	1600	5	2	NW	0	7	2	2	0	0
13/03/2025	13	IH	1030	1600	6	2	NW	0	7	2	2	0	0
13/03/2025	13	JRM	1020	1520	1	2	NW	0	7	2	2	0	0
13/03/2025	13	JRM	1020	1520	2	2	NW	0	7	2	2	0	0
13/03/2025	13	JRM	1020	1520	3	2	NW	0	7	2	2	0	0
13/03/2025	13	JRM	1020	1520	4	2	NW	0	6	2	2	0	0
13/03/2025	13	JRM	1020	1520	5	2	NW	0	7	2	2	0	0
14/03/2025	13	IH	1000	1630	1	3	NW	0	7	2	2	0	0
14/03/2025	13	IH	1000	1630	2	3	NW	0	7	2	2	0	0
14/03/2025	13	IH	1000	1630	3	3	NW	0	7	2	2	0	0
14/03/2025	13	IH	1000	1630	4	3	NW	0	6	2	2	0	0
14/03/2025	13	IH	1000	1630	5	3	NW	0	5	2	2	0	0
14/03/2025	13	IH	1000	1630	6	3	NW	0	5	2	2	0	0
14/03/2025	13	IH	1000	1630	7	3	NW	0	4	2	2	0	0
15/04/2025	14	IH	0845	1445	1	2	N	0	7	2	2	0	0
15/04/2025	14	IH	0845	1445	2	1	N	0	8	2	2	0	0
15/04/2025	14	IH	0845	1445	3	1	N	0	7	2	2	0	0
15/04/2025	14	IH	0845	1445	4	3	N	0	8	2	2	0	0
15/04/2025	14	IH	0845	1445	5	2	N	0	8	2	2	0	0
15/04/2025	14	IH	0845	1445	6	2	N	0	8	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
15/04/2025	14	LS	0845	1445	1	2	N	0	7	2	2	0	0
15/04/2025	14	LS	0845	1445	2	1	N	0	8	2	2	0	0
15/04/2025	14	LS	0845	1445	3	1	N	0	6	2	2	0	0
15/04/2025	14	LS	0845	1445	4	2	N	0	6	2	2	0	0
15/04/2025	14	LS	0845	1445	5	2	N	0	6	2	2	0	0
15/04/2025	14	LS	0845	1445	6	2	N	0	6	2	2	0	0
16/04/2025	14	IH	0845	1445	1	4	NE	2	8	2	2	0	0
16/04/2025	14	IH	0845	1445	2	4	NE	2	8	2	2	0	0
16/04/2025	14	IH	0845	1445	3	4	NE	2	8	1	1	0	0
16/04/2025	14	IH	0845	1445	4	4	NE	2	8	1	1	0	0
16/04/2025	14	IH	0845	1445	5	3	NE	2	8	2	2	0	0
16/04/2025	14	IH	0845	1445	6	3	NE	2	8	2	2	0	0
08/05/2025	15	MW	0700	1000	1	2	NE	0	3	2	2	0	0
08/05/2025	15	MW	0700	1000	2	3	NE	0	3	2	2	0	0
08/05/2025	15	MW	0700	1000	3	3	NE	0	3	2	2	0	0
09/05/2025	15	MW	0700	1000	1	2	W	0	3	2	2	0	0
09/05/2025	15	MW	0700	1000	2	2	W	0	3	2	2	0	0
09/05/2025	15	MW	0700	1000	3	3	W	0	2	2	2	0	0
14/05/2025	15	IH	0910	1510	1	2	NE	0	6	2	2	0	0
14/05/2025	15	IH	0910	1510	2	2	NE	0	4	2	2	0	0
14/05/2025	15	IH	0910	1510	3	2	NE	0	1	2	2	0	0
14/05/2025	15	IH	0910	1510	4	2	NE	0	1	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
14/05/2025	15	IH	0910	1510	5	1	NE	0	0	2	2	0	0
14/05/2025	15	IH	0910	1510	6	1	NE	0	0	2	2	0	0
12/06/2025	16	ENS	0900	1500	1	4	SE	0	8	2	2	0	0
12/06/2025	16	ENS	0900	1500	2	4	ESE	0	7	2	2	0	0
12/06/2025	16	ENS	0900	1500	3	4	ESE	0	7	2	2	0	0
12/06/2025	16	ENS	0900	1500	4	3	ESE	0	6	2	2	0	0
12/06/2025	16	ENS	0900	1500	5	2	ESE	0	5	2	2	0	0
12/06/2025	16	ENS	0900	1500	6	2	ESE	0	5	2	2	0	0
12/06/2025	16	IH	0900	1500	1	2	S	0	6	2	2	0	0
12/06/2025	16	IH	0900	1500	2	2	S	0	7	2	2	0	0
12/06/2025	16	IH	0900	1500	3	3	S	0	7	2	2	0	0
12/06/2025	16	IH	0900	1500	4	4	S	0	7	2	2	0	0
12/06/2025	16	IH	0900	1500	5	4	S	0	7	2	2	0	0
12/06/2025	16	IH	0900	1500	6	4	S	0	8	2	2	0	0
01/07/2025	17	IH	1245	1845	1	2	S	0	8	2	2	0	0
01/07/2025	17	IH	1245	1845	2	2	S	1	8	2	2	0	0
01/07/2025	17	IH	1245	1845	3	2	S	0	8	2	2	0	0
01/07/2025	17	IH	1245	1845	4	2	S	0	8	2	2	0	0
01/07/2025	17	IH	1245	1845	5	2	S	0	8	2	2	0	0
01/07/2025	17	IH	1245	1845	6	2	S	0	8	2	2	0	0
11/08/2025	18	IH	0900	1500	1	2	SW	0	8	2	2	0	0
11/08/2025	18	IH	0900	1500	2	2	SW	0	8	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
11/08/2025	18	IH	0900	1500	3	2	SW	0	8	2	2	0	0
11/08/2025	18	IH	0900	1500	4	2	SW	1	8	2	2	0	0
11/08/2025	18	IH	0900	1500	5	2	SW	0	8	2	2	0	0
11/08/2025	18	IH	0900	1500	6	2	SW	0	8	2	2	0	0

C.3 Moorland Breeding Bird Surveys

Moorland breeding bird surveys were undertaken during the 2023, 2024 and 2025 breeding seasons. **Table C-5** details survey dates and weather data recorded.

Table C-5: Meteorological conditions during moorland breeding bird surveys (sorted chronologically)

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
12/04/2023	1	HEC	0930	1430	1	4	SW	3	5	1	2	0	2
12/04/2023	1	HEC	0930	1430	2	4	S	2	7	1	2	0	2
12/04/2023	1	HEC	0930	1430	3	4	S	2	7	1	2	0	2
12/04/2023	1	HEC	0930	1430	4	4	S	2	6	2	2	0	2
12/04/2023	1	HEC	0930	1430	5	4	S	0	6	2	2	0	2
12/04/2023	1	TH	0930	1430	1	2	S	0	6	2	2	0	1
12/04/2023	1	TH	0930	1430	2	4	S	3	7	2	2	0	1
12/04/2023	1	TH	0930	1430	3	3	S	2	5	2	2	0	1
12/04/2023	1	TH	0930	1430	4	2	S	0	5	2	2	0	1
12/04/2023	1	TH	0930	1430	5	2	S	0	5	2	2	0	1
09/05/2023	2	EB	0930	1430	1	3	W	0	5	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
09/05/2023	2	EB	0930	1430	2	4	W	0	7	2	2	0	0
09/05/2023	2	EB	0930	1430	3	4	W	1	8	2	2	0	0
09/05/2023	2	EB	0930	1430	4	4	W	2	8	2	2	0	0
09/05/2023	2	EB	0930	1430	5	3	W	0	8	2	2	0	0
09/05/2023	2	HEC	0930	1430	1	3	SW	0	3	2	2	0	0
09/05/2023	2	HEC	0930	1430	2	3	W	0	6	2	2	0	0
09/05/2023	2	HEC	0930	1430	3	2	NW	2	7	2	2	0	0
09/05/2023	2	HEC	0930	1430	4	3	W	2	7	2	2	0	0
09/05/2023	2	HEC	0930	1430	5	2	W	0	7	2	2	0	0
10/05/2023	2	HEC	0815	0945	1	3	SW	1	8	1	1	0	0
10/05/2023	2	HEC	0815	0945	2	4	SW	1	8	1	1	0	0
10/05/2023	2	HEC	1245	1415	1	5	SW	3	7	1	1	0	0
10/05/2023	2	HEC	1245	1415	2	5	SW	3	7	1	1	0	0
01/06/2023	3	HEC	0800	1400	1	3	NE	0	8	2	2	0	0
01/06/2023	3	HEC	0800	1400	2	3	NE	0	8	2	2	0	0
01/06/2023	3	HEC	0800	1400	3	3	NNE	0	7	2	2	0	0
01/06/2023	3	HEC	0800	1400	4	3	NNE	0	6	2	2	0	0
01/06/2023	3	HEC	0800	1400	5	4	NE	0	5	2	2	0	0
01/06/2023	3	HEC	0800	1400	6	4	NE	0	6	2	2	0	0
01/06/2023	3	JR	0805	1405	1	1	NE	0	8	2	2	0	0
01/06/2023	3	JR	0805	1405	2	1	NE	0	8	2	2	0	0
01/06/2023	3	JR	0805	1405	3	2	NE	0	7	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
01/06/2023	3	JR	0805	1405	4	2	NE	0	6	2	2	0	0
01/06/2023	3	JR	0805	1405	5	2	ENE	0	6	2	2	0	0
01/06/2023	3	JR	0805	1405	6	2	ENE	0	4	2	2	0	0
05/06/2023	3	HEC	0930	1530	1	2	NE	0	3	2	2	0	0
05/06/2023	3	HEC	0930	1530	2	3	NE	0	4	2	2	0	0
05/06/2023	3	HEC	0930	1530	3	3	NE	0	5	2	2	0	0
05/06/2023	3	HEC	0930	1530	4	4	NE	0	6	2	2	0	0
05/06/2023	3	HEC	0930	1530	5	4	NE	0	6	2	2	0	0
05/06/2023	3	HEC	0930	1530	6	3	NE	0	7	2	2	0	0
27/07/2023	4	EB	0850	1350	1	2	S	1	8	2	2	0	0
27/07/2023	4	EB	0850	1350	2	1	S	1	8	1	2	0	0
27/07/2023	4	EB	0850	1350	3	2	S	0	8	1	2	0	0
27/07/2023	4	EB	0850	1350	4	2	S	0	8	2	2	0	0
27/07/2023	4	EB	0850	1350	5	2	S	0	8	2	2	0	0
27/07/2023	4	JRM	0850	1350	1	2	S	2	8	1	1	0	0
27/07/2023	4	JRM	0850	1350	2	2	SSW	1	8	1	1	0	0
27/07/2023	4	JRM	0850	1350	3	1	SSW	1	8	1	0	0	0
27/07/2023	4	JRM	0850	1350	4	1	SW	0	8	2	2	0	0
27/07/2023	4	JRM	0850	1350	5	1	SW	0	8	2	2	0	0
27/07/2023	4	TH	0900	1330	1	1	S	1	8	2	2	0	0
27/07/2023	4	TH	0900	1330	2	1	S	1	8	1	2	0	0
27/07/2023	4	TH	0900	1330	3	1	S	0	8	1	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
27/07/2023	4	TH	0900	1330	4	1	S	0	8	2	2	0	0
27/07/2023	4	TH	0900	1330	5	1	S	0	8	2	2	0	0
23/04/2024	5	EB	0900	1500	1	4	N	0	5	2	2	0	0
23/04/2024	5	EB	0900	1500	2	4	N	0	6	2	2	0	0
23/04/2024	5	EB	0900	1500	3	3	N	0	6	2	2	0	0
23/04/2024	5	EB	0900	1500	4	3	N	0	4	2	2	0	0
23/04/2024	5	EB	0900	1500	5	3	N	0	4	2	2	0	0
23/04/2024	5	EB	0900	1500	6	4	N	0	3	2	2	0	0
23/04/2024	5	LS	0900	1500	1	2	N	0	5	2	2	0	0
23/04/2024	5	LS	0900	1500	2	2	N	0	5	2	2	0	0
23/04/2024	5	LS	0900	1500	3	4	N	0	4	2	2	0	0
23/04/2024	5	LS	0900	1500	4	4	N	0	4	2	2	0	0
23/04/2024	5	LS	0900	1500	5	4	N	0	4	2	2	0	0
23/04/2024	5	LS	0900	1500	6	4	N	0	4	2	2	0	0
07/05/2024	6	LS	0800	1400	1	1	S	0	7	2	2	0	0
07/05/2024	6	LS	0800	1400	2	1	S	0	7	2	2	0	0
07/05/2024	6	LS	0800	1400	3	2	S	0	7	2	2	0	0
07/05/2024	6	LS	0800	1400	4	2	S	0	5	2	2	0	0
07/05/2024	6	LS	0800	1400	5	1	S	0	5	2	2	0	0
07/05/2024	6	LS	0800	1400	6	1	S	0	5	2	2	0	0
08/05/2024	6	LS	0800	1400	1	3	SSW	0	7	2	2	0	0
08/05/2024	6	LS	0800	1400	2	3	SSW	0	6	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
08/05/2024	6	LS	0800	1400	3	3	SSW	0	5	2	2	0	0
08/05/2024	6	LS	0800	1400	4	3	SSW	0	6	2	2	0	0
08/05/2024	6	LS	0800	1400	5	4	SSW	0	5	2	2	0	0
08/05/2024	6	LS	0800	1400	6	3	SSW	0	4	2	2	0	0
25/06/2024	7	IH	0910	1510	1	0	-	0	8	1	2	0	0
25/06/2024	7	IH	0910	1510	2	0	-	0	8	2	2	0	0
25/06/2024	7	IH	0910	1510	3	0	-	0	8	2	2	0	0
25/06/2024	7	IH	0910	1510	4	1	W	0	8	2	2	0	0
25/06/2024	7	IH	0910	1510	5	1	W	0	8	2	2	0	0
25/06/2024	7	IH	0910	1510	6	1	W	0	8	2	2	0	0
25/06/2024	7	LS	0910	1510	1	2	SW	0	7	2	2	0	0
25/06/2024	7	LS	0910	1510	2	2	SW	0	7	2	2	0	0
25/06/2024	7	LS	0910	1510	3	2	SW	0	7	2	2	0	0
25/06/2024	7	LS	0910	1510	4	2	SW	0	7	2	2	0	0
25/06/2024	7	LS	0910	1510	5	1	SW	0	8	2	2	0	0
25/06/2024	7	LS	0910	1510	6	1	SW	0	8	2	2	0	0
05/07/2024	8	IH	0850	1450	1	4	W	0	8	2	2	0	0
05/07/2024	8	IH	0850	1450	2	5	W	0	7	2	2	0	0
05/07/2024	8	IH	0850	1450	3	6	W	0	7	2	2	0	0
05/07/2024	8	IH	0850	1450	4	5	W	0	6	2	2	0	0
05/07/2024	8	IH	0850	1450	5	4	W	0	5	2	2	0	0
05/07/2024	8	IH	0850	1450	6	4	W	0	6	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
05/07/2024	8	LS	0850	1450	1	5	SW	1	8	2	2	0	0
05/07/2024	8	LS	0850	1450	2	6	SW	1	7	2	2	0	0
05/07/2024	8	LS	0850	1450	3	6	SW	0	7	2	2	0	0
05/07/2024	8	LS	0850	1450	4	6	SW	0	6	2	2	0	0
05/07/2024	8	LS	0850	1450	5	6	SW	0	6	2	2	0	0
05/07/2024	8	LS	0850	1450	6	5	SW	0	6	2	2	0	0
14/04/2025	9	LS	0925	1355	1	3	S	2	8	2	2	0	0
14/04/2025	9	LS	0925	1355	2	3	S	2	8	2	2	0	0
14/04/2025	9	LS	0925	1355	3	3	S	2	8	2	2	0	0
14/04/2025	9	LS	0925	1355	4	3	S	2	8	2	2	0	0
14/04/2025	9	LS	0925	1355	5	3	S	2	8	2	2	0	0
15/04/2025	9	LM	0900	1430	1	2	N	1	7	2	2	0	0
15/04/2025	9	LM	0900	1430	2	2	N	0	5	2	2	0	0
15/04/2025	9	LM	0900	1430	3	3	NNW	0	8	2	2	0	0
15/04/2025	9	LM	0900	1430	4	3	N	0	8	2	2	0	0
15/04/2025	9	LM	0900	1430	5	3	N	0	8	2	2	0	0
15/04/2025	9	LM	0900	1430	6	3	N	0	8	2	2	0	0
16/04/2025	9	LM	0845	1445	1	6	NE	2	8	1	2	0	0
16/04/2025	9	LM	0845	1445	2	6	NE	1	8	2	2	0	0
16/04/2025	9	LM	0845	1445	3	6	NE	1	8	2	2	0	0
16/04/2025	9	LM	0845	1445	4	7	NE	2	8	1	0	0	0
16/04/2025	9	LM	0845	1445	5	6	ENE	2	8	1	1	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
16/04/2025	9	LM	0845	1445	6	5	ENE	2	8	1	2	0	0
20/05/2025	10	LML	0825	1425	1	1	ENE	0	1	2	2	0	0
20/05/2025	10	LML	0825	1425	2	2	N	0	2	2	2	0	0
20/05/2025	10	LML	0825	1425	3	2	N	0	2	2	2	0	0
20/05/2025	10	LML	0825	1425	4	3	N	0	4	2	2	0	0
20/05/2025	10	LML	0825	1425	5	2	NW	0	6	2	2	0	0
20/05/2025	10	LML	0825	1425	6	2	NW	0	6	2	2	0	0
20/05/2025	10	JR	0830	1430	1	1	ESE	0	0	2	2	0	0
20/05/2025	10	JR	0830	1430	2	2	S	0	1	2	2	0	0
20/05/2025	10	JR	0830	1430	3	1	VAR	0	2	2	2	0	0
20/05/2025	10	JR	0830	1430	4	1	S	0	3	2	2	0	0
20/05/2025	10	JR	0830	1430	5	1	SW	0	4	2	2	0	0
20/05/2025	10	JR	0830	1430	6	1	SW	0	6	2	2	0	0
22/05/2025	10	LML	0855	1455	1	3	NNE	0	2	2	2	0	0
22/05/2025	10	LML	0855	1455	2	3	NNE	0	1	2	2	0	0
22/05/2025	10	LML	0855	1455	3	3	NNE	0	2	2	2	0	0
22/05/2025	10	LML	0855	1455	4	3	NNE	0	2	2	2	0	0
22/05/2025	10	LML	0855	1455	5	3	NNE	0	2	2	2	0	0
22/05/2025	10	LML	0855	1455	6	3	NNE	0	2	2	2	0	0
03/06/2025	11	JR	0845	1445	1	4	SW	2	8	1	2	0	0
03/06/2025	11	JR	0845	1445	2	5	SW	0	8	2	2	0	0
03/06/2025	11	JR	0845	1445	3	5	WSW	3	8	1	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
03/06/2025	11	JR	0845	1445	4	4	WSW	2	7	2	2	0	0
03/06/2025	11	JR	0845	1445	5	4	SW	0	7	2	2	0	0
03/06/2025	11	JR	0845	1445	6	4	SW	0	6	2	2	0	0
03/06/2025	11	LML	0845	1445	1	3	SW	1	8	2	2	0	0
03/06/2025	11	LML	0845	1445	2	4	SW	1	8	2	2	0	0
03/06/2025	11	LML	0845	1445	3	5	SW	2	7	2	2	0	0
03/06/2025	11	LML	0845	1445	4	4	SW	2	7	2	2	0	0
03/06/2025	11	LML	0845	1445	5	4	SW	1	8	2	2	0	0
03/06/2025	11	LML	0845	1445	6	3	SW	0	6	2	2	0	0
04/06/2025	11	LML	0840	1440	1	3	WSW	0	7	2	2	0	0
04/06/2025	11	LML	0840	1440	2	3	WSW	0	7	2	2	0	0
04/06/2025	11	LML	0840	1440	3	3	WSW	0	5	2	2	0	0
04/06/2025	11	LML	0840	1440	4	4	WSW	0	6	2	2	0	0
04/06/2025	11	LML	0840	1440	5	4	WSW	0	5	2	2	0	0
04/06/2025	11	LML	0840	1440	6	4	WSW	2	7	2	2	0	0
02/07/2025	12	IH	0820	1420	1	3	N	2	8	1	1	0	0
02/07/2025	12	IH	0820	1420	2	3	N	2	8	1	1	0	0
02/07/2025	12	IH	0820	1420	3	3	SW	4	8	1	0	0	0
02/07/2025	12	IH	0820	1420	4	3	SW	3	8	1	2	0	0
02/07/2025	12	IH	0820	1420	5	3	SW	2	8	1	2	0	0
02/07/2025	12	IH	0820	1420	6	2	SW	0	8	1	2	0	0
02/07/2025	12	JR	0840	1440	1	1	ENE	3	8	1	1	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
02/07/2025	12	JR	0840	1440	2	2	NE	2	8	1	2	0	0
02/07/2025	12	JR	0840	1440	3	2	WSW	2	8	1	1	0	0
02/07/2025	12	JR	0840	1440	4	3	SW	4	8	1	0	0	0
02/07/2025	12	JR	0840	1440	5	3	WSW	2	7	1	2	0	0
02/07/2025	12	JR	0840	1440	6	3	WSW	2	5	2	2	0	0
02/07/2025	12	LS	0820	1420	1	3	SW	3	8	2	2	0	0
02/07/2025	12	LS	0820	1420	2	3	SW	3	8	2	2	0	0
02/07/2025	12	LS	0820	1420	3	3	SW	2	8	2	2	0	0
02/07/2025	12	LS	0820	1420	4	3	SW	2	8	2	2	0	0
02/07/2025	12	LS	0820	1420	5	2	SW	2	8	2	2	0	0
02/07/2025	12	LS	0820	1420	6	2	SW	0	6	2	2	0	0

C.4 Black Grouse Surveys

Black grouse surveys were undertaken during the 2023, 2024 and 2025 breeding seasons. **Table C-6** details survey dates and weather data recorded.

Table C-6: Meteorological conditions during black grouse surveys (sorted chronologically)

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
06/04/2023	1	EB	0530	0830	1	2	NW	0	8	2	2	0	0
06/04/2023	1	EB	0530	0830	2	2	NW	0	8	3	2	0	0
06/04/2023	1	EB	0530	0830	3	3	NW	0	8	2	2	0	0
06/04/2023	1	TH	0530	0830	1	2	W	0	8	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
06/04/2023	1	TH	0530	0830	2	2	W	0	8	2	2	0	0
06/04/2023	1	TH	0530	0830	3	2	W	0	8	2	2	0	0
05/05/2023	2	EB	0430	0700	1	3	N	1	8	0	1	0	0
05/05/2023	2	EB	0430	0700	2	3	N	1	8	0	1	0	0
05/05/2023	2	EB	0430	0700	3	3	N	0	8	0	1	0	0
05/05/2023	2	HEC	0430	0700	1	3	S	1	8	0	1	0	0
05/05/2023	2	HEC	0430	0700	2	3	S	1	8	0	1	0	0
05/05/2023	2	HEC	0430	0700	3	3	S	1	8	0	1	0	0
19/04/2024	3	EB	0500	0800	1	5	NE	0	4	2	2	0	0
19/04/2024	3	EB	0500	0800	2	5	NW	0	6	2	2	0	0
19/04/2024	3	EB	0500	0800	3	5	NW	0	3	2	2	0	0
19/04/2024	3	JB	0500	0800	1	5	NE	0	4	2	2	0	0
19/04/2024	3	JB	0500	0800	2	5	NW	0	6	2	2	0	0
19/04/2024	3	JB	0500	0800	3	5	NW	0	3	2	2	0	0
24/05/2024	4	JB	0350	0650	1	1	W	1	8	1	2	0	0
24/05/2024	4	JB	0350	0650	2	1	W	1	8	0	2	0	0
24/05/2024	4	JB	0350	0650	3	0	-	1	8	0	1	0	0
24/05/2024	4	LS	0350	0650	1	2	SW	1	8	1	2	0	0
24/05/2024	4	LS	0350	0650	2	2	SW	1	8	1	2	0	0
24/05/2024	4	LS	0350	0650	3	2	SW	1	8	1	2	0	0
18/04/2025	5	IH	0505	0805	1	1	E	0	8	2	1	1	0
18/04/2025	5	IH	0505	0805	2	1	E	0	8	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
18/04/2025	5	IH	0505	0805	3	1	E	0	8	2	2	0	0
18/04/2025	5	LS	0505	0805	1	1	E	1	8	2	2	0	0
18/04/2025	5	LS	0505	0805	2	1	E	1	8	2	2	0	0
18/04/2025	5	LS	0505	0805	3	2	E	0	8	2	2	0	0
18/04/2025	5	LM	0505	0805	1	1	ENE	0	8	2	2	0	0
18/04/2025	5	LM	0505	0805	2	2	ENE	0	8	2	2	0	0
18/04/2025	5	LM	0505	0805	3	3	E	0	8	2	2	0	0
08/05/2025	AT 1	MW	0400	0700	1	2	NE	0	2	2	2	1	0
08/05/2025	AT 1	MW	0400	0700	2	2	NE	0	2	2	2	1	0
08/05/2025	AT 1	MW	0400	0700	3	2	NE	0	3	2	2	0	0
09/05/2025	AT 1	MW	0400	0700	1	2	W	0	3	2	2	1	0
09/05/2025	AT 1	MW	0400	0700	2	2	W	0	3	2	2	1	0
09/05/2025	AT 1	MW	0400	0700	3	2	W	0	3	2	2	0	0
16/05/2025	6	IH	0400	0700	1	1	N	0	0	2	2	1	0
16/05/2025	6	IH	0400	0700	2	1	N	0	0	2	2	1	0
16/05/2025	6	IH	0400	0700	3	1	N	0	0	2	2	1	0
16/05/2025	6	LS	0400	0700	1	1	N	0	1	2	2	1	0
16/05/2025	6	LS	0400	0700	2	1	N	0	1	2	2	1	0
16/05/2025	6	LS	0400	0700	3	1	N	0	0	2	2	0	0

C.5 Nightjar Surveys

Nightjar surveys were undertaken during the 2025 breeding season. **Table C-7** Meteorological conditions during nightjar surveys (sorted chronologically)

Table C-7: Meteorological conditions during nightjar surveys (sorted chronologically)

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
09/06/2025	1	IH	2200	0100	1	2	SW	2	8	2	2	0	0
09/06/2025	1	IH	2200	0100	2	2	SW	2	8	1	1	0	0
09/06/2025	1	IH	2200	0100	3	2	SW	2	8	1	0	0	0
09/06/2025	1	LML	2200	0100	1	3	SE	2	8	2	2	0	0
09/06/2025	1	LML	2200	0100	2	3	S	2	8	1	1	0	0
09/06/2025	1	LML	2200	0100	3	3	SW	2	8	1	0	0	0
30/06/2025	1	IH	2200	0100	1	3	S	2	8	1	2	0	0
30/06/2025	1	IH	2200	0100	2	2	S	0	8	2	2	0	0
30/06/2025	1	IH	2200	0100	3	2	S	0	8	2	2	0	0
30/06/2025	1	LS	2200	0100	1	3	SW	1	8	2	2	0	0
30/06/2025	1	LS	2200	0100	2	3	SW	2	8	2	1	0	0
30/06/2025	1	LS	2200	0100	3	3	SW	2	8	1	0	0	0
15/07/2025	2	LML	2200	0100	1	2	N	2	7	1	2	0	0
15/07/2025	2	LML	2200	0100	2	1	N	0	4	2	0	0	0
15/07/2025	2	LML	2200	0100	3	2	N	0	6	2	0	0	0
16/07/2025	2	LML	2200	0100	1	2	SW	0	2	2	2	0	0
16/07/2025	2	LML	2200	0100	2	2	SW	0	2	2	0	0	0
16/07/2025	2	LML	2200	0100	3	2	SW	1	4	2	0	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
16/07/2025	2	LW	2200	0100	1	2	SE	0	0	2	2	0	0
16/07/2025	2	LW	2200	0100	2	2	SE	0	2	2	0	0	0
16/07/2025	2	LW	2200	0100	3	1	SE	1	3	2	0	0	0

C.6 Winter Walkover Surveys

Winter walkover surveys were undertaken during the 2022/2023, 2023/2024 and 2024/2025 non-breeding seasons. **Table C-8** details survey dates and weather data recorded.

Table C-8: Meteorological conditions during winter walkover surveys (sorted chronologically)

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
12/12/2022	1	MW	0900	1400	1	1	NW	0	1	2	2	1	1
12/12/2022	1	MW	0900	1400	2	2	NW	0	2	2	2	1	1
12/12/2022	1	MW	0900	1400	3	2	NW	0	2	2	2	1	1
12/12/2022	1	MW	0900	1400	4	2	NW	0	3	2	2	1	1
12/12/2022	1	MW	0900	1400	5	2	NW	0	3	2	2	1	1
13/12/2022	1	MW	0815	1315	1	1	NNW	0	1	2	2	2	1
13/12/2022	1	MW	0815	1315	2	2	NNW	0	1	2	2	2	1
13/12/2022	1	MW	0815	1315	3	2	NNW	0	2	2	2	2	1
13/12/2022	1	MW	0815	1315	4	3	NNW	0	2	2	2	2	1
13/12/2022	1	MW	0815	1315	5	3	NNW	0	2	2	2	2	1
14/12/2022	1	MW	0815	1315	1	2	NW	0	1	2	2	2	1
14/12/2022	1	MW	0815	1315	2	2	NW	0	1	2	2	2	1

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
14/12/2022	1	MW	0815	1315	3	2	NW	0	1	2	2	2	1
14/12/2022	1	MW	0815	1315	4	3	NW	0	2	2	2	2	1
14/12/2022	1	MW	0815	1315	5	3	NW	0	2	2	2	2	1
24/01/2023	2	EB	0915	1415	1	3	SSW	1	8	0	0	0	2
24/01/2023	2	EB	0915	1415	2	3	SSW	1	8	0	0	0	2
24/01/2023	2	EB	0915	1415	3	3	SSW	1	8	0	0	0	2
24/01/2023	2	EB	0915	1415	4	3	SSW	1	8	0	0	0	2
24/01/2023	2	EB	0915	1415	5	3	SSW	1	7	0	0	0	2
24/01/2023	2	TH	0915	1415	1	3	SW	1	8	0	0	0	2
24/01/2023	2	TH	0915	1415	2	3	SW	1	8	0	0	0	2
24/01/2023	2	TH	0915	1415	3	3	SW	1	8	0	0	0	2
24/01/2023	2	TH	0915	1415	4	3	SW	1	8	1	1	0	2
24/01/2023	2	TH	0915	1415	5	3	SW	1	8	0	0	0	2
25/01/2023	2	TH	1000	1600	1	4	W	0	7	2	2	0	2
25/01/2023	2	TH	1000	1600	2	5	W	0	7	2	2	0	2
25/01/2023	2	TH	1000	1600	3	4	NW	0	7	2	2	0	2
25/01/2023	2	TH	1000	1600	4	3	NW	0	5	2	2	0	2
25/01/2023	2	TH	1000	1600	5	2	NW	0	3	2	2	0	2
25/01/2023	2	TH	1000	1600	6	3	NW	0	3	2	2	0	2
22/02/2023	3	JRM + HEC	0820	1320	1	4	NNW	0	8	1	2	0	0
22/02/2023	3	JRM + HEC	0820	1320	2	3	NNW	0	8	1	2	0	0
22/02/2023	3	JRM + HEC	0820	1320	3	6	NNW	0	7	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
22/02/2023	3	JRM + HEC	0820	1320	4	4	NNW	2	8	2	2	0	0
22/02/2023	3	JRM + HEC	0820	1320	5	3	NNW	2	7	2	2	0	0
22/02/2023	3	MW	0830	1330	1	4	NW	2	8	2	2	0	0
22/02/2023	3	MW	0830	1330	2	4	NW	2	8	2	2	0	0
22/02/2023	3	MW	0830	1330	3	5	NW	2	8	2	2	0	0
22/02/2023	3	MW	0830	1330	4	5	NW	3	8	2	2	0	0
22/02/2023	3	MW	0830	1330	5	5	NW	3	8	2	2	0	0
23/02/2023	3	MW	0730	1230	1	1	NW	0	1	2	2	1	0
23/02/2023	3	MW	0730	1230	2	2	NW	0	2	2	2	1	0
23/02/2023	3	MW	0730	1230	3	3	NW	0	3	2	2	1	0
23/02/2023	3	MW	0730	1230	4	4	NW	0	4	2	2	0	0
23/02/2023	3	MW	0730	1230	5	5	NW	0	5	2	2	0	0
23/11/2023	4	EB	0945	1445	1	5	NNW	2	8	1	1	0	0
23/11/2023	4	EB	0945	1445	2	5	NNW	0	8	2	2	0	0
23/11/2023	4	EB	0945	1445	3	6	NW	1	8	2	2	0	0
23/11/2023	4	EB	0945	1445	4	6	NW	0	8	2	2	0	0
23/11/2023	4	EB	0945	1445	5	5	NW	0	8	2	2	0	0
23/11/2023	4	TH	0945	1545	1	5	W	2	8	0	0	0	0
23/11/2023	4	TH	0945	1545	2	7	W	2	8	1	1	0	0
23/11/2023	4	TH	0945	1545	3	5	W	0	7	2	2	0	0
23/11/2023	4	TH	0945	1545	4	5	W	0	5	2	2	0	0
23/11/2023	4	TH	0945	1545	5	5	W	0	5	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
31/01/2024	5	EB	0900	1400	1	7	W	0	8	1	2	0	2
31/01/2024	5	EB	0900	1400	2	7	W	1	8	1	2	0	2
31/01/2024	5	EB	0900	1400	3	7	W	1	8	0	0	0	2
31/01/2024	5	EB	0900	1400	4	7	WSW	3	8	0	0	0	2
31/01/2024	5	EB	0900	1400	5	7	WSW	2	8	1	1	0	2
31/01/2024	5	LS	0900	1400	1	7	SSW	0	8	2	2	0	0
31/01/2024	5	LS	0900	1400	2	7	SSW	1	8	1	1	0	0
31/01/2024	5	LS	0900	1400	3	7	SSW	1	8	1	1	0	0
31/01/2024	5	LS	0900	1400	4	7	SSW	1	8	1	1	0	0
31/01/2024	5	LS	0900	1400	5	7	SSW	2	8	1	1	0	0
20/02/2024	6	EB	0910	1410	1	5	SW	2	8	1	2	0	0
20/02/2024	6	EB	0910	1410	2	5	SW	2	8	0	1	0	0
20/02/2024	6	EB	0910	1410	3	5	SW	2	8	0	0	0	0
20/02/2024	6	EB	0910	1410	4	4	SW	2	8	0	0	0	0
20/02/2024	6	EB	0910	1410	5	4	SW	2	8	1	1	0	0
20/02/2024	6	MW	1000	1400	1	3	WNW	4	8	1	1	0	0
20/02/2024	6	MW	1000	1400	2	3	WNW	4	8	1	1	0	0
20/02/2024	6	MW	1000	1400	3	4	WNW	4	8	1	1	0	0
20/02/2024	6	MW	1000	1400	4	4	W	4	8	1	1	0	0
12/11/2024	7	EB	0900	1400	1	1	S	0	6	2	2	0	0
12/11/2024	7	EB	0900	1400	2	1	S	0	5	2	2	0	0
12/11/2024	7	EB	0900	1400	3	2	S	0	4	2	2	0	0

Date	Survey Visit	Observer	Survey Start Time	Survey Finish Time	Hour	Wind Speed	Wind Direction	Rain	Cloud Cover	Cloud Height	Visibility	Frost	Snow
12/11/2024	7	EB	0900	1400	4	2	S	0	4	2	2	0	0
12/11/2024	7	EB	0900	1400	5	2	S	0	4	2	2	0	0
12/11/2024	7	IH	0900	1400	1	0	-	0	1	2	2	0	0
12/11/2024	7	IH	0900	1400	2	0	-	0	1	2	2	0	0
12/11/2024	7	IH	0900	1400	3	0	-	0	1	2	2	0	0
12/11/2024	7	IH	0900	1400	4	0	-	0	1	2	2	0	0
12/11/2024	7	IH	0900	1400	5	0	-	0	1	2	2	0	0
16/01/2025	8	MW	0815	1315	1	6	SSW	0	8	1	1	0	0
16/01/2025	8	MW	0815	1315	2	6	SSW	0	8	1	1	0	0
16/01/2025	8	MW	0815	1315	3	6	SSW	0	8	1	1	0	0
16/01/2025	8	MW	0815	1315	4	7	SSW	0	8	1	1	0	0
16/01/2025	8	MW	0815	1315	5	7	SSW	0	8	1	1	0	0
17/01/2025	8	MW	0815	1315	1	5	SW	0	8	2	2	0	0
17/01/2025	8	MW	0815	1315	2	5	SW	0	8	1	1	0	0
17/01/2025	8	MW	0815	1315	3	6	SW	0	8	2	2	0	0
17/01/2025	8	MW	0815	1315	4	5	SW	0	8	1	1	0	0
17/01/2025	8	MW	0815	1315	5	5	SW	0	8	2	2	0	0

Annex D Ornithological Survey Results

D.1 Flight Activity Records: Target Species

All flights of target species are detailed in **Table D-1**.

Table D-1: Details of target species recorded during flight activity surveys for Watchman Energy Park (sorted by species and chronologically)

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
18/03/2024	6	EB	1319	Common gull	6	85	0.00	74.80	0.00	0.00	0.00	0.00	0.00	10.20	0.00	0.00	0.00	0.00
16/05/2025	6	IH	0702	Common gull	3	75	0.00	56.58	0.00	0.00	0.00	0.00	0.00	18.42	0.00	0.00	0.00	0.00
16/05/2025	6	IH	0726	Common gull	1	45	0.00	25.99	0.00	0.00	0.00	0.00	0.00	19.01	0.00	0.00	0.00	0.00
30/05/2025	8	LML	1137	Common gull	2	37	0.00	0.00	0.00	0.00	0.00	0.00	22.00	15.00	0.00	0.00	0.00	0.00
30/05/2025	8	LML	1211	Common gull	1	403	267.66	33.64	0.00	0.00	0.00	0.00	90.34	11.36	0.00	0.00	0.00	0.00
30/05/2025	8	LML	1307	Common gull	5	112	112.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30/05/2025	8	LML	1539	Common gull	8	73	73.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1448	Common gull	1	33	24.47	0.00	0.00	0.00	0.00	0.00	8.53	0.00	0.00	0.00	0.00	0.00
14/07/2025	6	LML	1053	Common gull	1	70	55.99	0.00	0.00	0.00	0.00	0.00	14.01	0.00	0.00	0.00	0.00	0.00
20/03/2023	1	ENS	1542	Curlew	1	17	0.00	0.00	0.00	0.00	0.00	0.00	1.00	16.00	0.00	0.00	0.00	0.00
20/03/2023	1	ENS	1631	Curlew	1	4	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
20/03/2023	3	TH	1029	Curlew	1	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00
20/03/2023	3	TH	1048	Curlew	2	50	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00
20/03/2023	3	TH	1418	Curlew	1	20	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00
22/03/2023	2	ENS	1446	Curlew	1	12	0.00	2.12	0.00	0.00	0.00	0.00	0.00	9.88	0.00	0.00	0.00	0.00
05/04/2023	1	ENS	0852	Curlew	1	52	0.00	0.00	0.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00	0.00	0.00
05/04/2023	1	ENS	0902	Curlew	1	15	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00
05/04/2023	1	ENS	1024	Curlew	1	18	0.00	0.00	0.00	0.00	0.00	0.00	3.00	15.00	0.00	0.00	0.00	0.00
05/04/2023	1	ENS	1101	Curlew	2	12	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00	0.00
05/04/2023	1	ENS	1113	Curlew	1	3	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00
05/04/2023	1	ENS	1216	Curlew	1	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	12.00	0.00	0.00	0.00
05/04/2023	3	NW	1001	Curlew	1	15	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00
05/04/2023	3	NW	1042	Curlew	1	22	0.00	0.00	0.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00	0.00	0.00
05/04/2023	3	NW	1415	Curlew	1	75	0.00	0.00	0.00	0.00	0.00	0.00	15.00	60.00	0.00	0.00	0.00	0.00
05/04/2023	3	NW	1417	Curlew	1	30	0.00	0.00	0.00	0.00	0.00	0.00	15.00	15.00	0.00	0.00	0.00	0.00
05/04/2023	3	NW	1427	Curlew	3	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
05/04/2023	3	NW	1430	Curlew	2	35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	30.00	0.00	0.00	0.00
06/04/2023	3	HEC	0901	Curlew	1	38	0.00	0.00	0.00	0.00	0.00	0.00	38.00	0.00	0.00	0.00	0.00	0.00
06/04/2023	3	HEC	0917	Curlew	1	56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00	0.00
06/04/2023	3	HEC	0957	Curlew	1	40	0.00	0.00	0.00	0.00	0.00	0.00	25.00	15.00	0.00	0.00	0.00	0.00
06/04/2023	4	EB	1112	Curlew	2	50	1.30	3.04	0.00	0.00	0.00	0.00	13.70	31.96	0.00	0.00	0.00	0.00
05/05/2023	1	HEC	0706	Curlew	1	20	0.00	0.00	0.00	0.00	0.00	0.00	15.00	5.00	0.00	0.00	0.00	0.00
05/05/2023	1	HEC	0724	Curlew	1	52	0.00	0.00	0.00	0.00	0.00	0.00	7.00	15.00	30.00	0.00	0.00	0.00
05/05/2023	1	HEC	0735	Curlew	1	46	0.00	0.00	0.00	0.00	0.00	0.00	1.00	30.00	15.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
05/05/2023	3	EB	0719	Curlew	2	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00
05/05/2023	3	EB	0947	Curlew	2	55	0.00	0.00	0.00	0.00	0.00	0.00	40.00	15.00	0.00	0.00	0.00	0.00
05/05/2023	3	EB	0956	Curlew	1	22	0.00	0.00	0.00	0.00	0.00	0.00	7.00	15.00	0.00	0.00	0.00	0.00
10/05/2023	2	HEC	0949	Curlew	1	34	22.58	0.00	0.00	0.00	0.00	0.00	11.42	0.00	0.00	0.00	0.00	0.00
15/05/2023	2	EB	1414	Curlew	1	38	0.00	31.80	0.00	0.00	0.00	0.00	0.00	6.20	0.00	0.00	0.00	0.00
15/05/2023	2	EB	1532	Curlew	1	25	8.22	12.34	0.00	0.00	0.00	0.00	1.78	2.66	0.00	0.00	0.00	0.00
15/05/2023	4	ENS	1112	Curlew	1	6	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	0.00	0.00
15/05/2023	4	ENS	1316	Curlew	1	46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.00	0.00	30.00	0.00	0.00
30/05/2023	1	ENS	0924	Curlew	1	5	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	0925	Curlew	1	7	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	0949	Curlew	1	42	0.00	3.59	2.87	3.59	0.00	0.00	0.00	11.41	9.13	11.41	0.00	0.00
30/05/2023	1	ENS	0950	Curlew	1	7	0.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	0952	Curlew	1	8	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1007	Curlew	1	26	0.00	0.00	0.00	0.00	0.00	0.00	11.00	0.00	15.00	0.00	0.00	0.00
30/05/2023	1	ENS	1046	Curlew	1	51	0.00	0.00	0.00	0.00	0.00	0.00	21.00	30.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1055	Curlew	1	67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00	15.00	15.00	30.00	0.00
30/05/2023	1	ENS	1104	Curlew	1	21	0.00	4.33	10.83	0.00	0.00	0.00	0.00	1.67	4.17	0.00	0.00	0.00
30/05/2023	1	ENS	1227	Curlew	1	34	0.51	1.93	1.93	0.00	0.00	0.00	3.49	13.07	13.07	0.00	0.00	0.00
30/05/2023	1	ENS	1247	Curlew	1	34	1.76	6.59	6.59	0.00	0.00	0.00	2.24	8.41	8.41	0.00	0.00	0.00
30/05/2023	1	ENS	1404	Curlew	1	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00	0.00
30/05/2023	1	ENS	1432	Curlew	1	53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	15.00	30.00	0.00	0.00
23/06/2023	1	JB	0944	Curlew	1	18	2.38	11.90	0.00	0.00	0.00	0.00	0.62	3.10	0.00	0.00	0.00	0.00
23/06/2023	1	JB	1114	Curlew	2	47	0.00	0.00	0.00	0.00	0.00	0.00	17.00	30.00	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
23/06/2023	1	JB	1134	Curlew	2	8	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00
23/06/2023	1	JB	1237	Curlew	1	16	0.00	0.00	0.00	0.00	0.00	0.00	1.00	15.00	0.00	0.00	0.00	0.00
23/06/2023	3	NW	1438	Curlew	2	25	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	0954	Curlew	1	32	2.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1006	Curlew	1	22	0.00	22.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1008	Curlew	5	15	0.00	14.25	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1015	Curlew	1	14	0.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1022	Curlew	1	22	7.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1031	Curlew	1	49	0.00	2.40	9.01	18.01	0.00	0.00	0.00	1.60	5.99	11.99	0.00	0.00
26/06/2023	2	ENS	1109	Curlew	3	14	0.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1129	Curlew	2	42	0.00	12.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1211	Curlew	2	13	0.00	13.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1419	Curlew	2	20	0.00	5.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1436	Curlew	4	81	0.00	13.18	13.18	44.83	0.00	0.00	0.00	1.82	1.82	6.17	0.00	0.00
26/06/2023	2	ENS	1515	Curlew	3	43	0.00	0.00	43.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27/06/2023	1	EB	1318	Curlew	1	48	0.00	8.71	14.52	0.00	0.00	0.00	0.00	9.29	15.48	0.00	0.00	0.00
27/06/2023	3	EB	1044	Curlew	1	58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	43.00	0.00	0.00	0.00
06/07/2023	4	NW	0825	Curlew	1	78	0.00	0.00	0.00	0.00	0.00	0.00	15.00	18.00	45.00	0.00	0.00	0.00
06/07/2023	4	NW	0943	Curlew	1	172	0.00	0.00	0.00	0.00	0.00	0.00	90.00	82.00	0.00	0.00	0.00	0.00
06/07/2023	4	NW	1210	Curlew	1	18	0.00	0.00	0.00	0.00	0.00	0.00	15.00	3.00	0.00	0.00	0.00	0.00
13/03/2024	7	LS	1140	Curlew	2	39	18.97	11.86	0.00	0.00	0.00	0.00	5.03	3.14	0.00	0.00	0.00	0.00
13/03/2024	7	LS	1211	Curlew	1	43	9.11	17.00	0.00	0.00	0.00	0.00	5.89	11.00	0.00	0.00	0.00	0.00
18/03/2024	6	EB	0955	Curlew	2	35	0.00	31.57	0.00	0.00	0.00	0.00	0.00	3.43	0.00	0.00	0.00	0.00

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							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
18/03/2024	6	EB	1046	Curlew	1	20	6.91	0.00	0.00	0.00	0.00	0.00	13.09	0.00	0.00	0.00	0.00	0.00
19/04/2024	6	JB	0948	Curlew	2	540	0.00	143.02	286.03	85.81	0.00	0.00	0.00	6.98	13.97	4.19	0.00	0.00
19/04/2024	6	JB	1030	Curlew	1	180	0.00	0.00	82.38	58.84	0.00	0.00	0.00	0.00	22.62	16.16	0.00	0.00
19/04/2024	7	EB	0810	Curlew	1	47	0.00	5.35	0.00	0.00	0.00	0.00	0.00	41.65	0.00	0.00	0.00	0.00
19/04/2024	7	EB	0946	Curlew	1	58	0.00	16.15	15.07	0.00	0.00	0.00	0.00	13.85	12.93	0.00	0.00	0.00
26/04/2024	8	MW	1410	Curlew	1	35	8.58	0.00	0.00	0.00	0.00	0.00	26.42	0.00	0.00	0.00	0.00	0.00
13/05/2024	6	EB	1045	Curlew	1	25	5.71	8.57	0.00	0.00	0.00	0.00	4.29	6.43	0.00	0.00	0.00	0.00
13/05/2024	6	EB	1239	Curlew	1	55	0.00	55.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13/05/2024	6	EB	1448	Curlew	1	8	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13/05/2024	6	EB	1504	Curlew	1	20	13.94	4.65	0.00	0.00	0.00	0.00	1.06	0.35	0.00	0.00	0.00	0.00
24/05/2024	8	LS	0700	Curlew	1	45	0.00	0.00	0.00	0.00	0.00	0.00	30.00	15.00	0.00	0.00	0.00	0.00
24/05/2024	8	LS	0708	Curlew	2	25	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00
24/05/2024	8	LS	0742	Curlew	1	110	0.00	0.00	0.00	0.00	0.00	0.00	110.00	0.00	0.00	0.00	0.00	0.00
27/06/2024	6	MW	1115	Curlew	1	50	35.41	0.00	0.00	0.00	0.00	0.00	14.59	0.00	0.00	0.00	0.00	0.00
28/06/2024	7	MW	0710	Curlew	1	48	25.24	0.00	0.00	0.00	0.00	0.00	22.76	0.00	0.00	0.00	0.00	0.00
30/07/2024	7	LS	0953	Curlew	1	44	0.00	30.94	0.00	0.00	0.00	0.00	0.00	13.06	0.00	0.00	0.00	0.00
17/04/2025	6	LS	1125	Curlew	1	110	2.88	43.16	17.26	0.00	0.00	0.00	2.12	31.84	12.74	0.00	0.00	0.00
17/04/2025	6	LS	1130	Curlew	2	84	24.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17/04/2025	6	LS	1350	Curlew	1	97	2.11	22.62	4.52	0.00	0.00	0.00	4.89	52.38	10.48	0.00	0.00	0.00
17/04/2025	7	LM	1208	Curlew	1	60	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17/04/2025	7	LM	1213	Curlew	1	10	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17/04/2025	7	LM	1522	Curlew	1	45	13.29	26.58	0.00	0.00	0.00	0.00	1.71	3.42	0.00	0.00	0.00	0.00
17/04/2025	7	LM	1522	Curlew	1	90	90.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
18/04/2025	6	LM	0846	Curlew	1	13	3.36	0.00	0.00	0.00	0.00	0.00	9.64	0.00	0.00	0.00	0.00	0.00
18/04/2025	6	LM	0901	Curlew	1	15	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00
18/04/2025	6	LM	0907	Curlew	1	30	0.00	15.46	0.00	0.00	0.00	0.00	0.00	14.54	0.00	0.00	0.00	0.00
18/04/2025	6	LM	0914	Curlew	1	16	0.13	0.00	1.90	0.00	0.00	0.00	0.87	0.00	13.10	0.00	0.00	0.00
18/04/2025	6	LM	0921	Curlew	1	16	0.00	0.00	0.00	0.00	0.00	0.00	1.00	15.00	0.00	0.00	0.00	0.00
18/04/2025	6	LM	0927	Curlew	1	20	0.00	0.00	0.00	0.00	0.00	0.00	5.00	15.00	0.00	0.00	0.00	0.00
18/04/2025	6	LM	0936	Curlew	1	56	0.00	0.00	0.00	0.00	0.00	0.00	11.00	30.00	15.00	0.00	0.00	0.00
18/04/2025	6	LM	1026	Curlew	2	106	0.00	3.18	19.29	0.00	0.00	0.00	0.00	11.82	71.71	0.00	0.00	0.00
18/04/2025	6	LM	1028	Curlew	1	44	0.00	0.00	0.00	0.00	0.00	0.00	29.00	15.00	0.00	0.00	0.00	0.00
18/04/2025	6	LM	1051	Curlew	2	24	0.00	0.00	0.00	0.00	0.00	0.00	9.00	15.00	0.00	0.00	0.00	0.00
18/04/2025	7	LS	0837	Curlew	1	98	7.33	82.43	0.00	0.00	0.00	0.00	0.67	7.57	0.00	0.00	0.00	0.00
18/04/2025	7	LS	0920	Curlew	1	125	0.00	80.00	45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18/04/2025	7	LS	0924	Curlew	1	55	0.00	22.48	26.98	0.00	0.00	0.00	0.00	2.52	3.02	0.00	0.00	0.00
18/04/2025	7	LS	0933	Curlew	1	155	0.00	73.77	69.16	0.00	0.00	0.00	0.00	6.23	5.84	0.00	0.00	0.00
18/04/2025	7	LS	0934	Curlew	1	105	0.00	45.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18/04/2025	7	LS	1010	Curlew	1	50	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18/04/2025	7	LS	1055	Curlew	1	68	11.41	28.90	11.41	0.00	0.00	0.00	3.59	9.10	3.59	0.00	0.00	0.00
02/05/2025	7	IH	1040	Curlew	2	70	0.00	20.81	37.46	0.00	0.00	0.00	0.00	4.19	7.54	0.00	0.00	0.00
02/05/2025	7	IH	1052	Curlew	1	15	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/05/2025	7	IH	1151	Curlew	1	150	15.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/05/2025	7	IH	1447	Curlew	1	65	0.00	44.60	0.00	0.00	0.00	0.00	0.00	20.40	0.00	0.00	0.00	0.00
09/05/2025	6	LS	0903	Curlew	2	53	18.91	24.67	0.00	0.00	0.00	0.00	4.09	5.33	0.00	0.00	0.00	0.00
16/05/2025	6	IH	0928	Curlew	1	34	4.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
16/05/2025	6	IH	0930	Curlew	2	15	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16/05/2025	6	IH	0950	Curlew	1	75	0.00	15.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16/05/2025	7	LS	0750	Curlew	1	50	20.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1010	Curlew	1	39	0.00	19.02	11.89	0.00	0.00	0.00	0.00	4.98	3.11	0.00	0.00	0.00
25/06/2025	7	LML	1027	Curlew	1	126	0.00	4.02	16.08	8.04	5.63	0.00	0.00	10.98	43.92	21.96	15.37	0.00
25/06/2025	7	LML	1139	Curlew	2	47	47.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1140	Curlew	2	32	32.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1152	Curlew	1	53	23.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1152	Curlew	1	57	57.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1201	Curlew	1	63	2.05	30.80	10.27	0.00	0.00	0.00	0.95	14.20	4.73	0.00	0.00	0.00
25/06/2025	7	LML	1243	Curlew	1	136	37.48	61.10	12.22	0.00	0.00	0.00	8.52	13.90	2.78	0.00	0.00	0.00
25/06/2025	7	LML	1245	Curlew	1	50	0.00	6.86	10.28	0.00	0.00	0.00	0.00	13.14	19.72	0.00	0.00	0.00
25/06/2025	7	LML	1407	Curlew	1	20	4.59	13.78	0.00	0.00	0.00	0.00	0.41	1.22	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1407	Curlew	1	40	5.26	15.79	0.00	0.00	0.00	0.00	4.74	14.21	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1408	Curlew	1	19	17.19	0.00	0.00	0.00	0.00	0.00	1.81	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1448	Curlew	1	59	29.00	15.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/12/2022	5	MW	1050	Golden eagle	1	15	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00
08/12/2022	5	MW	1055	Golden eagle	1	30	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00
09/12/2022	4	MW	0824	Golden eagle	1	90	0.00	0.00	0.00	0.00	0.00	0.00	45.00	30.00	15.00	0.00	0.00	0.00
26/02/2024	6	LS	1053	Golden eagle	1	74	9.33	39.97	0.00	0.00	0.00	0.00	4.67	20.03	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
26/02/2024	7	EB	1113	Golden eagle	1	70	0.00	28.68	38.25	0.00	0.00	0.00	0.00	1.32	1.75	0.00	0.00	0.00
06/09/2024	8	LS	1140	Golden eagle	1	70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	55.00	0.00	0.00	0.00
09/09/2024	8	IH	1407	Golden eagle	1	55	5.62	8.44	16.87	0.00	0.00	0.00	4.38	6.56	13.13	0.00	0.00	0.00
09/09/2024	8	IH	1454	Golden eagle	1	47	0.29	2.18	4.36	0.00	0.00	0.00	1.71	12.82	25.64	0.00	0.00	0.00
01/08/2025	7	LML	1343	Golden eagle	1	119	0.00	37.36	5.39	0.00	0.00	0.00	0.00	66.64	9.61	0.00	0.00	0.00
13/08/2025	8	ENS	1013	Golden eagle	1	117	0.00	0.00	0.00	0.00	54.26	33.91	0.00	0.00	0.00	0.00	17.74	11.09
13/08/2025	8	ENS	1108	Golden eagle	1	81	0.00	0.00	24.85	37.28	4.97	0.00	0.00	0.00	5.15	7.72	1.03	0.00
22/03/2023	4	HEC	1331	Golden plover	25	65	0.00	0.00	0.00	0.00	0.00	0.00	65.00	0.00	0.00	0.00	0.00	0.00
05/09/2023	7	HEC	1111	Golden plover	2	112	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.00	45.00	45.00	0.00	0.00
13/05/2024	7	LS	1328	Golden plover	2	33	28.78	0.00	0.00	0.00	0.00	0.00	4.22	0.00	0.00	0.00	0.00	0.00
18/04/2025	7	LS	0913	Golden plover	5	30	0.00	17.44	0.00	0.00	0.00	0.00	0.00	12.56	0.00	0.00	0.00	0.00
14/11/2022	1	JR	1033	Goshawk	1	31	0.32	4.85	0.00	4.85	0.00	0.00	0.68	10.15	0.00	10.15	0.00	0.00
29/09/2022	1	JRM	1010	Greylag goose	30	45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	30.00	0.00	0.00	0.00
27/01/2023	3	TH	1331	Greylag goose	2	70	0.00	0.00	0.00	0.00	9.52	0.00	0.00	0.00	0.00	0.00	60.48	0.00
21/02/2023	1	JRM	1042	Greylag goose	3	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
05/04/2023	3	NW	0938	Greylag goose	5	35	0.00	0.00	0.00	0.00	0.00	0.00	5.00	15.00	15.00	0.00	0.00	0.00
05/04/2023	3	NW	0940	Greylag goose	2	190	0.00	0.00	5.81	1.09	0.00	0.00	0.00	0.00	154.19	28.91	0.00	0.00
15/05/2023	2	EB	1126	Greylag goose	2	32	0.00	12.64	14.32	0.00	0.00	0.00	0.00	2.36	2.68	0.00	0.00	0.00
18/12/2023	6	TH	1346	Greylag goose	14	70	0.00	32.64	8.90	0.00	0.00	0.00	0.00	22.36	6.10	0.00	0.00	0.00
14/11/2024	7	ENS	1325	Greylag goose	17	55	0.00	0.00	0.00	0.00	0.00	49.99	0.00	0.00	0.00	0.00	0.00	5.01
13/02/2025	8	TL	1131	Greylag goose	18	47	0.00	0.00	0.00	0.00	0.00	12.64	0.00	0.00	0.00	0.00	0.00	34.36
29/09/2022	1	JRM	0918	Hen harrier	1	280	19.93	0.00	0.00	0.00	0.00	0.00	260.07	0.00	0.00	0.00	0.00	0.00
29/09/2022	1	JRM	0930	Hen harrier	1	100	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29/09/2022	1	JRM	0935	Hen harrier	1	80	66.80	0.00	0.00	0.00	0.00	0.00	13.20	0.00	0.00	0.00	0.00	0.00
29/09/2022	1	JRM	0959	Hen harrier	1	510	411.95	0.00	0.00	0.00	0.00	0.00	98.05	0.00	0.00	0.00	0.00	0.00
29/09/2022	1	JRM	1045	Hen harrier	1	300	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30/09/2022	5	MW	1040	Hen harrier	1	65	0.00	0.00	0.00	0.00	0.00	0.00	65.00	0.00	0.00	0.00	0.00	0.00
30/09/2022	5	MW	1103	Hen harrier	1	50	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00
10/10/2022	2	MW	1241	Hen harrier	1	65	58.81	0.00	0.00	0.00	0.00	0.00	6.19	0.00	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
11/10/2022	3	MW	1304	Hen harrier	1	90	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	0.00	0.00	0.00	0.00
12/10/2022	5	MW	1252	Hen harrier	1	70	0.00	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00
05/01/2023	1	TH	1302	Hen harrier	1	210	14.27	28.55	7.14	0.00	0.00	0.00	45.73	91.45	22.86	0.00	0.00	0.00
10/03/2023	2	HEC	1051	Hen harrier	1	21	0.00	0.00	0.00	0.00	0.00	0.00	15.00	6.00	0.00	0.00	0.00	0.00
10/03/2023	2	HEC	1052	Hen harrier	1	26	0.00	26.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20/03/2023	2	ENS	1030	Hen harrier	2	40	0.00	5.81	17.42	0.00	0.00	0.00	0.00	4.19	12.58	0.00	0.00	0.00
20/03/2023	2	ENS	1150	Hen harrier	1	64	0.00	0.00	45.96	0.00	0.00	0.00	0.00	0.00	18.04	0.00	0.00	0.00
23/06/2023	3	NW	1100	Hen harrier	1	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	15.00	0.00	0.00	0.00
14/08/2023	2	HEC	1002	Hen harrier	1	108	0.00	0.00	93.54	0.00	0.00	0.00	0.00	0.00	14.46	0.00	0.00	0.00
15/08/2023	4	HEC	1138	Hen harrier	1	15	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00
15/08/2023	4	HEC	1400	Hen harrier	1	101	0.00	0.00	0.00	0.00	0.00	0.00	56.00	45.00	0.00	0.00	0.00	0.00
07/09/2023	6	HEC	1429	Hen harrier	1	32	32.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24/11/2023	8	EB	1336	Hen harrier	1	245	151.60	88.02	0.00	0.00	0.00	0.00	3.40	1.98	0.00	0.00	0.00	0.00
19/12/2023	8	TH	1426	Hen harrier	1	90	16.20	8.10	0.00	0.00	0.00	0.00	43.80	21.90	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
19/01/2024	8	EB	1021	Hen harrier	1	78	45.56	0.00	0.00	0.00	0.00	0.00	32.44	0.00	0.00	0.00	0.00	0.00
30/07/2024	7	LS	0946	Hen harrier	1	51	1.96	0.00	0.00	0.00	0.00	0.00	49.04	0.00	0.00	0.00	0.00	0.00
10/02/2025	6	JB	1335	Hen harrier	1	78	36.39	26.69	0.00	0.00	0.00	0.00	8.61	6.31	0.00	0.00	0.00	0.00
14/02/2025	8	JB	1153	Hen harrier	1	90	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	89.79	0.00	0.00
23/06/2023	1	JB	1027	Herring gull	1	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00
23/06/2023	1	JB	1040	Herring gull	1	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	0.00	0.00	0.00	0.00
23/06/2023	1	JB	1338	Herring gull	2	57	0.00	42.31	0.00	0.00	0.00	0.00	0.00	14.69	0.00	0.00	0.00	0.00
05/05/2023	1	HEC	0701	Lapwing	1	88	0.00	0.00	0.00	0.00	0.00	0.00	15.00	45.00	28.00	0.00	0.00	0.00
05/05/2023	1	HEC	0702	Lapwing	2	71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	41.00	0.00	0.00	0.00
05/05/2023	1	HEC	0855	Lapwing	1	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.00	0.00	0.00	0.00	0.00
05/05/2023	3	EB	0751	Lapwing	1	32	0.00	0.00	0.00	0.00	0.00	0.00	15.00	17.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1002	Lapwing	1	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1106	Lapwing	1	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1140	Lapwing	1	41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.00	15.00	0.00	0.00
30/05/2023	1	ENS	1326	Lapwing	1	48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	45.00	0.00	0.00	0.00
30/05/2025	8	LML	1629	Lapwing	1	32	0.00	0.00	0.00	0.00	0.00	0.00	32.00	0.00	0.00	0.00	0.00	0.00
05/05/2023	1	HEC	0701	Lapwing	1	88	0.00	0.00	0.00	0.00	0.00	0.00	15.00	45.00	28.00	0.00	0.00	0.00
05/05/2023	1	HEC	0702	Lapwing	2	71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	41.00	0.00	0.00	0.00
05/05/2023	1	HEC	0855	Lapwing	1	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.00	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
05/05/2023	3	EB	0751	Lapwing	1	32	0.00	0.00	0.00	0.00	0.00	0.00	15.00	17.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1002	Lapwing	1	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1106	Lapwing	1	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1140	Lapwing	1	41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.00	15.00	0.00	0.00
30/05/2023	1	ENS	1326	Lapwing	1	48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	45.00	0.00	0.00	0.00
30/05/2025	8	LML	1629	Lapwing	1	32	0.00	0.00	0.00	0.00	0.00	0.00	32.00	0.00	0.00	0.00	0.00	0.00
13/08/2024	8	MW	0720	Marsh harrier	1	50	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00
06/09/2024	8	LS	0933	Marsh harrier	1	54	0.00	0.00	0.00	0.00	0.00	0.00	24.00	30.00	0.00	0.00	0.00	0.00
29/09/2022	1	JRM	0920	Merlin	1	30	15.55	0.00	0.00	0.00	0.00	0.00	14.45	0.00	0.00	0.00	0.00	0.00
29/09/2022	1	JRM	0921	Merlin	1	10	4.50	0.00	0.00	0.00	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
11/10/2022	3	MW	1150	Merlin	1	20	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00
05/01/2023	1	TH	1441	Merlin	1	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00
15/08/2023	1	JR	1201	Merlin	1	12	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00	0.00
02/10/2023	6	MW	1150	Merlin	1	20	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04/10/2023	7	MW	1124	Merlin	1	25	16.20	0.00	0.00	0.00	0.00	0.00	8.80	0.00	0.00	0.00	0.00	0.00
14/08/2023	1	HEC	1502	Osprey	2	64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.00	0.00	0.00	0.00
15/08/2023	4	HEC	1301	Osprey	1	138	0.00	0.00	11.95	14.23	0.00	0.00	0.00	0.00	51.05	60.77	0.00	0.00
05/09/2023	7	HEC	1246	Osprey	1	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	0.00	0.00	0.00
11/10/2022	3	MW	0920	Peregrine falcon	1	32	0.00	0.00	0.00	0.00	0.00	0.00	2.00	30.00	0.00	0.00	0.00	0.00
13/10/2022	4	MW	1113	Peregrine falcon	1	40	0.00	0.00	0.00	0.00	0.00	0.00	40.00	0.00	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
29/09/2022	1	JRM	1015	Pink-footed goose	150	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	120.00	0.00	0.00
29/09/2022	3	JRM	1320	Pink-footed goose	45	300	0.00	0.00	0.00	0.00	32.49	0.00	0.00	0.00	0.00	0.00	267.51	0.00
11/10/2022	3	MW	0840	Pink-footed goose	7	60	0.00	1.94	5.81	0.00	0.00	0.00	0.00	13.06	39.19	0.00	0.00	0.00
12/10/2022	5	MW	1142	Pink-footed goose	15	45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.00	0.00	0.00
22/11/2022	4	JR	0934	Pink-footed goose	75	63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	33.00	0.00	0.00
25/01/2023	2	EB	1324	Pink-footed goose	31	160	0.00	0.00	0.00	14.63	14.63	48.78	0.00	0.00	0.00	15.37	15.37	51.22
21/02/2023	1	JRM	0916	Pink-footed goose	65	90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	75.00	0.00	0.00	0.00
18/04/2025	7	LS	0839	Pink-footed goose	60	110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	110.00
28/09/2022	2	JRM	1040	Red kite	1	420	92.78	46.39	34.79	92.78	57.98	0.00	27.22	13.61	10.21	27.22	17.02	0.00
28/09/2022	2	JRM	1110	Red kite	1	100	9.89	29.67	29.67	29.67	0.00	0.00	0.11	0.33	0.33	0.33	0.00	0.00
28/09/2022	2	JRM	1110	Red kite	1	220	0.00	5.16	38.68	69.63	0.00	0.00	0.00	4.84	36.32	65.37	0.00	0.00
28/09/2022	2	JRM	1218	Red kite	2	90	66.17	13.23	0.00	0.00	0.00	0.00	8.83	1.77	0.00	0.00	0.00	0.00
29/09/2022	1	JRM	1052	Red kite	1	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.00	15.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
29/09/2022	3	JRM	1230	Red kite	1	600	0.00	0.00	0.00	0.00	0.00	0.00	30.00	90.00	280.00	165.00	35.00	0.00
29/09/2022	3	JRM	1310	Red kite	1	40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	30.00	0.00	0.00	0.00
29/09/2022	3	JRM	1313	Red kite	1	40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00	0.00	0.00	0.00
29/09/2022	3	JRM	1343	Red kite	1	260	0.00	0.00	0.00	0.00	0.00	0.00	95.00	120.00	45.00	0.00	0.00	0.00
10/10/2022	2	MW	1004	Red kite	2	90	18.45	18.45	0.00	0.00	0.00	0.00	26.55	26.55	0.00	0.00	0.00	0.00
11/10/2022	3	MW	0800	Red kite	1	75	0.00	0.00	0.00	0.00	0.00	0.00	75.00	0.00	0.00	0.00	0.00	0.00
11/10/2022	3	MW	1114	Red kite	2	90	9.96	0.00	0.00	0.00	0.00	0.00	80.04	0.00	0.00	0.00	0.00	0.00
13/10/2022	4	MW	0940	Red kite	8	120	0.00	0.00	0.00	0.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00
14/11/2022	1	JR	1121	Red kite	1	230	33.66	82.27	56.09	0.00	0.00	0.00	11.34	27.73	18.91	0.00	0.00	0.00
14/11/2022	1	JR	1211	Red kite	1	840	0.00	182.23	222.73	131.61	30.37	0.00	0.00	87.77	107.27	63.39	14.63	0.00
14/11/2022	1	JR	1236	Red kite	1	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.00	45.00	0.00	0.00	0.00
14/11/2022	1	JR	1248	Red kite	1	180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	120.00	10.00	0.00	0.00
14/11/2022	1	JR	1259	Red kite	1	192	0.00	112.13	34.32	0.00	0.00	0.00	0.00	34.87	10.68	0.00	0.00	0.00
14/11/2022	1	JR	1326	Red kite	2	61	10.79	30.36	0.00	0.00	0.00	0.00	5.21	14.64	0.00	0.00	0.00	0.00
14/11/2022	1	JR	1341	Red kite	1	32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	15.00	2.00	0.00	0.00
21/11/2022	5	JR	0909	Red kite	2	149	0.00	0.00	0.00	0.00	0.00	0.00	0.00	89.00	60.00	0.00	0.00	0.00
21/11/2022	5	JR	0927	Red kite	1	51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.00	0.00	0.00	0.00	0.00
21/11/2022	5	JR	1044	Red kite	1	120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	105.00	15.00	0.00	0.00	0.00
22/11/2022	4	JR	0943	Red kite	1	44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	14.00	0.00	0.00	0.00
22/11/2022	4	JR	1116	Red kite	1	40	0.00	5.60	3.36	0.00	0.00	0.00	0.00	19.40	11.64	0.00	0.00	0.00
22/11/2022	4	JR	1208	Red kite	2	190	0.00	43.71	46.28	7.71	0.00	0.00	0.00	41.29	43.72	7.29	0.00	0.00
22/11/2022	4	JR	1223	Red kite	2	420	0.00	7.66	107.19	84.22	15.31	0.00	0.00	7.34	102.81	80.78	14.69	0.00
22/11/2022	4	JR	1300	Red kite	2	216	0.00	0.00	56.58	147.11	0.00	0.00	0.00	0.00	3.42	8.89	0.00	0.00

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							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
05/12/2022	1	MW	0955	Red kite	1	90	79.89	0.00	0.00	0.00	0.00	0.00	10.11	0.00	0.00	0.00	0.00	0.00
05/12/2022	1	MW	1211	Red kite	1	80	59.30	13.68	0.00	0.00	0.00	0.00	5.70	1.32	0.00	0.00	0.00	0.00
06/12/2022	2	MW	0914	Red kite	1	75	68.53	0.00	0.00	0.00	0.00	0.00	6.47	0.00	0.00	0.00	0.00	0.00
06/12/2022	2	MW	1046	Red kite	2	70	24.21	18.16	0.00	0.00	0.00	0.00	15.79	11.84	0.00	0.00	0.00	0.00
06/12/2022	2	MW	1234	Red kite	1	80	19.78	25.43	0.00	0.00	0.00	0.00	15.22	19.57	0.00	0.00	0.00	0.00
07/12/2022	3	MW	0932	Red kite	1	100	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00
08/12/2022	5	MW	0904	Red kite	1	78	0.00	0.00	0.00	0.00	0.00	0.00	3.00	75.00	0.00	0.00	0.00	0.00
09/12/2022	4	MW	1204	Red kite	2	60	4.54	0.00	0.00	0.00	0.00	0.00	55.46	0.00	0.00	0.00	0.00	0.00
06/01/2023	5	EB	1012	Red kite	1	125	0.00	0.00	0.00	0.00	0.00	0.00	35.00	90.00	0.00	0.00	0.00	0.00
06/01/2023	5	EB	1030	Red kite	1	92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.00	45.00	0.00	0.00	0.00
06/01/2023	5	EB	1038	Red kite	1	55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	40.00	0.00	0.00	0.00
06/01/2023	5	EB	1119	Red kite	1	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00
06/01/2023	5	EB	1230	Red kite	1	65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.00	0.00	0.00	0.00	0.00
06/01/2023	5	EB	1339	Red kite	1	210	0.00	0.00	0.00	0.00	0.00	0.00	45.00	135.00	30.00	0.00	0.00	0.00
27/01/2023	3	TH	1224	Red kite	1	165	30.00	45.00	45.00	0.00	45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27/01/2023	3	TH	1335	Red kite	1	45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	15.00	0.00	0.00	0.00
30/01/2023	3	TH	1334	Red kite	1	45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	15.00	0.00	0.00
30/01/2023	5	TH	1033	Red kite	1	165	0.00	0.00	0.00	0.00	0.00	0.00	30.00	90.00	45.00	0.00	0.00	0.00
30/01/2023	5	TH	1051	Red kite	1	140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	125.00	15.00	0.00	0.00	0.00
30/01/2023	5	TH	1109	Red kite	1	45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	15.00	0.00	0.00	0.00
30/01/2023	5	TH	1109	Red kite	1	60	0.00	0.00	0.00	0.00	0.00	0.00	30.00	30.00	0.00	0.00	0.00	0.00
30/01/2023	5	TH	1112	Red kite	1	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00
30/01/2023	5	TH	1138	Red kite	1	120	0.00	0.00	0.00	0.00	0.00	0.00	75.00	30.00	15.00	0.00	0.00	0.00

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							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
30/01/2023	5	TH	1146	Red kite	1	210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.00	90.00	15.00	30.00	0.00
30/01/2023	5	TH	1211	Red kite	1	25	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00
30/01/2023	5	TH	1219	Red kite	2	75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.00	30.00	0.00	0.00
08/02/2023	4	EB	1304	Red kite	2	65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	45.00	0.00	0.00	0.00
10/03/2023	2	HEC	1230	Red kite	1	109	31.41	31.41	13.26	0.00	0.00	0.00	13.59	13.59	5.74	0.00	0.00	0.00
10/03/2023	4	EB	1223	Red kite	1	35	0.00	4.21	3.16	0.00	0.00	0.00	0.00	15.79	11.84	0.00	0.00	0.00
10/03/2023	4	EB	1341	Red kite	1	40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00	0.00	0.00	0.00	0.00
10/03/2023	4	EB	1422	Red kite	1	72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	45.00	15.00	0.00
10/03/2023	4	EB	1444	Red kite	1	55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	30.00	15.00	0.00
10/03/2023	4	EB	1446	Red kite	1	20	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00
06/04/2023	3	HEC	0836	Red kite	2	123	0.00	0.00	0.00	0.00	0.00	0.00	90.00	33.00	0.00	0.00	0.00	0.00
06/04/2023	3	HEC	0858	Red kite	1	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00	0.00	0.00	0.00
06/04/2023	3	HEC	0900	Red kite	1	15	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00
06/04/2023	3	HEC	0913	Red kite	3	67	0.00	3.77	13.07	0.00	0.00	0.00	0.00	11.23	38.93	0.00	0.00	0.00
05/05/2023	3	EB	0851	Red kite	1	105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.00	60.00	0.00	0.00	0.00
10/05/2023	2	HEC	1003	Red kite	1	145	39.95	65.38	0.00	0.00	0.00	0.00	15.05	24.62	0.00	0.00	0.00	0.00
10/05/2023	2	HEC	1048	Red kite	1	53	0.00	18.56	24.21	0.00	0.00	0.00	0.00	4.44	5.79	0.00	0.00	0.00
10/05/2023	2	HEC	1205	Red kite	1	88	38.64	40.43	0.00	0.00	0.00	0.00	4.36	4.57	0.00	0.00	0.00	0.00
15/05/2023	2	EB	1230	Red kite	1	385	117.88	103.14	157.17	0.00	0.00	0.00	2.12	1.86	2.83	0.00	0.00	0.00
15/05/2023	4	ENS	1018	Red kite	2	56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	15.00	26.00	0.00
15/05/2023	4	ENS	1142	Red kite	1	108	0.00	0.00	0.00	48.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15/05/2023	4	ENS	1236	Red kite	1	51	0.00	0.00	0.00	36.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15/05/2023	4	ENS	1319	Red kite	1	41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.00	15.00	0.00	0.00

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							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
15/05/2023	4	ENS	1433	Red kite	1	23	0.00	0.00	0.00	23.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15/05/2023	4	ENS	1502	Red kite	1	16	0.00	0.00	1.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	0901	Red kite	1	92	0.00	28.44	28.44	0.00	30.33	0.00	0.00	1.56	1.56	0.00	1.67	0.00
30/05/2023	1	ENS	0919	Red kite	1	71	0.00	0.00	40.63	13.54	9.93	0.00	0.00	0.00	4.37	1.46	1.07	0.00
30/05/2023	1	ENS	0946	Red kite	1	32	0.00	32.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1018	Red kite	1	85	0.00	16.09	0.00	0.00	0.00	0.00	0.00	68.91	0.00	0.00	0.00	0.00
30/05/2023	1	ENS	1119	Red kite	1	55	0.00	0.00	0.00	0.00	27.53	10.32	0.00	0.00	0.00	0.00	12.47	4.68
30/05/2023	1	ENS	1229	Red kite	1	42	0.00	0.00	0.00	0.00	0.00	0.00	12.00	30.00	0.00	0.00	0.00	0.00
23/06/2023	3	NW	1013	Red kite	1	145	0.00	5.69	6.09	0.00	0.00	0.00	0.00	64.31	68.91	0.00	0.00	0.00
23/06/2023	3	NW	1021	Red kite	1	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.00	0.00	0.00	0.00
23/06/2023	3	NW	1115	Red kite	1	177	0.00	49.92	52.00	20.80	0.00	0.00	0.00	22.08	23.00	9.20	0.00	0.00
23/06/2023	3	NW	1120	Red kite	1	600	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.00	525.00	0.00	0.00
26/06/2023	2	ENS	1244	Red kite	1	73	0.00	58.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1250	Red kite	1	124	0.00	124.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/06/2023	2	ENS	1355	Red kite	1	39	0.00	24.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/07/2023	4	EB	1005	Red kite	1	38	0.00	0.00	0.00	0.00	0.00	0.00	23.00	15.00	0.00	0.00	0.00	0.00
25/07/2023	4	EB	1016	Red kite	2	312	0.00	0.00	74.66	55.30	13.83	0.00	0.00	0.00	87.34	64.70	16.17	0.00
25/07/2023	4	EB	1351	Red kite	1	115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	90.00	0.00	0.00	0.00
14/08/2023	3	JR	1408	Red kite	3	189	0.00	128.82	40.26	0.00	0.00	0.00	0.00	15.18	4.74	0.00	0.00	0.00
14/08/2023	3	JR	1459	Red kite	2	167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.00	77.00	0.00	0.00	0.00
14/08/2023	4	JR	1041	Red kite	4	204	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.00	60.00	84.00	0.00
14/08/2023	4	JR	1158	Red kite	2	180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.00	120.00	0.00
15/08/2023	1	JR	1258	Red kite	1	120	0.00	6.11	42.77	0.00	0.00	0.00	0.00	8.89	62.23	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
15/08/2023	4	HEC	1227	Red kite	1	52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.00	0.00	0.00	0.00
15/08/2023	4	HEC	1235	Red kite	1	38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	23.00	0.00	0.00	0.00
15/08/2023	4	HEC	1303	Red kite	2	162	0.00	21.73	84.51	24.15	0.00	0.00	0.00	5.27	20.49	5.85	0.00	0.00
15/08/2023	4	HEC	1340	Red kite	1	156	0.00	24.02	11.67	0.00	0.00	0.00	0.00	80.98	39.33	0.00	0.00	0.00
15/08/2023	4	HEC	1419	Red kite	1	76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.00	0.00	0.00	0.00
15/08/2023	4	HEC	1439	Red kite	1	35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	15.00	0.00	0.00
05/09/2023	7	HEC	1038	Red kite	3	167	16.10	73.52	0.00	0.00	0.00	0.00	13.90	63.48	0.00	0.00	0.00	0.00
05/09/2023	7	HEC	1113	Red kite	1	89	74.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05/09/2023	7	HEC	1202	Red kite	1	95	0.00	12.03	10.83	0.00	0.00	0.00	0.00	37.97	34.17	0.00	0.00	0.00
05/09/2023	7	HEC	1248	Red kite	1	78	78.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05/09/2023	7	HEC	1307	Red kite	1	205	36.95	64.05	0.00	0.00	0.00	0.00	38.05	65.95	0.00	0.00	0.00	0.00
05/09/2023	7	HEC	1411	Red kite	2	18	9.67	0.00	0.00	0.00	0.00	0.00	8.33	0.00	0.00	0.00	0.00	0.00
06/09/2023	8	HEC	1044	Red kite	2	142	0.00	7.00	60.00	75.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/09/2023	8	HEC	1112	Red kite	2	131	71.00	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/09/2023	8	HEC	1133	Red kite	2	78	17.40	57.99	0.00	0.00	0.00	0.00	0.60	2.01	0.00	0.00	0.00	0.00
06/09/2023	8	HEC	1141	Red kite	1	124	0.00	46.28	30.24	0.00	0.00	0.00	0.00	28.72	18.76	0.00	0.00	0.00
06/09/2023	8	HEC	1218	Red kite	1	47	10.38	0.00	18.31	0.00	0.00	0.00	6.62	0.00	11.69	0.00	0.00	0.00
06/09/2023	8	HEC	1256	Red kite	1	89	30.00	45.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/09/2023	8	HEC	1334	Red kite	1	73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.00	45.00	0.00	0.00	0.00
06/09/2023	8	HEC	1341	Red kite	2	165	0.00	9.68	16.94	0.00	0.00	0.00	0.00	50.32	88.06	0.00	0.00	0.00
06/09/2023	8	HEC	1355	Red kite	2	102	57.00	45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/09/2023	6	HEC	1304	Red kite	1	83	30.00	53.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22/11/2023	6	EB	1346	Red kite	1	75	0.00	45.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
22/11/2023	6	EB	1358	Red kite	1	55	0.00	11.63	0.00	0.00	0.00	0.00	0.00	43.37	0.00	0.00	0.00	0.00
24/11/2023	8	EB	1048	Red kite	1	125	15.62	26.77	13.39	0.00	0.00	0.00	19.38	33.23	16.61	0.00	0.00	0.00
24/11/2023	8	EB	1109	Red kite	1	55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	30.00	0.00	0.00
24/11/2023	8	EB	1224	Red kite	2	105	0.00	0.00	0.00	0.00	0.00	0.00	15.00	15.00	60.00	15.00	0.00	0.00
24/11/2023	8	EB	1229	Red kite	1	45	0.00	2.47	4.95	0.00	0.00	0.00	0.00	12.53	25.05	0.00	0.00	0.00
24/11/2023	8	EB	1446	Red kite	1	58	0.00	22.66	24.28	0.00	0.00	0.00	0.00	5.34	5.72	0.00	0.00	0.00
29/11/2023	8	EB	1235	Red kite	1	85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	55.00	0.00	0.00	0.00
29/11/2023	8	EB	1347	Red kite	1	50	4.83	43.47	0.00	0.00	0.00	0.00	0.17	1.53	0.00	0.00	0.00	0.00
30/01/2024	7	LS	1036	Red kite	1	126	68.35	9.24	0.00	0.00	0.00	0.00	42.65	5.76	0.00	0.00	0.00	0.00
30/01/2024	8	EB	1021	Red kite	1	75	3.17	12.67	0.00	0.00	0.00	0.00	11.83	47.33	0.00	0.00	0.00	0.00
26/02/2024	6	LS	1430	Red kite	1	197	0.00	172.54	0.00	0.00	0.00	0.00	0.00	24.46	0.00	0.00	0.00	0.00
26/02/2024	7	EB	1432	Red kite	1	66	27.64	33.17	0.00	0.00	0.00	0.00	2.36	2.83	0.00	0.00	0.00	0.00
13/03/2024	7	LS	1433	Red kite	1	57	7.10	19.87	0.00	0.00	0.00	0.00	7.90	22.13	0.00	0.00	0.00	0.00
18/03/2024	6	EB	1105	Red kite	1	58	0.00	0.42	1.47	0.00	0.00	0.00	0.00	12.58	43.53	0.00	0.00	0.00
18/03/2024	7	LS	1005	Red kite	2	215	0.00	215.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/04/2024	8	MW	1014	Red kite	2	75	0.00	0.00	0.00	0.00	0.00	0.00	75.00	0.00	0.00	0.00	0.00	0.00
26/04/2024	8	MW	1106	Red kite	3	60	0.00	0.00	0.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00	0.00	0.00
26/04/2024	8	MW	1252	Red kite	2	65	65.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26/04/2024	8	MW	1340	Red kite	5	90	88.84	0.00	0.00	0.00	0.00	0.00	1.16	0.00	0.00	0.00	0.00	0.00
13/05/2024	6	EB	1239	Red kite	1	72	0.00	14.08	19.72	0.00	0.00	0.00	0.00	15.92	22.28	0.00	0.00	0.00
13/05/2024	6	EB	1515	Red kite	1	135	0.00	22.48	17.99	0.00	0.00	0.00	0.00	52.52	42.01	0.00	0.00	0.00
13/05/2024	7	LS	1325	Red kite	1	273	108.00	135.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13/05/2024	7	LS	1350	Red kite	1	292	0.00	176.92	85.15	14.19	0.00	0.00	0.00	10.08	4.85	0.81	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
13/05/2024	7	LS	1412	Red kite	1	78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.00	45.00	0.00	0.00	0.00
12/06/2024	8	MW	1014	Red kite	2	45	45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/06/2024	8	MW	1110	Red kite	3	70	65.68	0.00	0.00	0.00	0.00	0.00	4.32	0.00	0.00	0.00	0.00	0.00
28/06/2024	7	MW	1014	Red kite	2	65	22.24	0.00	0.00	0.00	0.00	0.00	42.76	0.00	0.00	0.00	0.00	0.00
30/07/2024	7	LS	0934	Red kite	1	253	23.05	106.56	0.00	0.00	0.00	0.00	21.95	101.44	0.00	0.00	0.00	0.00
30/07/2024	7	LS	1146	Red kite	1	79	0.00	42.95	26.29	0.00	0.00	0.00	0.00	6.05	3.71	0.00	0.00	0.00
31/07/2024	6	IH	1341	Red kite	1	96	0.00	68.05	0.00	0.00	0.00	0.00	0.00	27.95	0.00	0.00	0.00	0.00
30/08/2024	8	LS	1111	Red kite	1	91	0.00	1.15	2.34	0.00	0.00	0.00	0.00	28.85	58.66	0.00	0.00	0.00
09/09/2024	6	LS	1010	Red kite	2	191	22.09	41.42	11.84	0.00	0.00	0.00	33.91	63.58	18.16	0.00	0.00	0.00
09/09/2024	6	LS	1014	Red kite	1	84	35.73	7.77	0.00	0.00	0.00	0.00	33.27	7.23	0.00	0.00	0.00	0.00
09/09/2024	6	LS	1105	Red kite	1	231	117.21	97.67	0.00	0.00	0.00	0.00	8.79	7.33	0.00	0.00	0.00	0.00
09/09/2024	8	IH	1022	Red kite	1	360	189.79	29.97	19.98	0.00	0.00	0.00	95.21	15.03	10.02	0.00	0.00	0.00
04/10/2024	6	TH	1416	Red kite	2	115	0.00	0.00	0.00	15.15	13.89	0.00	0.00	0.00	0.00	44.85	41.11	0.00
04/10/2024	7	LS	0957	Red kite	1	160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	30.00	105.00	0.00	0.00
04/10/2024	7	LS	1041	Red kite	1	371	45.00	86.00	75.00	165.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04/10/2024	7	LS	1330	Red kite	2	264	0.00	0.00	68.17	192.65	0.00	0.00	0.00	0.00	0.83	2.35	0.00	0.00
04/10/2024	7	LS	1403	Red kite	1	24	5.96	3.58	0.00	0.00	0.00	0.00	9.04	5.42	0.00	0.00	0.00	0.00
14/11/2024	7	ENS	1046	Red kite	1	212	0.00	0.00	0.00	9.65	76.64	34.06	0.00	0.00	0.00	7.35	58.36	25.94
14/11/2024	7	ENS	1138	Red kite	2	515	0.00	75.00	105.00	170.00	165.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14/11/2024	7	ENS	1203	Red kite	1	48	2.78	13.92	27.85	0.00	0.00	0.00	0.22	1.08	2.15	0.00	0.00	0.00
14/11/2024	8	EB	1031	Red kite	2	615	6.26	68.85	181.52	0.00	0.00	0.00	8.74	96.15	253.48	0.00	0.00	0.00
14/11/2024	8	EB	1059	Red kite	1	205	0.00	130.00	75.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14/11/2024	8	EB	1200	Red kite	1	98	0.00	0.00	64.11	14.14	14.14	0.00	0.00	0.00	3.89	0.86	0.86	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
14/11/2024	8	EB	1231	Red kite	2	420	0.00	149.59	239.35	29.92	0.00	0.00	0.00	0.41	0.65	0.08	0.00	0.00
07/01/2025	6	IH	1509	Red kite	1	34	34.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14/01/2025	7	IH	1406	Red kite	1	125	0.00	32.49	0.00	0.00	0.00	0.00	0.00	92.51	0.00	0.00	0.00	0.00
29/01/2025	8	LS	1051	Red kite	1	73	0.00	8.32	23.86	8.32	0.00	0.00	0.00	6.68	19.14	6.68	0.00	0.00
29/01/2025	8	LS	1135	Red kite	1	169	0.00	15.49	18.16	7.26	0.00	0.00	0.00	48.51	56.84	22.74	0.00	0.00
29/01/2025	8	LS	1410	Red kite	1	77	0.00	0.00	0.00	0.00	0.00	0.00	15.00	62.00	0.00	0.00	0.00	0.00
13/02/2025	8	TL	1225	Red kite	1	36	0.00	16.47	0.00	0.00	0.00	0.00	0.00	19.53	0.00	0.00	0.00	0.00
13/02/2025	8	TL	1353	Red kite	1	300	0.00	121.79	81.19	0.00	0.00	0.00	0.00	58.21	38.81	0.00	0.00	0.00
13/02/2025	8	TL	1416	Red kite	2	126	13.96	49.86	19.94	0.00	0.00	0.00	7.04	25.14	10.06	0.00	0.00	0.00
14/02/2025	6	ENS	1346	Red kite	1	94	0.00	24.45	52.16	0.00	0.00	0.00	0.00	5.55	11.84	0.00	0.00	0.00
18/03/2025	7	LS	1200	Red kite	1	114	0.00	62.34	0.00	0.00	0.00	0.00	0.00	51.66	0.00	0.00	0.00	0.00
26/03/2025	8	TH	1209	Red kite	1	105	0.00	0.00	0.00	0.00	0.00	0.00	45.00	45.00	15.00	0.00	0.00	0.00
26/03/2025	8	TH	1252	Red kite	1	50	0.00	0.00	6.70	0.00	0.00	0.00	0.00	0.00	43.30	0.00	0.00	0.00
24/04/2025	8	JB	1024	Red kite	2	120	21.56	7.19	7.19	14.37	7.19	0.00	23.44	7.81	7.81	15.63	7.81	0.00
24/04/2025	8	JB	1127	Red kite	1	78	32.63	14.83	29.66	0.00	0.00	0.00	0.37	0.17	0.34	0.00	0.00	0.00
24/04/2025	8	JB	1132	Red kite	2	110	0.00	45.96	55.15	0.00	0.00	0.00	0.00	4.04	4.85	0.00	0.00	0.00
24/04/2025	8	JB	1345	Red kite	1	180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	105.00	75.00	0.00	0.00
24/04/2025	8	JB	1354	Red kite	2	240	0.00	11.79	23.58	58.95	0.00	0.00	0.00	18.21	36.42	91.05	0.00	0.00
02/05/2025	7	IH	1014	Red kite	1	45	0.00	10.00	19.99	0.00	0.00	0.00	0.00	5.00	10.01	0.00	0.00	0.00
02/05/2025	7	IH	1038	Red kite	1	105	10.43	62.59	0.00	0.00	0.00	0.00	4.57	27.41	0.00	0.00	0.00	0.00
02/05/2025	7	IH	1052	Red kite	1	64	44.79	13.71	0.00	0.00	0.00	0.00	4.21	1.29	0.00	0.00	0.00	0.00
02/05/2025	7	IH	1052	Red kite	1	30	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/05/2025	7	IH	1110	Red kite	1	27	0.00	0.00	16.92	0.00	0.00	0.00	0.00	0.00	10.08	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
02/05/2025	7	IH	1111	Red kite	1	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00
02/05/2025	7	IH	1112	Red kite	2	100	0.00	3.74	7.47	11.21	2.49	0.00	0.00	11.26	22.53	33.79	7.51	0.00
02/05/2025	7	IH	1126	Red kite	1	87	0.00	2.64	16.47	0.00	0.00	0.00	0.00	9.36	58.53	0.00	0.00	0.00
02/05/2025	7	IH	1131	Red kite	1	75	0.00	3.63	14.51	0.00	0.00	0.00	0.00	11.37	45.49	0.00	0.00	0.00
02/05/2025	7	IH	1150	Red kite	3	185	0.00	0.00	69.82	27.93	27.93	46.55	0.00	0.00	5.18	2.07	2.07	3.45
02/05/2025	7	IH	1224	Red kite	1	58	0.00	7.83	27.09	0.00	0.00	0.00	0.00	5.17	17.91	0.00	0.00	0.00
02/05/2025	7	IH	1236	Red kite	1	67	0.00	0.00	17.77	0.00	21.92	0.00	0.00	0.00	12.23	0.00	15.08	0.00
02/05/2025	7	IH	1337	Red kite	1	40	0.00	23.89	0.00	0.00	0.00	0.00	0.00	16.11	0.00	0.00	0.00	0.00
02/05/2025	7	IH	1342	Red kite	1	85	0.00	14.20	14.20	0.00	52.05	0.00	0.00	0.80	0.80	0.00	2.95	0.00
16/05/2025	6	IH	0930	Red kite	1	90	0.00	0.00	26.66	13.33	40.00	0.00	0.00	0.00	3.34	1.67	5.00	0.00
16/05/2025	6	IH	0950	Red kite	1	120	0.00	0.00	32.38	0.00	10.79	43.18	0.00	0.00	12.62	0.00	4.21	16.82
30/05/2025	8	LML	1229	Red kite	2	288	0.00	13.22	5.66	3.78	3.78	9.82	0.00	91.78	39.34	26.22	26.22	68.18
30/05/2025	8	LML	1255	Red kite	1	158	0.00	0.00	0.00	0.00	0.00	0.00	23.00	135.00	0.00	0.00	0.00	0.00
30/05/2025	8	LML	1301	Red kite	1	63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	48.00	0.00	0.00	0.00
30/05/2025	8	LML	1430	Red kite	1	79	28.84	17.66	0.00	0.00	0.00	0.00	20.16	12.34	0.00	0.00	0.00	0.00
30/05/2025	8	LML	1548	Red kite	1	78	46.06	0.00	0.00	0.00	0.00	0.00	31.94	0.00	0.00	0.00	0.00	0.00
30/05/2025	8	LML	1557	Red kite	1	10	7.43	0.00	0.00	0.00	0.00	0.00	2.57	0.00	0.00	0.00	0.00	0.00
30/05/2025	8	LML	1607	Red kite	1	21	21.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30/05/2025	8	LML	1615	Red kite	1	152	36.20	36.20	49.88	0.00	0.00	0.00	8.80	8.80	12.12	0.00	0.00	0.00
25/06/2025	7	LML	1017	Red kite	1	11	0.00	0.00	0.00	0.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1046	Red kite	1	106	106.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1059	Red kite	1	39	39.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1111	Red kite	1	137	11.30	39.89	29.92	9.97	0.00	0.00	5.70	20.11	15.08	5.03	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
25/06/2025	7	LML	1119	Red kite	2	40	40.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1136	Red kite	1	326	131.00	150.00	45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/06/2025	7	LML	1446	Red kite	1	409	178.88	178.88	48.69	0.00	0.00	0.00	1.12	1.12	0.31	0.00	0.00	0.00
26/06/2025	8	LML	1258	Red kite	1	27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00	0.00	0.00	0.00	0.00
14/07/2025	6	LML	1115	Red kite	1	19	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28/07/2025	7	IH	0952	Red kite	1	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00
28/07/2025	7	IH	1420	Red kite	1	45	30.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28/07/2025	7	IH	1454	Red kite	1	105	8.74	52.43	0.00	0.00	0.00	0.00	6.26	37.57	0.00	0.00	0.00	0.00
28/07/2025	8	LML	1157	Red kite	1	75	8.24	12.36	0.00	0.00	0.00	0.00	21.76	32.64	0.00	0.00	0.00	0.00
28/07/2025	8	LML	1409	Red kite	1	9	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00
28/07/2025	8	LML	1508	Red kite	1	7	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00
01/08/2025	6	LML	0923	Red kite	1	199	64.15	52.97	0.00	0.00	0.00	0.00	44.85	37.03	0.00	0.00	0.00	0.00
01/08/2025	6	LML	0932	Red kite	1	136	43.89	53.96	0.00	0.00	0.00	0.00	17.11	21.04	0.00	0.00	0.00	0.00
01/08/2025	6	LML	0940	Red kite	1	51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.00	30.00	0.00	0.00	0.00
01/08/2025	6	LML	0959	Red kite	1	363	183.46	152.88	0.00	0.00	0.00	0.00	14.54	12.12	0.00	0.00	0.00	0.00
01/08/2025	6	LML	1008	Red kite	1	401	126.77	64.34	0.00	0.00	0.00	0.00	139.23	70.66	0.00	0.00	0.00	0.00
01/08/2025	6	LML	1016	Red kite	1	158	51.40	101.82	0.00	0.00	0.00	0.00	1.60	3.18	0.00	0.00	0.00	0.00
01/08/2025	7	LML	1213	Red kite	1	47	0.00	11.47	24.46	0.00	0.00	0.00	0.00	3.53	7.54	0.00	0.00	0.00
01/08/2025	7	LML	1220	Red kite	1	99	69.00	15.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/08/2025	7	LML	1302	Red kite	2	494	164.00	150.00	90.00	90.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/08/2025	7	LML	1336	Red kite	1	39	0.00	9.32	5.83	0.00	0.00	0.00	0.00	14.68	9.17	0.00	0.00	0.00
01/08/2025	7	LML	1343	Red kite	1	126	0.00	27.27	15.15	0.00	0.00	0.00	0.00	53.73	29.85	0.00	0.00	0.00
01/08/2025	7	LML	1408	Red kite	1	27	24.08	0.00	0.00	0.00	0.00	0.00	2.92	0.00	0.00	0.00	0.00	0.00

Date	VP	Observer	Flight start time	Species	No. of birds	Duration (s)	Inside CRAA (seconds)						Outside CRAA (seconds)					
							0-20m	21-40m	41-100m	101-150m	151-200m	>201m	0-20m	21-40m	41-100m	101-150m	151-200m	>201m
01/08/2025	7	LML	1435	Red kite	1	65	0.00	20.00	45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/08/2025	7	LML	1435	Red kite	1	25	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/08/2025	7	LML	1443	Red kite	1	120	26.23	39.34	39.34	0.00	0.00	0.00	3.77	5.66	5.66	0.00	0.00	0.00
13/08/2025	8	ENS	1015	Red kite	2	368	184.31	35.91	0.00	0.00	0.00	0.00	123.69	24.09	0.00	0.00	0.00	0.00
13/08/2025	8	ENS	1035	Red kite	1	291	112.43	75.89	84.32	0.00	0.00	0.00	7.57	5.11	5.68	0.00	0.00	0.00
13/08/2025	8	ENS	1104	Red kite	1	74	0.00	32.50	22.16	0.00	0.00	0.00	0.00	11.50	7.84	0.00	0.00	0.00
13/08/2025	8	ENS	1114	Red kite	2	161	0.00	15.00	41.00	60.00	45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13/08/2025	8	ENS	1123	Red kite	1	89	0.00	0.00	21.73	10.87	31.87	0.00	0.00	0.00	8.27	4.13	12.13	0.00
13/08/2025	8	ENS	1140	Red kite	1	311	0.00	60.00	86.00	105.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13/08/2025	8	ENS	1147	Red kite	1	171	0.00	0.00	35.98	64.77	35.98	0.00	0.00	0.00	9.02	16.23	9.02	0.00
13/08/2025	8	ENS	1230	Red kite	1	71	0.00	11.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13/08/2025	8	ENS	1410	Red kite	1	134	0.00	0.00	55.15	70.11	0.00	0.00	0.00	0.00	3.85	4.89	0.00	0.00
22/08/2025	6	LW	1233	Red kite	1	60	0.00	11.28	22.55	11.28	0.00	0.00	0.00	3.72	7.45	3.72	0.00	0.00
03/10/2023	8	MW	1114	Short-eared owl	1	35	0.00	0.00	0.00	0.00	0.00	0.00	35.00	0.00	0.00	0.00	0.00	0.00
14/11/2022	1	JR	1046	White-fronted goose	103	67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00	60.00	0.00	0.00
14/11/2022	1	JR	1053	White-fronted goose	33	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00

D.2 Moorland Breeding Bird Records

Moorland breeding bird surveys were undertaken during the 2023, 2024 and 2025 breeding seasons and focussed on recording activity of upland wader species within the survey area (**Table D-2**).

Table D-2: Wader activity recorded during upland breeding bird surveys

Date	Survey visit	Observer	Species	Number recorded	Notes
16/03/2023	SBBS 1	MW	Curlew	2	Pair.
17/03/2023	SBBS 1	MW	Snipe	1	-
17/03/2023	SBBS 1	MW	Golden plover	2	-
20/03/2023	SBBS 1	MW	Ringed plover	1	-
20/03/2023	SBBS 1	MW	Ringed plover	1	-
20/03/2023	SBBS 1	MW	Oystercatcher	1	-
20/03/2023	SBBS 1	MW	Ringed plover	1	-
20/03/2023	SBBS 1	MW	Oystercatcher	1	-
20/03/2023	SBBS 1	MW	Oystercatcher	1	-
20/03/2023	SBBS 1	MW	Curlew	2	Pair.
20/03/2023	SBBS 1	MW	Curlew	2	Pair.
20/03/2023	SBBS 1	MW	Snipe	1	Singing.
20/03/2023	SBBS 1	MW	Snipe	1	Singing.
20/03/2023	SBBS 1	MW	Snipe	1	Singing.
20/03/2023	SBBS 1	MW	Curlew	2	Pair.
20/03/2023	SBBS 1	MW	Snipe	1	Singing.
20/03/2023	SBBS 1	MW	Snipe	1	Singing.
20/03/2023	SBBS 1	MW	Snipe	1	Singing.
20/03/2023	SBBS 1	MW	Curlew	2	Pair.
22/03/2023	VP 4 -	HEC	Snipe	1	Flushed whilst walking to survey location.
05/04/2023	VP 4 -	TH	Snipe	2	Flushed whilst walking to survey location.
12/04/2023	BBS 1	HEC	Curlew	1	Singing.
12/04/2023	BBS 1	HEC	Curlew	2	-
12/04/2023	BBS 1	HEC	Oystercatcher	2	-
12/04/2023	BBS 1	HEC	Curlew	1	Singing.
12/04/2023	BBS 1	HEC	Curlew	1	Singing.
12/04/2023	BBS 1	HEC	Curlew	1	Singing.
12/04/2023	BBS 1	HEC	Curlew	2	Calling; different bird from Ref_ID 24.

Date	Survey visit	Observer	Species	Number recorded	Notes
12/04/2023	BBS 1	HEC	Curlew	1	Calling; different bird from Ref_ID 23.
12/04/2023	BBS 1	TH	Curlew	3	Calling.
12/04/2023	BBS 1	TH	Oystercatcher	1	-
12/04/2023	BBS 1	TH	Oystercatcher	2	-
12/04/2023	BBS 1	TH	Common sandpiper	1	Calling.
12/04/2023	BBS 1	TH	Redshank	1	-
12/04/2023	BBS 1	TH	Snipe	1	Flushed.
12/04/2023	BBS 1	TH	Golden plover	1	Calling.
12/04/2023	BBS 1	TH	Curlew	2	Calling.
12/04/2023	BBS 1	TH	Curlew	2	Calling.
12/04/2023	BBS 1	TH	Lapwing	1	Mobbing a carrion crow.
13/04/2023	SBBS 2	JR	Curlew	2	Singing.
13/04/2023	SBBS 2	JR	Oystercatcher	2	Pair.
13/04/2023	SBBS 2	JR	Ringed plover	2	Pair.
13/04/2023	SBBS 2	JR	Curlew	2	Pair.
13/04/2023	SBBS 2	JR	Curlew	2	Pair.
13/04/2023	SBBS 2	JRM	Ringed plover	2	Pair; singing; different birds from Ref_ID 214.
13/04/2023	SBBS 2	JRM	Lapwing	1	-
13/04/2023	SBBS 2	JRM	Ringed plover	2	Pair; different birds from Ref_ID 212.
13/04/2023	SBBS 2	JRM	Oystercatcher	8	-
13/04/2023	SBBS 2	JRM	Curlew	2	Pair; singing; different birds from Ref_ID 217.
13/04/2023	SBBS 2	JRM	Curlew	2	Pair; singing; different birds from Ref_ID 216.
13/04/2023	SBBS 2	JRM	Curlew	1	Singing.
14/04/2023	SBBS 2	JR	Curlew	1	Singing.
14/04/2023	SBBS 2	JR	Ringed plover	1	Singing.
14/04/2023	SBBS 2	JR	Oystercatcher	1	Singing.
14/04/2023	SBBS 2	JR	Oystercatcher	1	Singing.
14/04/2023	SBBS 2	JR	Ringed plover	1	Singing.
14/04/2023	SBBS 2	JR	Oystercatcher	1	Singing.
14/04/2023	SBBS 2	JR	Curlew	1	Singing.
14/04/2023	SBBS 2	JR	Redshank	1	Singing.
14/04/2023	SBBS 2	JR	Ringed plover	1	Singing.

Date	Survey visit	Observer	Species	Number recorded	Notes
14/04/2023	SBBS 2	JR	Lapwing	2	Pair; singing.
14/04/2023	SBBS 2	JR	Snipe	2	Singing.
14/04/2023	SBBS 2	JR	Snipe	1	Singing.
14/04/2023	SBBS 2	JR	Curlew	1	Singing.
14/04/2023	SBBS 2	JRM	Snipe	1	Displaying; different bird from Ref_ID 239 & 240.
14/04/2023	SBBS 2	JRM	Snipe	2	Singing and displaying; different bird from Ref_ID 238 & 240.
14/04/2023	SBBS 2	JRM	Snipe	1	Singing; different bird from Ref_ID 238 & 239.
14/04/2023	SBBS 2	JRM	Curlew	2	Pair; singing.
14/04/2023	SBBS 2	JRM	Snipe	1	Singing.
14/04/2023	SBBS 2	JRM	Snipe	2	Pair; singing.
14/04/2023	SBBS 2	JRM	Snipe	1	Singing; different bird from Ref_ID 245.
14/04/2023	SBBS 2	JRM	Snipe	1	Singing; different bird from Ref_ID 244.
14/04/2023	SBBS 2	JRM	Oystercatcher	2	Pair.
14/04/2023	SBBS 2	JRM	Snipe	1	Displaying; different bird from Ref_ID 248 & 249.
14/04/2023	SBBS 2	JRM	Snipe	1	Singing; different bird from Ref_ID 247 & 249.
14/04/2023	SBBS 2	JRM	Snipe	1	Singing; different bird from Ref_ID 247 & 248.
14/04/2023	SBBS 2	JRM	Curlew	1	Singing; different bird from Ref_ID 251.
14/04/2023	SBBS 2	JRM	Curlew	2	Pair; singing; different birds from Ref_ID 250.
14/04/2023	SBBS 2	JRM	Curlew	1	Singing; heard only. Location estimated.
14/04/2023	SBBS 2	JRM	Curlew	1	Singing; heard only. Location estimated.
14/04/2023	SBBS 2	JRM	Curlew	1	Singing; heard only. Location estimated.
08/05/2023	SBBS 3	JR	Oystercatcher	1	-
08/05/2023	SBBS 3	JR	Ringed plover	2	Pair.
08/05/2023	SBBS 3	JR	Curlew	1	Singing.
08/05/2023	SBBS 3	JR	Oystercatcher	2	Pair; calling.
08/05/2023	SBBS 3	JR	Lapwing	2	Pair.
09/05/2023	BBS 2	EB	Curlew	1	Singing.
09/05/2023	BBS 2	EB	Curlew	2	Singing.

Date	Survey visit	Observer	Species	Number recorded	Notes
09/05/2023	BBS 2	EB	Lapwing	1	Calling.
09/05/2023	BBS 2	EB	Curlew	1	Calling.
09/05/2023	BBS 2	EB	Golden plover	1	Calling.
09/05/2023	BBS 2	EB	Curlew	1	Calling.
09/05/2023	BBS 2	EB	Curlew	2	Calling.
09/05/2023	BBS 2	EB	Curlew	1	Calling.
09/05/2023	BBS 2	EB	Curlew	2	Singing; different bird from Ref_ID 46.
09/05/2023	BBS 2	EB	Curlew	1	Calling; different bird from Ref_ID 45.
09/05/2023	BBS 2	EB	Curlew	1	Singing.
09/05/2023	BBS 2	EB	Snipe	1	Calling.
09/05/2023	BBS 2	EB	Snipe	1	Calling.
09/05/2023	BBS 2	EB	Curlew	2	Calling.
09/05/2023	BBS 2	EB	Common sandpiper	1	-
09/05/2023	BBS 2	EB	Oystercatcher	2	-
09/05/2023	BBS 2	EB	Oystercatcher	2	-
09/05/2023	BBS 2	EB	Ringed plover	4	-
09/05/2023	BBS 2	EB	Lapwing	1	Calling.
09/05/2023	BBS 2	EB	Curlew	3	Calling.
09/05/2023	BBS 2	EB	Oystercatcher	2	Calling.
09/05/2023	BBS 2	EB	Oystercatcher	2	-
09/05/2023	BBS 2	EB	Common sandpiper	1	-
09/05/2023	BBS 2	EB	Curlew	2	Calling.
09/05/2023	BBS 2	EB	Lapwing	2	Calling.
09/05/2023	BBS 2	EB	Oystercatcher	2	-
09/05/2023	BBS 2	HEC	Curlew	2	-
09/05/2023	BBS 2	HEC	Curlew	2	-
09/05/2023	BBS 2	HEC	Oystercatcher	1	-
09/05/2023	BBS 2	HEC	Oystercatcher	1	-
09/05/2023	BBS 2	HEC	Common sandpiper	2	-
09/05/2023	BBS 2	HEC	Snipe	1	-
09/05/2023	BBS 2	HEC	Oystercatcher	2	-
09/05/2023	BBS 2	HEC	Common sandpiper	2	-

Date	Survey visit	Observer	Species	Number recorded	Notes
09/05/2023	BBS 2	HEC	Curlew	1	-
09/05/2023	BBS 2	HEC	Curlew	1	-
09/05/2023	BBS 2	HEC	Curlew	1	-
09/05/2023	BBS 2	HEC	Common sandpiper	1	Calling.
09/05/2023	BBS 2	HEC	Snipe	1	-
09/05/2023	BBS 2	HEC	Oystercatcher	2	-
09/05/2023	BBS 2	HEC	Snipe	1	Calling.
09/05/2023	BBS 2	HEC	Curlew	1	Singing.
10/05/2023	BBS 2	HEC	Snipe	1	Singing.
10/05/2023	BBS 2	HEC	Snipe	1	Singing.
10/05/2023	BBS 2	HEC	Snipe	1	Calling.
10/05/2023	BBS 2	HEC	Curlew	1	Calling.
10/05/2023	BBS 2	HEC	Lapwing	1	-
10/05/2023	BBS 2	HEC	Common sandpiper	1	-
10/05/2023	BBS 2	HEC	Common sandpiper	1	-
10/05/2023	BBS 2	HEC	Lapwing	1	-
10/05/2023	BBS 2	HEC	Oystercatcher	1	Alarm calling.
10/05/2023	BBS 2	HEC	Curlew	1	Calling.
10/05/2023	BBS 2	HEC	Snipe	1	-
10/05/2023	BBS 2	HEC	Lapwing	1	-
10/05/2023	BBS 2	HEC	Curlew	2	-
10/05/2023	BBS 2	HEC	Curlew	2	-
10/05/2023	SBBS 3	JR	Lapwing	2	Pair.
10/05/2023	SBBS 3	JR	Snipe	1	Singing.
10/05/2023	SBBS 3	JR	Oystercatcher	2	Pair; singing.
10/05/2023	SBBS 3	JR	Curlew	2	Pair; singing.
10/05/2023	SBBS 3	JR	Oystercatcher	1	-
10/05/2023	SBBS 3	JR	Common sandpiper	1	-
10/05/2023	SBBS 3	JR	Curlew	2	Pair; singing; different birds from Ref_ID 269.
10/05/2023	SBBS 3	JR	Snipe	1	Singing.
10/05/2023	SBBS 3	JR	Snipe	1	-
10/05/2023	SBBS 3	JR	Snipe	1	Singing.
10/05/2023	SBBS 3	JR	Snipe	1	Singing.

Date	Survey visit	Observer	Species	Number recorded	Notes
10/05/2023	SBBS 3	JR	Curlew	2	Pair; singing; different birds from Ref_ID 264.
10/05/2023	SBBS 3	JR	Redshank	2	Pair.
10/05/2023	SBBS 3	JR	Oystercatcher	4	2 pairs.
10/05/2023	SBBS 3	JR	Lapwing	4	2 pairs.
10/05/2023	SBBS 3	JR	Ringed plover	6	3 pairs.
10/05/2023	SBBS 3	JR	Common sandpiper	2	Pair.
10/05/2023	SBBS 3	JR	Turnstone	1	In summer plumage; feeding in stream; likely on passage.
10/05/2023	SBBS 3	JR	Snipe	1	Singing.
10/05/2023	SBBS 3	JR	Curlew	2	Pair.
10/05/2023	SBBS 3	JR	Curlew	1	Calling.
10/05/2023	SBBS 3	JR	Snipe	1	Singing.
10/05/2023	SBBS 3	JR	Snipe	1	Singing.
10/05/2023	SBBS 3	JR	Snipe	1	Singing.
11/05/2023	SBBS 3	JR	Common sandpiper	2	Pair; singing.
11/05/2023	SBBS 3	JR	Curlew	2	Pair.
11/05/2023	SBBS 3	JR	Oystercatcher	2	Pair.
11/05/2023	SBBS 3	JR	Curlew	2	Pair; singing.
11/05/2023	SBBS 3	JR	Curlew	2	Pair; singing.
12/05/2023	SBBS 3	JR	Common sandpiper	1	Calling.
12/05/2023	SBBS 3	JR	Common sandpiper	2	Pair.
12/05/2023	SBBS 3	JR	Curlew	1	Singing.
12/05/2023	SBBS 3	JR	Curlew	1	Singing.
12/05/2023	SBBS 3	JR	Oystercatcher	2	Pair.
12/05/2023	SBBS 3	JR	Common sandpiper	2	Pair.
12/05/2023	SBBS 3	JR	Curlew	1	Singing.
12/05/2023	SBBS 3	JR	Ringed plover	2	Pair.
12/05/2023	SBBS 3	JR	Common sandpiper	2	Pair.
12/05/2023	SBBS 3	JR	Curlew	1	Singing.
12/05/2023	SBBS 3	JR	Oystercatcher	1	-
12/05/2023	SBBS 3	JR	Oystercatcher	2	Pair.
12/05/2023	SBBS 3	JR	Redshank	2	Pair.

Date	Survey visit	Observer	Species	Number recorded	Notes
12/05/2023	SBBS 3	JR	Lapwing	2	Pair.
12/05/2023	SBBS 3	JR	Curlew	4	2 pairs.
12/05/2023	SBBS 3	JR	Ringed plover	6	3 pairs.
12/05/2023	SBBS 3	JR	Lapwing	1	-
01/06/2023	BBS 3	HEC	Oystercatcher	2	-
01/06/2023	BBS 3	HEC	Oystercatcher	2	-
01/06/2023	BBS 3	HEC	Common sandpiper	2	Calling.
01/06/2023	BBS 3	HEC	Common sandpiper	1	-
01/06/2023	BBS 3	HEC	Golden plover	1	Male; calling.
01/06/2023	BBS 3	HEC	Golden plover	1	Calling.
01/06/2023	BBS 3	HEC	Snipe	1	-
01/06/2023	BBS 3	HEC	Snipe	1	Calling.
01/06/2023	BBS 3	HEC	Snipe	1	Calling.
01/06/2023	BBS 3	HEC	Snipe	2	Displaying.
01/06/2023	BBS 3	HEC	Snipe	1	Calling.
01/06/2023	BBS 3	HEC	Curlew	1	Singing.
01/06/2023	BBS 3	HEC	Snipe	1	Calling.
01/06/2023	BBS 3	HEC	Curlew	1	Singing.
01/06/2023	BBS 3	HEC	Curlew	2	Singing.
01/06/2023	BBS 3	HEC	Curlew	1	Calling.
01/06/2023	BBS 3	HEC	Curlew	1	Calling.
01/06/2023	BBS 3	HEC	Curlew	1	Calling.
01/06/2023	BBS 3	JR	Curlew	2	-
01/06/2023	BBS 3	JR	Curlew	2	Pair; alarm calling.
01/06/2023	BBS 3	JR	Curlew	2	Pair; alarm calling; different birds from Ref_ID 136.
01/06/2023	BBS 3	JR	Curlew	1	Calling; same bird as one of those from Ref_ID 137.
01/06/2023	BBS 3	JR	Curlew	2	Pair; calling.
01/06/2023	BBS 3	JR	Curlew	2	Pair; singing and calling.
01/06/2023	BBS 3	JR	Curlew	2	Pair; alarm calling; same birds as Ref_ID 140.
01/06/2023	BBS 3	JR	Curlew	1	Singing.
01/06/2023	BBS 3	JR	Curlew	2	Pair; alarm calling.
01/06/2023	BBS 3	JR	Curlew	2	Pair; singing.
01/06/2023	BBS 3	JR	Curlew	2	Pair; singing; different birds from Ref_ID 144.
01/06/2023	BBS 3	JR	Curlew	2	Pair; calling; same birds as Ref_ID 144.

Date	Survey visit	Observer	Species	Number recorded	Notes
01/06/2023	BBS 3	JR	Snipe	1	Singing.
01/06/2023	BBS 3	JR	Snipe	1	Singing; different bird from Ref_ID 147.
01/06/2023	BBS 3	JR	Snipe	1	Singing.
01/06/2023	BBS 3	JR	Snipe	1	Singing.
01/06/2023	BBS 3	JR	Snipe	1	Singing.
01/06/2023	BBS 3	JR	Common sandpiper	1	Singing.
01/06/2023	BBS 3	JR	Common sandpiper	1	Singing; different bird from Ref_ID 152.
01/06/2023	BBS 3	JR	Common sandpiper	1	Calling.
01/06/2023	BBS 3	JR	Lapwing	2	Pair; alarm calling.
01/06/2023	BBS 3	JR	Oystercatcher	1	Calling.
01/06/2023	BBS 3	JR	Oystercatcher	1	Calling; different bird from Ref_ID 156 & 158.
01/06/2023	BBS 3	JR	Oystercatcher	1	Calling.
01/06/2023	BBS 3	JR	Oystercatcher	1	Calling.
05/06/2023	BBS 3	HEC	Curlew	2	Alarm calling.
05/06/2023	BBS 3	HEC	Curlew	1	Alarm calling; possibly one of the birds from Ref_ID 165.
05/06/2023	BBS 3	HEC	Curlew	2	Calling.
05/06/2023	BBS 3	HEC	Curlew	1	Calling.
05/06/2023	BBS 3	HEC	Curlew	2	Calling.
05/06/2023	BBS 3	HEC	Curlew	1	Alarm calling.
05/06/2023	BBS 3	HEC	Curlew	1	-
05/06/2023	BBS 3	HEC	Snipe	1	Calling.
05/06/2023	BBS 3	HEC	Snipe	1	Calling.
05/06/2023	BBS 3	HEC	Oystercatcher	2	Alarm calling.
05/06/2023	BBS 3	HEC	Oystercatcher	2	-
05/06/2023	BBS 3	HEC	Lapwing	2	-
05/06/2023	BBS 3	HEC	Lapwing	1	-
05/06/2023	BBS 3	HEC	Lapwing	2	-
05/06/2023	BBS 3	HEC	Lapwing	2	-
05/06/2023	BBS 3	HEC	Ringed plover	1	-
05/06/2023	BBS 3	HEC	Ringed plover	1	Calling.
05/06/2023	BBS 3	HEC	Ringed plover	1	-
05/06/2023	BBS 3	HEC	Redshank	1	-

Date	Survey visit	Observer	Species	Number recorded	Notes
23/06/2023	VP 3 -	NW	Oystercatcher	2	Pair; nesting.
26/06/2023	SBBS 4	JRM	Common sandpiper	1	-
26/06/2023	SBBS 4	JRM	Lapwing	4	-
26/06/2023	SBBS 4	JRM	Ringed plover	1	-
26/06/2023	SBBS 4	JRM	Curlew	2	Pair; singing.
26/06/2023	SBBS 4	JRM	Oystercatcher	3	Family; adult pair with 1 juvenile.
26/06/2023	SBBS 4	JRM	Curlew	2	Pair; alarm calling.
26/06/2023	SBBS 4	JRM	Curlew	6	Calling
26/06/2023	SBBS 4	JRM	Ringed plover	5	Family; adult pair with 3 juveniles.
26/06/2023	SBBS 4	JRM	Oystercatcher	1	-
26/06/2023	SBBS 4	JRM	Lapwing	4	Mobbing a grey heron.
26/06/2023	SBBS 4	JRM	Snipe	1	Singing.
26/06/2023	SBBS 4	JRM	Ringed plover	5	Family; 3 adults with 2 juveniles.
26/06/2023	SBBS 4	JRM	Lapwing	7	Family; 5 adults with 2 juveniles.
26/06/2023	SBBS 4	JRM	Redshank	3	Family; 1 adult with 2 juveniles.
26/06/2023	SBBS 4	JRM	Common sandpiper	1	Alarm calling.
26/06/2023	SBBS 4	JRM	Snipe	1	Singing.
26/06/2023	SBBS 4	JRM	Curlew	1	Singing.
05/07/2023	SBBS 5	JR	Oystercatcher	4	-
05/07/2023	SBBS 5	JR	Curlew	1	Calling.
05/07/2023	SBBS 5	JR	Curlew	1	Alarm calling.
05/07/2023	SBBS 5	JR	Oystercatcher	2	Pair.
05/07/2023	SBBS 5	JR	Oystercatcher	2	Pair.
05/07/2023	SBBS 5	JR	Curlew	2	Family; alarm calling.
05/07/2023	SBBS 5	JR	Lapwing	2	Pair.
05/07/2023	SBBS 5	JR	Oystercatcher	1	-
05/07/2023	SBBS 5	JR	Ringed plover	2	-
05/07/2023	SBBS 5	JR	Ringed plover	1	-
05/07/2023	SBBS 5	JR	Common sandpiper	1	-
05/07/2023	SBBS 5	JR	Lapwing	1	-
05/07/2023	SBBS 5	JR	Curlew	2	Family.
05/07/2023	SBBS 5	JR	Redshank	2	Family
05/07/2023	SBBS 5	JR	Ringed plover	4	2 families.
05/07/2023	SBBS 5	JR	Curlew	2	Family.

Date	Survey visit	Observer	Species	Number recorded	Notes
05/07/2023	SBBS 5	JR	Oystercatcher	1	-
05/07/2023	SBBS 5	JR	Lapwing	2	Family.
05/07/2023	SBBS 5	JR	Common sandpiper	2	Family.
05/07/2023	SBBS 5	JR	Curlew	1	-
06/07/2023	SBBS 5	JR	Lapwing	1	-
06/07/2023	SBBS 5	JR	Snipe	1	Calling.
06/07/2023	SBBS 5	JR	Curlew	1	Calling.
06/07/2023	SBBS 5	JR	Curlew	1	Calling.
06/07/2023	SBBS 5	JR	Snipe	1	Calling.
06/07/2023	SBBS 5	JR	Curlew	1	Calling.
06/07/2023	SBBS 5	JR	Curlew	2	Calling.
06/07/2023	SBBS 5	JR	Curlew	1	Calling.
06/07/2023	VP 4 -	NW	Curlew	1	Observed whilst walking to survey location.
27/07/2023	BBS 4	EB	Ringed plover	2	-
27/07/2023	BBS 4	JRM	Lapwing	2	Family; 1 adult with 1 juvenile; same birds as Ref_ID 185.
27/07/2023	BBS 4	JRM	Common sandpiper	1	-
27/07/2023	BBS 4	TH	Lapwing	2	Family; adult with a juvenile.
27/07/2023	BBS 4	TH	Oystercatcher	1	Calling.
09/08/2023	SBBS 6	JRM	Curlew	1	Heard only; singing.
10/08/2023	SBBS 6	JRM	Curlew	1	Heard only; singing.
05/03/2024	SBBS 7	JRM	Lapwing	66	Feeding in field.
05/03/2024	SBBS 7	JRM	Ringed plover	25	Feeding in field.
05/03/2024	SBBS 7	JRM	Curlew	2	Feeding in field.
05/03/2024	SBBS 7	JRM	Oystercatcher	65	Feeding in field.
05/03/2024	SBBS 7	JRM	Curlew	2	Pair; singing.
05/03/2024	SBBS 7	JRM	Curlew	2	Pair; singing.
06/03/2024	SBBS 7	JRM	Lapwing	1	-
06/03/2024	SBBS 7	JRM	Oystercatcher	1	-
06/03/2024	SBBS 7	JRM	Curlew	25	-
06/03/2024	SBBS 7	JRM	Oystercatcher	2	-
06/03/2024	SBBS 7	JRM	Lapwing	4	-
06/03/2024	SBBS 7	JRM	Ringed plover	2	-
23/04/2024	BBS 5	EB	Curlew	1	Singing.
23/04/2024	BBS 5	EB	Curlew	2	Singing.

Date	Survey visit	Observer	Species	Number recorded	Notes
23/04/2024	BBS 5	EB	Curlew	1	Singing.
23/04/2024	BBS 5	EB	Curlew	2	Singing; different birds from Ref_ID 426.
23/04/2024	BBS 5	EB	Curlew	2	Singing; different birds from Ref_ID 425.
23/04/2024	BBS 5	EB	Lapwing	1	Calling.
23/04/2024	BBS 5	EB	Lapwing	3	-
23/04/2024	BBS 5	EB	Curlew	5	-
23/04/2024	BBS 5	EB	Common sandpiper	2	-
23/04/2024	BBS 5	EB	Curlew	2	-
23/04/2024	BBS 5	EB	Curlew	1	Singing.
23/04/2024	BBS 5	EB	Common sandpiper	1	-
23/04/2024	BBS 5	EB	Curlew	1	Singing.
23/04/2024	BBS 5	EB	Curlew	1	Singing.
23/04/2024	BBS 5	EB	Common sandpiper	1	Calling.
23/04/2024	BBS 5	EB	Oystercatcher	2	-
23/04/2024	BBS 5	EB	Oystercatcher	2	-
23/04/2024	BBS 5	EB	Oystercatcher	2	-
23/04/2024	BBS 5	EB	Lapwing	1	Calling.
23/04/2024	BBS 5	EB	Oystercatcher	2	-
23/04/2024	BBS 5	EB	Curlew	1	-
23/04/2024	BBS 5	EB	Curlew	1	-
23/04/2024	BBS 5	EB	Snipe	1	Singing.
23/04/2024	BBS 5	LS	Curlew	2	Calling.
23/04/2024	BBS 5	LS	Snipe	1	Singing.
23/04/2024	BBS 5	LS	Snipe	1	Flushed.
23/04/2024	BBS 5	LS	Golden plover	50	Minimum count; flushed.
23/04/2024	BBS 5	LS	Curlew	1	Calling.
23/04/2024	BBS 5	LS	Curlew	2	-
23/04/2024	BBS 5	LS	Curlew	1	-
23/04/2024	BBS 5	LS	Oystercatcher	1	Calling.
26/04/2024	VP 8 -	MW	Greenshank	1	-
26/04/2024	VP 8 -	MW	Oystercatcher	2	-
02/05/2024	Ecology -	EB	Ringed plover	2	Pair; incidental record from a surveyor carrying out an ecology survey.

Date	Survey visit	Observer	Species	Number recorded	Notes
02/05/2024	Ecology -	EB	Redshank	2	Pair; incidental record from a surveyor carrying out an ecology survey.
07/05/2024	BBS 6	LS	Snipe	1	Singing; heard only; location estimated.
07/05/2024	BBS 6	LS	Curlew	2	Singing.
07/05/2024	BBS 6	LS	Curlew	2	Singing; different birds from Ref_ID 462.
07/05/2024	BBS 6	LS	Curlew	2	Singing; different birds from Ref_ID 460.
07/05/2024	BBS 6	LS	Lapwing	2	Singing.
07/05/2024	BBS 6	LS	Snipe	1	Singing; heard only; location estimated.
07/05/2024	BBS 6	LS	Curlew	1	Singing; different bird from Ref_ID 468 & 469.
07/05/2024	BBS 6	LS	Curlew	1	Singing; different bird from Ref_ID 467 & 469.
07/05/2024	BBS 6	LS	Curlew	2	Singing; different birds from Ref_ID 467 and Ref_ID 468.
07/05/2024	BBS 6	LS	Golden plover	1	Singing; heard only; location estimated.
07/05/2024	BBS 6	LS	Golden plover	2	Pair; landed.
07/05/2024	SBBS 9	JR	Curlew	2	Pair; singing.
07/05/2024	SBBS 9	JR	Lapwing	2	Pair.
07/05/2024	SBBS 9	JR	Oystercatcher	2	Pair.
07/05/2024	SBBS 9	JR	Common sandpiper	2	Pair.
07/05/2024	SBBS 9	JR	Oystercatcher	2	Pair.
07/05/2024	SBBS 9	JR	Oystercatcher	2	Pair.
07/05/2024	SBBS 9	JR	Lapwing	2	Pair; singing.
07/05/2024	SBBS 9	JR	Redshank	2	Pair; singing.
07/05/2024	SBBS 9	JR	Ringed plover	4	Two pairs; singing.
07/05/2024	SBBS 9	JR	Common sandpiper	1	Alarm calling.
07/05/2024	SBBS 9	JR	Common sandpiper	2	Pair; alarm calling.
07/05/2024	SBBS 9	JR	Oystercatcher	2	Pair; calling.
07/05/2024	SBBS 9	JR	Curlew	1	Singing.
07/05/2024	SBBS 9	JR	Snipe	1	Singing.
07/05/2024	SBBS 9	JR	Curlew	1	Singing.
07/05/2024	SBBS 9	JR	Curlew	2	Pair; singing.

Date	Survey visit	Observer	Species	Number recorded	Notes
08/05/2024	BBS 6	LS	Lapwing	4	Singing; different birds from Ref_ID 475 & 477.
08/05/2024	BBS 6	LS	Snipe	1	Singing.
08/05/2024	BBS 6	LS	Oystercatcher	3	Different birds from Ref_ID 476.
08/05/2024	BBS 6	LS	Lapwing	3	Different birds from Ref_ID 472 & 477.
08/05/2024	BBS 6	LS	Oystercatcher	2	Different birds from Ref_ID 474.
08/05/2024	BBS 6	LS	Lapwing	2	Different birds from Ref_ID 472 & 475.
08/05/2024	BBS 6	LS	Oystercatcher	2	Different birds from Ref_ID 479.
08/05/2024	BBS 6	LS	Oystercatcher	2	Different birds from Ref_ID 478.
08/05/2024	BBS 6	LS	Curlew	1	-
08/05/2024	BBS 6	LS	Lapwing	4	-
08/05/2024	BBS 6	LS	Oystercatcher	1	-
08/05/2024	BBS 6	LS	Curlew	1	Singing.
08/05/2024	BBS 6	LS	Oystercatcher	4	-
08/05/2024	BBS 6	LS	Snipe	1	Flushed.
08/05/2024	BBS 6	LS	Lapwing	3	Singing.
08/05/2024	BBS 6	LS	Snipe	1	Singing.
08/05/2024	BBS 6	LS	Curlew	2	Flushed; singing.
08/05/2024	BBS 6	LS	Snipe	1	Singing.
08/05/2024	BBS 6	LS	Lapwing	1	-
08/05/2024	BBS 6	LS	Oystercatcher	2	-
08/05/2024	BBS 6	LS	Curlew	2	Singing; different birds from Ref_ID 494 & 495.
08/05/2024	BBS 6	LS	Curlew	1	Different bird from Ref_ID 493 & 495.
08/05/2024	BBS 6	LS	Curlew	1	Singing; different bird from Ref_ID 493 & 494.
08/05/2024	BBS 6	LS	Oystercatcher	1	Flushed; different bird from Ref_ID 497 & 498.
08/05/2024	BBS 6	LS	Oystercatcher	2	Different birds from Ref_ID 496 & 498.
08/05/2024	BBS 6	LS	Oystercatcher	1	Different bird from Ref_ID 496 & 497.
08/05/2024	BBS 6	LS	Lapwing	2	Different birds from Ref_ID 500.
08/05/2024	BBS 6	LS	Lapwing	1	Different bird from Ref_ID 499.
08/05/2024	BBS 6	LS	Oystercatcher	1	Singing.
08/05/2024	BBS 6	LS	Common sandpiper	1	Flushed.

Date	Survey visit	Observer	Species	Number recorded	Notes
08/05/2024	BBS 6	LS	Curlew	1	Singing.
08/05/2024	BBS 6	LS	Snipe	1	Displaying.
08/05/2024	BBS 6	LS	Snipe	1	Singing.
08/05/2024	BBS 6	LS	Curlew	1	Singing.
08/05/2024	BBS 6	LS	Curlew	4	-
08/05/2024	BBS 6	LS	Curlew	4	-
08/05/2024	SBBS 9	JR	Curlew	2	Pair; singing.
08/05/2024	SBBS 9	JR	Curlew	4	Two pairs; singing.
08/05/2024	SBBS 9	JR	Lapwing	2	Pair; singing.
08/05/2024	SBBS 9	JR	Oystercatcher	2	Pair; alarm calling.
08/05/2024	SBBS 9	JR	Curlew	2	Pair; singing.
08/05/2024	SBBS 9	JR	Oystercatcher	2	Pair; singing.
08/05/2024	SBBS 9	JR	Curlew	1	Singing.
08/05/2024	SBBS 9	JR	Snipe	1	Singing.
25/06/2024	BBS 7	IH	Curlew	2	Calling.
25/06/2024	BBS 7	IH	Curlew	1	Calling.
25/06/2024	BBS 7	IH	Curlew	2	Calling.
25/06/2024	BBS 7	IH	Curlew	1	Calling.
25/06/2024	BBS 7	IH	Curlew	1	Calling.
25/06/2024	BBS 7	IH	Golden plover	2	In flight.
25/06/2024	BBS 7	IH	Curlew	1	Calling.
25/06/2024	BBS 7	IH	Snipe	1	Singing.
25/06/2024	BBS 7	IH	Curlew	2	Calling.
25/06/2024	BBS 7	LS	Curlew	1	Flushed; calling; different bird from Ref_ID 520.
25/06/2024	BBS 7	LS	Oystercatcher	2	Calling.
25/06/2024	BBS 7	LS	Curlew	2	Flushed; calling; different birds from Ref_ID 518.
25/06/2024	BBS 7	LS	Curlew	2	Calling; different birds from Ref_ID 525.
25/06/2024	BBS 7	LS	Oystercatcher	1	-
25/06/2024	BBS 7	LS	Lapwing	5	In flight; different birds from Ref_ID 524.
25/06/2024	BBS 7	LS	Lapwing	3	Different birds from Ref_ID 523.
25/06/2024	BBS 7	LS	Curlew	1	Calling; different birds from Ref_ID 521.
25/06/2024	BBS 7	LS	Oystercatcher	3	-

Date	Survey visit	Observer	Species	Number recorded	Notes
25/06/2024	BBS 7	LS	Common sandpiper	1	Calling.
25/06/2024	BBS 7	LS	Common sandpiper	1	Calling.
25/06/2024	BBS 7	LS	Curlew	1	Calling; heard only; location estimated.
25/06/2024	BBS 7	LS	Oystercatcher	1	Calling.
25/06/2024	BBS 7	LS	Common sandpiper	1	Flushed; calling.
25/06/2024	BBS 7	LS	Oystercatcher	3	Calling.
25/06/2024	BBS 7	LS	Common sandpiper	1	Calling.
25/06/2024	BBS 7	LS	Curlew	1	Calling.
25/06/2024	BBS 7	LS	Snipe	1	Singing; heard only; location estimated.
25/06/2024	BBS 7	LS	Snipe	1	Singing; heard only; location estimated. Ref_IDs 537-540 are all different birds.
25/06/2024	BBS 7	LS	Snipe	1	Singing; heard only; location estimated. Ref_IDs 537-540 are all different birds.
25/06/2024	BBS 7	LS	Snipe	1	Singing; heard only; location estimated. Ref_IDs 537-540 are all different birds.
25/06/2024	BBS 7	LS	Snipe	1	Singing; heard only; location estimated. Ref_IDs 537-540 are all different birds.
25/06/2024	BBS 7	LS	Curlew	3	Calling; heard only; location estimated; different bird from Ref_ID 542 & 543.
25/06/2024	BBS 7	LS	Curlew	1	Calling; heard only; location estimated; different bird from Ref_ID 541 & 543.
25/06/2024	BBS 7	LS	Curlew	1	Calling; heard only; location estimated; different bird from Ref_ID 541 & 542.
25/06/2024	BBS 7	LS	Curlew	1	-
05/07/2024	BBS 8	IH	Oystercatcher	1	Calling.
05/07/2024	BBS 8	IH	Lapwing	3	In flight; calling.
05/07/2024	BBS 8	IH	Oystercatcher	9	-
05/07/2024	BBS 8	IH	Lapwing	8	-
05/07/2024	BBS 8	IH	Oystercatcher	6	-
05/07/2024	BBS 8	IH	Common sandpiper	1	-

Date	Survey visit	Observer	Species	Number recorded	Notes
05/07/2024	BBS 8	IH	Oystercatcher	1	In flight; calling.
05/07/2024	BBS 8	IH	Lapwing	1	-
05/07/2024	BBS 8	IH	Snipe	1	In flight.
05/07/2024	BBS 8	IH	Oystercatcher	2	Calling.
05/07/2024	BBS 8	IH	Common sandpiper	1	-
05/07/2024	BBS 8	LS	Snipe	1	Flushed.
05/07/2024	BBS 8	LS	Curlew	1	Calling; heard only; location estimated. Possibly the same bird as Ref_ID 566.
05/07/2024	BBS 8	LS	Curlew	1	In flight; calling. Possibly the same bird as Ref_ID 565.
16/07/2024	SBBS 11	MW	Common sandpiper	4	-
16/07/2024	SBBS 11	MW	Redshank	2	-
16/07/2024	SBBS 11	MW	Ringed plover	14	-
16/07/2024	SBBS 11	MW	Oystercatcher	14	-
16/07/2024	SBBS 11	MW	Lapwing	5	-
09/08/2024	SBBS 12	MW	Oystercatcher	1	-
09/08/2024	SBBS 12	MW	Ringed plover	6	-
09/08/2024	SBBS 12	MW	Common sandpiper	2	-
09/08/2024	SBBS 12	MW	Dunlin	1	-
26/08/2024	VP 7 -	JR	Snipe	2	Flushed whilst travelling to survey location.
13/03/2025	SBBS 13	IH	Lapwing	7	-
13/03/2025	SBBS 13	IH	Oystercatcher	59	-
13/03/2025	SBBS 13	IH	Curlew	11	-
13/03/2025	SBBS 13	IH	Lapwing	2	-
13/03/2025	SBBS 13	IH	Oystercatcher	2	-

Date	Survey visit	Observer	Species	Number recorded	Notes
13/03/2025	SBBS 13	IH	Curlew	12	-
14/03/2025	SBBS 13	IH	Ringed plover	4	-
26/03/2025	VP 8 -	TH	Curlew	1	Flushed whilst travelling to the survey location.
26/03/2025	VP 8 -	TH	Oystercatcher	3	Perched; not seen to fly.
14/04/2025	BBS 9	LS	Curlew	2	-
14/04/2025	BBS 9	LS	Lapwing	4	-
14/04/2025	BBS 9	LS	Oystercatcher	2	Pair.
14/04/2025	BBS 9	LS	Curlew	2	Pair.
14/04/2025	BBS 9	LS	Snipe	1	Displaying.
14/04/2025	BBS 9	LS	Oystercatcher	2	Pair; different birds from Ref_ID 677.
14/04/2025	BBS 9	LS	Lapwing	1	Calling.
14/04/2025	BBS 9	LS	Redshank	2	Pair.
14/04/2025	BBS 9	LS	Lapwing	10	-
14/04/2025	BBS 9	LS	Redshank	2	Pair; different birds from Ref_ID 682.
14/04/2025	BBS 9	LS	Oystercatcher	19	-
14/04/2025	BBS 9	LS	Lapwing	3	-
14/04/2025	BBS 9	LS	Curlew	2	In flight; calling.
14/04/2025	BBS 9	LS	Curlew	4	Calling.
14/04/2025	BBS 9	LS	Oystercatcher	2	Ref_IDs 691-693 all different birds.
14/04/2025	BBS 9	LS	Oystercatcher	2	Ref_IDs 691-693 all different birds.
14/04/2025	BBS 9	LS	Oystercatcher	1	Ref_IDs 691-693 all different birds.
14/04/2025	BBS 9	LS	Lapwing	2	-
14/04/2025	BBS 9	LS	Oystercatcher	2	-
14/04/2025	BBS 9	LS	Snipe	1	Displaying.
14/04/2025	BBS 9	LS	Lapwing	2	-
14/04/2025	BBS 9	LS	Lapwing	3	Different birds from Ref_ID 698.
15/04/2025	BBS 9	LM	Snipe	3	-
15/04/2025	BBS 9	LM	Curlew	2	Landed.
15/04/2025	BBS 9	LM	Curlew	2	Landed.
15/04/2025	BBS 9	LM	Curlew	2	Flushed.
15/04/2025	BBS 9	LM	Snipe	1	Singing.

Date	Survey visit	Observer	Species	Number recorded	Notes
15/04/2025	BBS 9	LM	Curlew	2	Calling.
15/04/2025	BBS 9	LM	Snipe	1	Singing.
15/04/2025	BBS 9	LM	Curlew	6	In flight; circling.
15/04/2025	BBS 9	LM	Curlew	2	Calling.
15/04/2025	BBS 9	LM	Curlew	2	Mobbing a red kite (Ref_ID 710).
15/04/2025	BBS 9	LM	Golden plover	1	-
15/04/2025	BBS 9	LM	Curlew	1	Calling.
15/04/2025	BBS 9	LM	Curlew	2	Calling.
15/04/2025	BBS 9	LM	Curlew	1	Landed; calling.
15/04/2025	SBBS 14	IH	Common sandpiper	1	-
15/04/2025	SBBS 14	LS	Ringed plover	2	Pair.
15/04/2025	SBBS 14	LS	Ringed plover	1	Different bird from Ref_ID 730.
16/04/2025	BBS 9	LM	Curlew	1	-
16/04/2025	BBS 9	LM	Lapwing	1	Landed.
16/04/2025	BBS 9	LM	Curlew	2	In flight; circling.
16/04/2025	BBS 9	LM	Curlew	1	Singing.
16/04/2025	BBS 9	LM	Curlew	1	In flight; circling.
16/04/2025	BBS 9	LM	Curlew	2	Singing.
16/04/2025	BBS 9	LM	Curlew	2	In flight; circling.
16/04/2025	BBS 9	LM	Oystercatcher	3	-
16/04/2025	BBS 9	LM	Oystercatcher	3	-
17/04/2025	VP 6 -	LS	Snipe	1	Flushed whilst walking to the survey location.
24/04/2025	VP 8 -	JB	Oystercatcher	1	Observed whilst returning to the vehicle after the survey.
08/05/2025	BK AT 1	MW	Curlew	2	Pair.
08/05/2025	BK AT 1	MW	Curlew	4	Two pairs.
08/05/2025	BK AT 1	MW	Curlew	2	Pair.
08/05/2025	BK AT 1	MW	Snipe	1	-
14/05/2025	SBBS 15	IH	Curlew	2	Pair; mobbing a buzzard.
14/05/2025	SBBS 15	IH	Redshank	1	-

Date	Survey visit	Observer	Species	Number recorded	Notes
14/05/2025	SBBS 15	IH	Common sandpiper	1	-
14/05/2025	SBBS 15	IH	Common sandpiper	2	Pair.
16/05/2025	BK 6	LS	Common sandpiper	3	In flight.
16/05/2025	BK 6	LS	Curlew	2	-
16/05/2025	VP 7 -	LS	Snipe	1	Heard only; singing; location estimated.
20/05/2025	BBS 10	JR	Curlew	1	Singing; Ref_ID 798-801 all different birds.
20/05/2025	BBS 10	JR	Curlew	2	Pair; singing; Ref_ID 798-801 all different birds.
20/05/2025	BBS 10	JR	Curlew	2	Pair; alarm calling; Ref_ID 798-801 all different birds.
20/05/2025	BBS 10	JR	Curlew	1	Singing; Ref_ID 798-801 all different birds.
20/05/2025	BBS 10	JR	Curlew	2	Pair.
20/05/2025	BBS 10	JR	Ringed plover	1	Calling.
20/05/2025	BBS 10	JR	Oystercatcher	2	Pair; calling.
20/05/2025	BBS 10	JR	Redshank	2	-
20/05/2025	BBS 10	JR	Redshank	2	Pair; calling.
20/05/2025	BBS 10	JR	Ringed plover	4	Two pairs; alarm calling.
20/05/2025	BBS 10	JR	Lapwing	2	Pair; singing.
20/05/2025	BBS 10	JR	Oystercatcher	2	Pair; calling.
20/05/2025	BBS 10	JR	Redshank	2	Pair.
20/05/2025	BBS 10	JR	Lapwing	2	Pair; singing; probably the same birds as Ref_ID 808.
20/05/2025	BBS 10	JR	Snipe	1	Singing.
20/05/2025	BBS 10	JR	Common sandpiper	2	Pair; calling.
20/05/2025	BBS 10	JR	Snipe	1	Singing.
20/05/2025	BBS 10	JR	Common sandpiper	2	Pair.
20/05/2025	BBS 10	JR	Oystercatcher	2	Pair; alarm calling.
20/05/2025	BBS 10	JR	Curlew	1	Singing.
20/05/2025	BBS 10	JR	Lapwing	1	-
20/05/2025	BBS 10	JR	Oystercatcher	2	Pair; singing.
20/05/2025	BBS 10	JR	Curlew	2	Pair; alarm calling.
20/05/2025	BBS 10	JR	Curlew	2	Pair; alarm calling; different birds from Ref_ID 824.

Date	Survey visit	Observer	Species	Number recorded	Notes
20/05/2025	BBS 10	JR	Lapwing	1	Calling.
20/05/2025	BBS 10	LML	Curlew	1	Singing.
20/05/2025	BBS 10	LML	Golden plover	2	Calling.
20/05/2025	BBS 10	LML	Curlew	1	Alarm calling.
20/05/2025	BBS 10	LML	Snipe	1	Singing.
20/05/2025	BBS 10	LML	Curlew	2	Pair; singing.
20/05/2025	BBS 10	LML	Curlew	1	Singing.
20/05/2025	BBS 10	LML	Snipe	1	Singing.
20/05/2025	BBS 10	LML	Curlew	2	Pair; calling.
20/05/2025	BBS 10	LML	Curlew	2	Pair.
20/05/2025	BBS 10	LML	Snipe	1	Displaying.
20/05/2025	BBS 10	LML	Ringed plover	2	Pair.
20/05/2025	BBS 10	LML	Oystercatcher	2	-
20/05/2025	BBS 10	LML	Common sandpiper	1	-
20/05/2025	BBS 10	LML	Lapwing	3	-
20/05/2025	BBS 10	LML	Oystercatcher	1	-
20/05/2025	BBS 10	LML	Common sandpiper	1	-
22/05/2025	BBS 10	LML	Lapwing	1	-
22/05/2025	BBS 10	LML	Redshank	2	Pair.
22/05/2025	BBS 10	LML	Common sandpiper	2	-
22/05/2025	BBS 10	LML	Lapwing	4	Two pairs; aggressive interaction.
22/05/2025	BBS 10	LML	Curlew	2	Pair.
22/05/2025	BBS 10	LML	Curlew	2	Pair.
03/06/2025	BBS 11	JR	Common sandpiper	1	Calling.
03/06/2025	BBS 11	JR	Oystercatcher	1	Calling.
03/06/2025	BBS 11	JR	Curlew	2	Pair; singing.
03/06/2025	BBS 11	JR	Curlew	2	Pair; alarm calling; Ref_ID 836-839 all different birds.
03/06/2025	BBS 11	JR	Curlew	2	Pair; alarm calling; Ref_ID 836-839 all different birds.
03/06/2025	BBS 11	JR	Curlew	2	Pair; alarm calling; Ref_ID 836-839 all different birds.
03/06/2025	BBS 11	JR	Curlew	2	Pair; singing; Ref_ID 836-839 all different birds.
03/06/2025	BBS 11	JR	Snipe	1	Singing.

Date	Survey visit	Observer	Species	Number recorded	Notes
03/06/2025	BBS 11	JR	Snipe	1	Displaying.
03/06/2025	BBS 11	JR	Snipe	1	Singing.
03/06/2025	BBS 11	JR	Common sandpiper	1	Singing.
03/06/2025	BBS 11	JR	Snipe	1	Singing.
03/06/2025	BBS 11	JR	Snipe	1	Singing.
03/06/2025	BBS 11	JR	Curlew	2	Pair; alarm calling.
03/06/2025	BBS 11	JR	Curlew	2	Pair; alarm calling; different birds from Ref_ID 846.
03/06/2025	BBS 11	JR	Lapwing	2	Pair; nesting.
03/06/2025	BBS 11	JR	Oystercatcher	1	Calling.
03/06/2025	BBS 11	JR	Ringed plover	2	Pair; nesting.
03/06/2025	BBS 11	LML	Ringed plover	2	Pair.
03/06/2025	BBS 11	LML	Common sandpiper	2	Pair.
03/06/2025	BBS 11	LML	Lapwing	2	Pair.
03/06/2025	BBS 11	LML	Oystercatcher	2	Pair.
03/06/2025	BBS 11	LML	Lapwing	4	Two pairs.
03/06/2025	BBS 11	LML	Snipe	1	Singing.
03/06/2025	BBS 11	LML	Curlew	1	Alarm calling.
03/06/2025	BBS 11	LML	Oystercatcher	2	Pair.
03/06/2025	BBS 11	LML	Curlew	1	Singing.
03/06/2025	BBS 11	LML	Lapwing	2	Pair.
03/06/2025	BBS 11	LML	Redshank	2	Pair.
03/06/2025	BBS 11	LML	Common sandpiper	2	Pair.
03/06/2025	BBS 11	LML	Oystercatcher	2	Pair.
03/06/2025	BBS 11	LML	Snipe	1	Singing.
03/06/2025	BBS 11	LML	Curlew	2	Pair.
03/06/2025	BBS 11	LML	Common sandpiper	2	Pair.
04/06/2025	BBS 11	LML	Curlew	1	Singing.
04/06/2025	BBS 11	LML	Curlew	1	In flight.
04/06/2025	BBS 11	LML	Oystercatcher	1	Aggressive interaction with another oystercatcher flying through the area (Ref_ID 877).
04/06/2025	BBS 11	LML	Oystercatcher	1	In flight; calling.
04/06/2025	BBS 11	LML	Golden plover	1	Heard only; singing; location estimated.

Date	Survey visit	Observer	Species	Number recorded	Notes
04/06/2025	BBS 11	LML	Curlew	1	Singing.
04/06/2025	BBS 11	LML	Lapwing	6	-
04/06/2025	BBS 11	LML	Oystercatcher	2	In flight.
04/06/2025	BBS 11	LML	Curlew	2	Pair.
04/06/2025	BBS 11	LML	Lapwing	2	In flight; pair.
04/06/2025	BBS 11	LML	Lapwing	1	In flight.
04/06/2025	BBS 11	LML	Curlew	2	Pair; alarm calling.
04/06/2025	BBS 11	LML	Oystercatcher	2	In flight; pair.
04/06/2025	BBS 11	LML	Curlew	1	In flight.
09/06/2025	NJ 1	IH	Curlew	1	Heard only; location estimated.
12/06/2025	SBBS 16	ENS	Curlew	5	Family; adult pair with 3 young.
12/06/2025	SBBS 16	ENS	Oystercatcher	1	-
12/06/2025	SBBS 16	ENS	Lapwing	3	Landed.
12/06/2025	SBBS 16	ENS	Lapwing	1	-
12/06/2025	SBBS 16	ENS	Curlew	1	-
12/06/2025	SBBS 16	ENS	Curlew	1	-
12/06/2025	SBBS 16	IH	Ringed plover	1	-
12/06/2025	SBBS 16	IH	Lapwing	1	-
12/06/2025	SBBS 16	IH	Lapwing	1	Alarm calling due to a carrion crow.
12/06/2025	SBBS 16	IH	Lapwing	2	Pair.
12/06/2025	SBBS 16	IH	Redshank	1	Calling.
12/06/2025	SBBS 16	IH	Curlew	1	Flushed.
12/06/2025	SBBS 16	IH	Curlew	2	Pair; mobbing a red kite (Ref_ID 770).
01/07/2025	SBBS 17	IH	Curlew	14	-
01/07/2025	SBBS 17	IH	Lapwing	2	Pair; calling.
01/07/2025	SBBS 17	IH	Common sandpiper	2	Pair.
02/07/2025	BBS 12	IH	Curlew	1	Calling.
02/07/2025	BBS 12	IH	Snipe	1	Singing.

Date	Survey visit	Observer	Species	Number recorded	Notes
02/07/2025	BBS 12	IH	Snipe	4	-
02/07/2025	BBS 12	IH	Oystercatcher	2	Pair; calling.
02/07/2025	BBS 12	IH	Curlew	6	Calling.
02/07/2025	BBS 12	IH	Curlew	6	Calling; different birds from Ref_ID 894.
02/07/2025	BBS 12	IH	Oystercatcher	4	-
02/07/2025	BBS 12	IH	Oystercatcher	1	In flight.
02/07/2025	BBS 12	IH	Common sandpiper	2	Pair; Ref_ID 899-903 all different birds.
02/07/2025	BBS 12	IH	Common sandpiper	1	Ref_ID 899-903 all different birds.
02/07/2025	BBS 12	IH	Common sandpiper	1	Calling; Ref_ID 899-903 all different birds.
02/07/2025	BBS 12	IH	Common sandpiper	1	Ref_ID 899-903 all different birds.
02/07/2025	BBS 12	IH	Common sandpiper	3	Aggressive interaction; Ref_ID 899-903 all different birds.
02/07/2025	BBS 12	IH	Common sandpiper	1	Calling; probably one of the same birds as Ref_ID 903.
02/07/2025	BBS 12	IH	Curlew	1	Calling.
02/07/2025	BBS 12	IH	Curlew	1	Alarm calling; different bird from Ref_ID 906.
02/07/2025	BBS 12	IH	Curlew	3	-
02/07/2025	BBS 12	IH	Ringed plover	1	Ref_ID 909-915 all different birds.
02/07/2025	BBS 12	IH	Ringed plover	2	Pair; Ref_ID 909-915 all different birds.
02/07/2025	BBS 12	IH	Ringed plover	1	Ref_ID 909-915 all different birds.
02/07/2025	BBS 12	IH	Ringed plover	2	Pair; Ref_ID 909-915 all different birds.
02/07/2025	BBS 12	IH	Ringed plover	2	Pair; Ref_ID 909-915 all different birds.
02/07/2025	BBS 12	IH	Ringed plover	1	Ref_ID 909-915 all different birds.
02/07/2025	BBS 12	IH	Ringed plover	2	Pair; Ref_ID 909-915 all different birds.
02/07/2025	BBS 12	IH	Lapwing	2	Pair.
02/07/2025	BBS 12	IH	Lapwing	2	Pair; alarm calling.
02/07/2025	BBS 12	IH	Dunlin	2	-
02/07/2025	BBS 12	JR	Lapwing	2	Pair.
02/07/2025	BBS 12	JR	Ringed plover	2	Pair.
02/07/2025	BBS 12	JR	Ringed plover	2	Pair.

Date	Survey visit	Observer	Species	Number recorded	Notes
02/07/2025	BBS 12	JR	Common sandpiper	1	-
02/07/2025	BBS 12	JR	Oystercatcher	1	-
02/07/2025	BBS 12	JR	Redshank	1	Calling.
02/07/2025	BBS 12	JR	Common sandpiper	1	Alarm calling.
02/07/2025	BBS 12	JR	Oystercatcher	2	Pair; alarm calling.
02/07/2025	BBS 12	JR	Snipe	1	Singing.
02/07/2025	BBS 12	JR	Snipe	1	Singing; different bird from Ref_ID 929.
02/07/2025	BBS 12	JR	Common sandpiper	1	Alarm calling.
02/07/2025	BBS 12	JR	Oystercatcher	2	Pair; alarm calling; different birds from Ref_ID 928.
02/07/2025	BBS 12	JR	Curlew	2	Pair; alarm calling.
02/07/2025	BBS 12	JR	Common sandpiper	1	Alarm calling.
02/07/2025	BBS 12	JR	Snipe	1	Singing.
02/07/2025	BBS 12	JR	Snipe	1	Singing; different bird from Ref_ID 935.
02/07/2025	BBS 12	JR	Common sandpiper	1	Alarm calling; different bird from Ref_ID 934 & 938.
02/07/2025	BBS 12	JR	Common sandpiper	1	Calling; different bird from Ref_ID 934 & 937.
02/07/2025	BBS 12	JR	Snipe	1	Singing.
02/07/2025	BBS 12	JR	Snipe	1	Singing; different bird from Ref_ID 939.
02/07/2025	BBS 12	JR	Snipe	1	Singing.
02/07/2025	BBS 12	JR	Snipe	1	Singing.
02/07/2025	BBS 12	LS	Curlew	2	Alarm calling.
02/07/2025	BBS 12	LS	Snipe	1	Singing.
02/07/2025	BBS 12	LS	Curlew	2	Singing.
02/07/2025	BBS 12	LS	Curlew	1	Singing.
15/07/2025	NJ 2	LML	Snipe	1	Singing.
16/07/2025	NJ 2	LML	Snipe	1	Singing.
16/07/2025	NJ 2	LML	Snipe	1	Singing.
16/07/2025	NJ 2	LML	Snipe	1	Singing.
16/07/2025	NJ 2	LML	Snipe	1	Singing.
11/08/2025	SBBS 18	IH	Common sandpiper	1	-

D.3 Winter Walkover Records

Table D-3 details all the target species recorded during winter walkover survey visits.

Table D-3: Winter walkover survey records: 2022/2023, 2023/2024 and 2024/2025 non-breeding seasons

Date	Survey visit	Observer	Species	Number recorded	Notes
24/01/2023	WWO 2	EB	Greylag goose	6	-
25/01/2023	WWO 2	TH	Pink-footed goose	120	-
22/02/2023	WWO 3	JRM + HEC	Golden plover	33	-
23/02/2023	WWO 3	MW	Lapwing	4	-
23/02/2023	WWO 3	MW	Merlin	1	Male
23/02/2023	WWO 3	MW	Oystercatcher	6	-
23/02/2023	WWO 3	MW	Red kite	2	-
23/02/2023	WWO 3	MW	Ringed plover	4	-
23/02/2023	WWO 3	MW	Snipe	1	-
23/02/2023	WWO 3	MW	Snipe	1	-
23/11/2023	WWO 4	EB	Greylag goose	18	In flight.
23/11/2023	WWO 4	EB	Red kite	1	In flight.
31/01/2024	WWO 5	LS	Greylag goose	2	-
31/01/2024	WWO 5	LS	Greylag goose	2	-
31/01/2024	WWO 5	LS	Greylag goose	4	-
31/01/2024	WWO 5	LS	Herring gull	1	-
31/01/2024	WWO 5	LS	Red kite	1	-
31/01/2024	WWO 5	LS	Red kite	1	-
20/02/2024	WWO 6	EB	Curlew	19	-
20/02/2024	WWO 6	EB	Greylag goose	8	-
20/02/2024	WWO 6	EB	Lapwing	24	-
20/02/2024	WWO 6	EB	Ringed plover	1	-
12/11/2024	WWO 7	EB	Pink-footed goose	1	-
12/11/2024	WWO 7	EB	Pink-footed goose	50	-
12/11/2024	WWO 7	EB	Red kite	1	-
12/11/2024	WWO 7	EB	Snipe	1	Flushed.
12/11/2024	WWO 7	IH	Red kite	1	-
12/11/2024	WWO 7	IH	Red kite	1	-

D.4 Scarce Breeding Bird Records

Table D-4 details all records of target raptors and owls recorded during surveys.

Refer to **Confidential Technical Appendix 7.2 (EIAR Volume 5)** for confidential data relating to red kite.

Table D-4: Raptor & owl records: 2023, 2024 and 2025 breeding seasons

Date	Survey visit	Observer	Species	Number recorded	Notes
05/04/2023	VP 3	NW	Red kite	1	In flight, Crookburn Mound; observed whilst travelling to survey location.
13/04/2023	SBBS 2	JR	Red kite	1	-
13/04/2023	SBBS 2	JR	Goshawk	1	Female, same bird as recorded by JRM
13/04/2023	SBBS 2	JR	Golden eagle	1	-
13/04/2023	SBBS 2	JRM	Red kite	1	Attacked by a goshawk.
13/04/2023	SBBS 2	JRM	Goshawk	1	Female, attacking a red kite, then headed off west. Same bird as recorded by JR
13/04/2023	SBBS 2	JRM	Golden eagle	1	Immature
13/04/2023	SBBS 2	JRM	Red kite	1	-
13/04/2023	SBBS 2	JRM	Red kite	2	-
09/05/2023	BBS 2	EB	Red kite	1	-
09/05/2023	BBS 2	EB	Red kite	1	-
09/05/2023	BBS 2	HEC	Red kite	1	-
10/05/2023	BBS 2	HEC	Red kite	1	-
10/05/2023	SBBS 3	JR	Red kite	1	-
11/05/2023	SBBS 3	JR	Red kite	2	-
12/05/2023	SBBS 3	JR	Osprey	1	Male
12/05/2023	SBBS 3	JR	Osprey	1	Hunting; landed. Male
12/05/2023	SBBS 3	JR	Osprey	1	Mobbed by buzzard. Male
12/05/2023	SBBS 3	JR	Red kite	1	-
01/06/2023	BBS 3	HEC	Golden eagle	1	Immature
01/06/2023	BBS 3	HEC	Golden eagle	1	Immature, same bird as above
01/06/2023	BBS 3	HEC	Red kite	1	-
01/06/2023	BBS 3	HEC	Red kite	1	-
01/06/2023	BBS 3	HEC	Red kite	1	-
01/06/2023	BBS 3	HEC	Red kite	1	-
01/06/2023	BBS 3	HEC	Red kite	1	-
01/06/2023	BBS 3	HEC	Red kite	1	-
01/06/2023	BBS 3	JR	Red kite	2	-

Date	Survey visit	Observer	Species	Number recorded	Notes
01/06/2023	BBS 3	JR	Red kite	3	-
01/06/2023	BBS 3	JR	Red kite	3	-
05/06/2023	BBS 3	HEC	Red kite	2	-
05/06/2023	BBS 3	HEC	Red kite	1	-
05/06/2023	BBS 3	HEC	Red kite	1	-
05/06/2023	BBS 3	HEC	Red kite	1	-
26/06/2023	SBBS 4	JRM	Red kite	1	Perched on tree.
26/06/2023	SBBS 4	JRM	Red kite	2	-
26/06/2023	SBBS 4	JRM	Red kite	2	-
26/06/2023	SBBS 4	JRM	Red kite	1	-
26/06/2023	SBBS 4	JRM	Red kite	1	-
27/06/2023	SBBS 4	JRM	Osprey	1	Initially flying near partner (record below). Female
27/06/2023	SBBS 4	JRM	Osprey	1	Initially flying near partner (record above), male; then began hunting and caught a fish.
27/06/2023	SBBS 4	JRM	Osprey	2	Same pair as above; perched near reservoir shore. One bird ate the fish then both loafed (with occasional bathing & preening) for several hours until the end of the survey. Likely a failed/non-breeding pair.
28/06/2023	SBBS 4	JRM	Osprey	1	Flushed from post whilst driving along Daer Reservoir; flew across reservoir and was lost to sight.
05/07/2023	SBBS 5	JR	Red kite	2	-
05/07/2023	SBBS 5	JR	Red kite	2	-
05/07/2023	SBBS 5	JR	Red kite	1	-
06/07/2023	SBBS 5	JR	Golden eagle	1	Satellite-tagged bird; perched on a fencepost for over an hour before flying. Immature
06/07/2023	SBBS 5	JR	Red kite	1	-
06/07/2023	SBBS 5	JR	Red kite	1	-
06/07/2023	SBBS 5	JR	Short-eared owl	1	Hunting.
06/07/2023	SBBS 5	JR	Red kite	2	-
06/07/2023	SBBS 5	JR	Golden eagle	2	Adult and immature.
27/07/2023	BBS 4	EB	Red kite	1	-
09/08/2023	SBBS 6	JRM	Osprey	1	Hunting; caught fish and carried it off.
09/08/2023	SBBS 6	JRM	Red kite	1	-

Date	Survey visit	Observer	Species	Number recorded	Notes
09/08/2023	SBBS 6	JRM	Hen harrier	1	Female
10/08/2023	SBBS 6	JRM	Merlin	1	Observed very briefly mobbing hen harrier.
10/08/2023	SBBS 6	JRM	Hen harrier	1	Mobbing carrion crow; hunting along reservoir shore then briefly mobbed by merlin, female
10/08/2023	SBBS 6	JRM	Red kite	1	Lost sight of bird in low cloud.
10/08/2023	SBBS 6	JRM	Osprey	1	Hunting continuously for approximately 30 minutes without success; bird then landed to rest. Male
15/08/2023	VP 3	JR	Golden eagle	1	In flight; Lamb Hill; hunting; observed whilst driving on site
15/08/2023	VP 3	JR	Red kite	1	In flight; Lamb Hill; hunting; observed whilst driving on site
05/03/2024	SBBS 7	JRM	Red kite	2	Pair
05/03/2024	SBBS 7	JRM	Red kite	1	Immature
06/03/2024	SBBS 7	JRM	Red kite	3	2 adults and 1 immature; hunting.
23/04/2024	BBS 5	EB	Red kite	1	-
23/04/2024	BBS 5	LS	Red kite	1	-
23/04/2024	BBS 5	LS	Red kite	2	-
23/04/2024	BBS 5	LS	Red kite	1	-
23/04/2024	BBS 5	LS	Red kite	1	-
29/04/2024	SBBS 8	JR	Red kite	3	2 adults and 1 immature.
30/04/2024	SBBS 8	JR	Red kite	1	-
30/04/2024	SBBS 8	JR	Red kite	1	-
30/04/2024	SBBS 8	JR	Red kite	1	-
07/05/2024	BBS 6	LS	Red kite	2	-
07/05/2024	BBS 6	LS	Red kite	2	Different birds
07/05/2024	BBS 6	LS	Red kite	1	Different bird
07/05/2024	BBS 6	LS	Red kite	1	Different bird
07/05/2024	BBS 6	LS	Red kite	1	Different bird
07/05/2024	SBBS 9	JR	Red kite	1	-
07/05/2024	SBBS 9	JR	Red kite	2	-
07/05/2024	SBBS 9	JR	Golden eagle	1	Perched.
08/05/2024	BBS 6	LS	Red kite	2	-
08/05/2024	SBBS 9	JR	Red kite	1	Emerged from a sitka copse.
24/05/2024	BK 4	JB	Osprey	1	-
20/06/2024	SBBS 10	JRM	Osprey	1	Perched on a post and ate a whole fish before slipping away

Date	Survey visit	Observer	Species	Number recorded	Notes
					unseen; probably a non-breeding/failed bird.
25/06/2024	BBS 7	LS	Red kite	1	-
05/07/2024	BBS 8	IH	Red kite	1	-
05/07/2024	BBS 8	IH	Red kite	1	-
05/07/2024	BBS 8	IH	Red kite	1	-
05/07/2024	BBS 8	IH	Hen harrier	1	Male
05/07/2024	BBS 8	LS	Hen harrier	1	Male
16/07/2024	SBBS 11	MW	Hen harrier	1	Male
16/07/2024	SBBS 11	MW	Merlin	1	Juvenile
09/08/2024	SBBS 12	MW	Osprey	1	Hunting.
13/03/2025	SBBS 13	IH	Red kite	2	-
13/03/2025	SBBS 13	IH	Red kite	2	-
13/03/2025	SBBS 13	IH	Red kite	1	Immature
13/03/2025	SBBS 13	IH	Red kite	3	-
13/03/2025	SBBS 13	IH	Red kite	5	-
14/03/2025	SBBS 13	IH	Red kite	2	Pair; displaying briefly then mobbed by a buzzard.
15/04/2025	BBS 9	LM	Red kite	1	-
15/04/2025	BBS 9	LM	Red kite	1	Mobbed by a pair of curlews.
15/04/2025	SBBS 14	IH	Red kite	1	-
15/04/2025	SBBS 14	IH	Red kite	1	-
15/04/2025	SBBS 14	IH	Red kite	2	-
15/04/2025	SBBS 14	LS	Merlin	1	Hunting, female
16/04/2025	SBBS 14	IH	Red kite	1	Initially perched; left to go hunting and not seen to return.
24/04/2025	VP 8	JB	Red kite	1	Observed whilst travelling to the survey location.
14/05/2025	SBBS 15	IH	Red kite	1	Hunting.

Date	Survey visit	Observer	Species	Number recorded	Notes
14/05/2025	SBBS 15	IH	Red kite	2	Hunting.
20/05/2025	BBS 10	JR	Red kite	3	Immature
20/05/2025	BBS 10	JR	Red kite	1	-
20/05/2025	BBS 10	LML	Red kite	2	-
03/06/2025	BBS 11	LML	Red kite	1	-
03/06/2025	BBS 11	LML	Red kite	1	-
04/06/2025	BBS 11	LML	Red kite	2	-
12/06/2025	SBBS 16	ENS	Red kite	1	-
12/06/2025	SBBS 16	IH	Red kite	1	Mobbed by a pair of curlews.
02/07/2025	BBS 12	IH	Osprey	1	Hunting.
11/08/2025	SBBS 18	IH	Red kite	1	Hunting.

D.5 Black Grouse Records

Table D-5 details all black grouse records with lek numbers indicated where appropriate. Refer to **Annex B** for survey methodology and **Annex C** for weather data.

Table D-5: Black grouse activity records: 2023, 2024 and 2025

Lek number	Date	Survey visit	No. males	No. females	No. unsexed	Notes
-	-	VP 1	-	-	-	Possible distant lekking calls heard east of Daer Reservoir.
1	2	BK 5	2	-	-	Lekking then flew north-west.
2	1	BK AT 1	1	-	-	Lekking; heard only; location estimated.
1	1	BK 6	1	-	-	Lekking briefly; then moved up the hill out of view.
3	1	BK 6	1	-	-	Lekking.

D.6 Nightjar

No observations of nightjar were recorded.

D.7 Bird Species Index

A total of 103 bird species or signs was recorded at, or adjacent, to the Watchman Energy Park during the ornithological surveys. **Table D-6** comprises a list of all these species along with their conservation status.

Table D-6: All bird species recorded at Watchman Energy Park (September 2022 to August 2025)

Species	Conservation status	Species	Conservation status
Black grouse	BoCC Red	Long-tailed tit	BoCC Green
Blackbird	BoCC Green	Magpie	BoCC Green
Blackcap	BoCC Green	Mallard	BoCC Amber
Black-headed gull	BoCC Amber	Marsh harrier	Annex 1, Schedule 1, BoCC Amber
Blue tit	BoCC Green	Meadow pipit	BoCC Amber
Bullfinch	BoCC Amber	Merlin	Annex 1, Schedule 1, BoCC Red
Buzzard	BoCC Green	Mistle thrush	BoCC Red
Canada goose	No status	Moorhen	BoCC Amber
Carrion crow	BoCC Green	Osprey	Annex 1, Schedule 1, BoCC Amber
Chaffinch	BoCC Green	Oystercatcher	BoCC Amber
Chiffchaff	BoCC Green	Peregrine falcon	Annex 1, Schedule 1, BoCC Green
Coal tit	BoCC Green	Pheasant	No status
Common crossbill	Schedule 1, BoCC Green	Pied wagtail	BoCC Green
Common gull	BoCC Red	Pink-footed goose	BoCC Amber
Common sandpiper	BoCC Amber	Raven	BoCC Green
Common whitethroat	BoCC Amber	Red grouse	BoCC Green
Cormorant	BoCC Green	Red kite	Annex 1, Schedule 1, BoCC Green
Cuckoo	BoCC Red	Red-legged partridge	No status
Curlew	BoCC Red	Redpoll	BoCC Red
Dipper	BoCC Amber	Redshank	BoCC Amber
Dunlin	BoCC Red	Redwing	Schedule 1, BoCC Amber
Dunnock	BoCC Amber	Reed bunting	BoCC Amber
Feral pigeon	No status	Ring ouzel	BoCC Red
Fieldfare	Schedule 1, BoCC Red	Ringed plover	BoCC Red
Goldcrest	BoCC Green	Robin	BoCC Green
Golden eagle	Annex 1, Schedule 1, BoCC Green	Rook	BoCC Amber
Golden plover	Annex 1, BoCC Green	Sand martin	BoCC Green

Species	Conservation status	Species	Conservation status
Goldeneye	BoCC Red	Sedge warbler	BoCC Amber
Goldfinch	BoCC Green	Short-eared owl	Annex 1, BoCC Amber
Goosander	BoCC Green	Siskin	BoCC Green
Goshawk	Schedule 1, BoCC Green	Skylark	BoCC Red
Grasshopper warbler	BoCC Red	Snipe	BoCC Amber
Great black-backed gull	BoCC Red	Song thrush	BoCC Amber
Great spotted woodpecker	BoCC Green	Sparrowhawk	BoCC Amber
Great tit	BoCC Green	Spotted flycatcher	BoCC Red
Greenfinch	BoCC Red	Starling	BoCC Red
Greenshank	Schedule 1, BoCC Amber	Stonechat	BoCC Green
Grey heron	BoCC Green	Swallow	BoCC Green
Grey wagtail	BoCC Amber	Swift	BoCC Red
Greylag goose	BoCC Amber	Tawny owl	BoCC Amber
Hen harrier	Annex 1, Schedule 1, BoCC Red	Teal	BoCC Amber
Herring gull	BoCC Red	Tufted duck	BoCC Green
House martin	BoCC Red	Turnstone	BoCC Amber
House sparrow	BoCC Red	Water rail	BoCC Green
Jackdaw	BoCC Green	Wheatear (Northern)	BoCC Amber
Jay	BoCC Green	Whinchat	BoCC Red
Kestrel	BoCC Amber	White-fronted goose	BoCC Red
Lapwing	BoCC Red	Whooper swan	Annex 1, Schedule 1, BoCC Amber
Lesser black-backed gull	BoCC Amber	Willow warbler	BoCC Amber
Linnet	BoCC Red	Woodpigeon	BoCC Amber
Little grebe	BoCC Green	Wren	BoCC Amber
Long-eared owl	BoCC Green	-	-

Annex E Collision Risk Assessments

A Collision Risk Analysis Area (CRAA) was created using a 500 metre (m) buffer plus turbine rotor radius (**Figure 7.2** and **7.3, EIAR Volume 3a**). Using the larger buffer area around turbines accounts for possible inaccuracies in the recording of flightlines and ensures the assessment is precautionary.

As recommended in NatureScot guidance (2025[i]), the aim of baseline flight activity surveys should be to achieve maximum visual coverage of proposed turbines and associated CRAA from Vantage Point (VP) viewsheds using the minimum number of VPs. However, in practice complete (100%) coverage is often unachievable as a result of the topography of the site, presence of mature forestry and access permissions outwith site boundaries.

For the Proposed Development some small areas of the CRAA were 'invisible' at 20 m above ground level (**Figure 7.2** and **7.3, EIAR Volume 3a**). However, the habitats within these areas are of sufficient similarity to that 'seen' within the VP viewsheds in the CRAA, such that the survey data collected over the course of flight activity surveys and subsequently assessed for potential collision mortality risks, is considered to be representative of the whole CRAA and therefore appropriate for the purposes of estimating collision mortality risks using the NatureScot Collision Risk Model (CRM) (Band *et al.*, 2007[ii])

In the use of the NatureScot collision risk model (CRM), flying time at risk height (secsHahr^{-1}) for each species is calculated as a single mean activity rate within the entirety of the CRAA.

Table E-1, **Table E-2** and **Table E-3** present the parameters which have been used within each CRM.

Table E-1: Wind farm parameters

Size of wind farm envelope	915.462	hectares (ha)
Number of turbines	13	turbines
Rotor diameter	170	metres (m)
Hub height	155	m
Max. rotor depth	1.165	m
Max. chord	4.5	m
Pitch	15	degrees (°)
Rotation period	6.508	seconds (secs)
Turbine operation time	0.85	percent (%)
Risk height: highest	70	m
Risk height: lowest	240	m
Flight risk volume	1556284896	m3

Table E-2: CRM parameters per species

Species	Length (m)	Wingspan (m)	Assumed flight speed, v (ms^{-1})	Avoidance rate	Probability of collision	Bird transit time (secs)
Curlew	0.60	1	13	0.98	0.0562	0.1357
Golden eagle	0.82	2.12	15	0.99	0.0621	0.1320

Species	Length (m)	Wingspan (m)	Assumed flight speed, v (ms^{-1})	Avoidance rate	Probability of collision	Bird transit time (secs)
Goshawk	0.62	1.65	9.7	0.98	0.0703	0.1840
Greylag goose	0.83	1.64	17.1	1.00	0.0569	0.1164
Hen harrier	0.48	1.1	12	0.99	0.0549	0.1371
Osprey	0.58	1.7	11.4	0.98	0.0622	0.1530
Pink-footed goose	0.68	1.53	17.3	1.00	0.0530	0.1063
Red kite	0.66	1.95	12	0.99	0.0640	0.1521

Table E-3: Visible area within the CRAA per vantage point

VP	Area (ha)
1	177.1615
2	233.0079
3	173.4158
4	150.5438
6	131.3158
7	263.3165
8	280.6277

Birds are assumed to be active during all the daylight hours and this is estimated by calculating the number of hours per day between sunrise and sunset (adjusting for correct latitude) for the survey seasons as defined in **Table E-4** below.

Table E-4: Season definitions per species/species group

Species	Breeding season			Non-breeding season		
	Start date	End date	Hours presumed present	Start date	End date	Hours presumed present
Golden eagle	1st February	31st August	2766	1st September	31st January	1729
Geese and swans	15th May	31st August	1790	1st September	14th May	2705
Raptors	15th March	31st August	2642	1st September	14th March	1853
Waders	1st April	31st July	1966	1st August	31st March	2529

Outputs for the CRM for the following species are presented in the following order below:

- Curlew
- Golden eagle
- Goshawk
- Greylag goose
- Hen harrier
- Osprey
- Pink-footed goose
- Red kite.

E.1 Curlew

Breeding Season 2023

Table E-5: Curlew flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height ($secsHahr^{-1}$)
1	21.95	4871.94	0.000000335
2	382.70	5592.19	0.00000583

Table E-6: Curlew mortality estimates

Mean activity in wind farm at rotor height	0.0056	hr^{-1}
Total Combined rotor swept volume	520713.0279	m^3
Bird occupancy	11.1046	hrs/season
Bird occupancy of rotor swept volume	13.3757	bird-sec
No. of transits through rotors	98.5354	per season
Estimated collisions	5.5369	per season
Estimated collisions after correction for operation	4.7064	per season
Estimated collisions after avoidance factor	0.0941	per season

Breeding Season 2024

Table E-7: Curlew flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height ($secsHahr^{-1}$)
6	557.68	2757.63	0.0000105
7	7.53	6319.60	0.000000142

Table E-8: Curlew mortality estimates

Mean activity in wind farm at rotor height	0.0098	hr^{-1}
Total Combined rotor swept volume	520713.0279	m^3
Bird occupancy	19.2394	hrs/season
Bird occupancy of rotor swept volume	23.1742	bird-sec
No. of transits through rotors	170.7183	per season
Estimated collisions	9.5931	per season
Estimated collisions after correction for operation	8.1541	per season
Estimated collisions after avoidance factor	0.1631	per season

Breeding Season 2025

Table E-9: Curlew flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
6	61.14	3217.24	0.000000921
7	262.7700025	7636.18	0.00000396

Table E-10: Curlew mortality estimates

Mean activity in wind farm at rotor height	0.0045	hr^{-1}
Total Combined rotor swept volume	520713.0279	m^3
Bird occupancy	8.7877	hrs/season
Bird occupancy of rotor swept volume	10.5849	bird-sec
No. of transits through rotors	77.9766	per season
Estimated collisions	4.3817	per season
Estimated collisions after correction for operation	3.7244	per season
Estimated collisions after avoidance factor	0.0745	per season

E.2 Golden eagle

Breeding Season 2024

Table E-11: Golden eagle flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
7	19.12	12112.56	0.000000187

Table E-12: Golden eagle mortality estimates

Mean activity in wind farm at rotor height	0.0002	hr^{-1}
Total Combined rotor swept volume	584153.9573	m^3
Bird occupancy	0.4738	hrs/season
Bird occupancy of rotor swept volume	0.6402	bird-sec
No. of transits through rotors	4.8507	per season
Estimated collisions	0.3014	per season
Estimated collisions after correction for operation	0.2562	per season
Estimated collisions after avoidance factor	0.0026	per season

Non-Breeding Season 2024/2025

Table E-13: Golden eagle flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
8	10.62	7576.95	0.000000152

Table E-14: Golden eagle mortality estimates

Mean activity in wind farm at rotor height	0.0001	hr^{-1}
Total Combined rotor swept volume	584153.9573	m^3
Bird occupancy	0.2404	hrs/season
Bird occupancy of rotor swept volume	0.3249	bird-sec
No. of transits through rotors	2.4616	per season
Estimated collisions	0.1529	per season
Estimated collisions after correction for operation	0.1300	per season
Estimated collisions after avoidance factor	0.0013	per season

Breeding Season 2025

Table E-15: Golden eagle flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
7	2.69	10664.31877	0.0000000256
8	135.54	12628.24855	0.00000129

Table E-16: Golden eagle mortality estimates

Mean activity in wind farm at rotor height	0.0012	hr^{-1}
Total Combined rotor swept volume	584153.9573	m^3
Bird occupancy	3.3292	hrs/season
Bird occupancy of rotor swept volume	4.4987	bird-sec
No. of transits through rotors	34.0863	per season
Estimated collisions	2.1176	per season
Estimated collisions after correction for operation	1.8000	per season
Estimated collisions after avoidance factor	0.0180	per season

E.3 Goshawk

Non-Breeding Season 2022/2023

Table E-17: Goshawk flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	4.85	6377.81	0.0000000509

Table E-18: Goshawk mortality estimates

Mean activity in wind farm at rotor height	0.00005	hr^{-1}
Total Combined rotor swept volume	526614.5097	m^3
Bird occupancy	0.0864	hrs/season
Bird occupancy of rotor swept volume	0.1053	bird-sec
No. of transits through rotors	0.5721	per season
Estimated collisions	0.0402	per season
Estimated collisions after correction for operation	0.0342	per season
Estimated collisions after avoidance factor	0.0007	per season

E.4 Greylag goose

Non-Breeding Season 2022/2023

Table E-19: Greylag goose flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
3	27.02	9191.03	0.000000211

Table E-20: Greylag goose mortality estimates

Mean activity in wind farm at rotor height	0.0002	hr^{-1}
Total Combined rotor swept volume	587104.6982	m^3
Bird occupancy	0.5219	hrs/season
Bird occupancy of rotor swept volume	0.7087	bird-sec
No. of transits through rotors	6.0911	per season
Estimated collisions	0.3469	per season
Estimated collisions after correction for operation	0.2948	per season
Estimated collisions after avoidance factor	0.0006	per season

Breeding Season 2023

Table E-21: Greylag goose flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
2	14.32	5359.18	0.000000233

Table E-22: Greylag goose mortality estimates

Mean activity in wind farm at rotor height	0.0002	hr^{-1}
Total Combined rotor swept volume	587104.6982	m^3
Bird occupancy	0.3816	hrs/season
Bird occupancy of rotor swept volume	0.5182	bird-sec
No. of transits through rotors	4.4535	per season
Estimated collisions	0.2536	per season
Estimated collisions after correction for operation	0.2156	per season
Estimated collisions after avoidance factor	0.0004	per season

Non-Breeding Season 2024/2024

Table E-23: Greylag goose flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
6	62.32	6697.11	0.000000520

Table E-24: Greylag goose mortality estimates

Mean activity in wind farm at rotor height	0.0005	hr^{-1}
Total Combined rotor swept volume	587104.6982	m^3
Bird occupancy	1.2875	hrs/season
Bird occupancy of rotor swept volume	1.7485	bird-sec
No. of transits through rotors	15.0272	per season
Estimated collisions	0.8558	per season
Estimated collisions after correction for operation	0.7274	per season
Estimated collisions after avoidance factor	0.0015	per season

Non-Breeding Season 2024/2025

Table E-25: Greylag goose flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
7	666.92	14482.4082	0.00000533
8	178.55	13470.13179	0.00000143

Table E-26: Greylag goose mortality estimates

Mean activity in wind farm at rotor height	0.0062	hr^{-1}
Total Combined rotor swept volume	587104.6982	m^3
Bird occupancy	16.7213	hrs/season
Bird occupancy of rotor swept volume	22.7091	bird-sec
No. of transits through rotors	195.1693	per season
Estimated collisions	11.1147	per season
Estimated collisions after correction for operation	9.4475	per season
Estimated collisions after avoidance factor	0.01889	per season

E.5 Hen harrier

Non-Breeding Season 2022/2023

Table E-27: Hen harrier flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	3.57	6377.81	0.0000000375

Table E-28: Hen harrier mortality estimates

Mean activity in wind farm at rotor height	0.0000343	hr^{-1}
Total Combined rotor swept volume	485304.1371	m^3
Bird occupancy	0.0636	hrs/season
Bird occupancy of rotor swept volume	0.0714	bird-sec
No. of transits through rotors	0.5212	per season
Estimated collisions	0.0286	per season
Estimated collisions after correction for operation	0.0243	per season
Estimated collisions after avoidance factor	0.0002	per season

Breeding Season 2023

Table E-29: Hen harrier flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
2	87.17	8388.28	0.000000921

Table E-30: Hen harrier mortality estimates

Mean activity in wind farm at rotor height	0.000844	hr^{-1}
Total Combined rotor swept volume	485304.1371	m^3
Bird occupancy	2.2283	hrs/season
Bird occupancy of rotor swept volume	2.5015	bird-sec
No. of transits through rotors	18.2518	per season
Estimated collisions	1.0024	per season
Estimated collisions after correction for operation	0.8520	per season
Estimated collisions after avoidance factor	0.0085	per season

Non-Breeding Season 2024/2025

Table E-31: Hen harrier flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
8	0.21	10102.60	0.00000000242

Table E-32: Hen harrier mortality estimates

Mean activity in wind farm at rotor height	0.00000222	hr^{-1}
Total Combined rotor swept volume	485304.1371	m^3
Bird occupancy	0.0041	hrs/season
Bird occupancy of rotor swept volume	0.0046	bird-sec
No. of transits through rotors	0.0336	per season
Estimated collisions	0.0018	per season
Estimated collisions after correction for operation	0.0016	per season
Estimated collisions after avoidance factor	0.0000157	per season

E.6 Osprey

Breeding Season 2023

Table E-33: Osprey flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
4	20.20	5269.03	0.000000214

Table E-34: Osprey mortality estimates

Mean activity in wind farm at rotor height	0.0002	hr^{-1}
Total Combined rotor swept volume	514811.5461	m^3
Bird occupancy	0.5164	hrs/season
Bird occupancy of rotor swept volume	0.6150	bird-sec
No. of transits through rotors	4.0185	per season
Estimated collisions	0.2499	per season
Estimated collisions after correction for operation	0.2124	per season
Estimated collisions after avoidance factor	0.0042	per season

E.7 Pink-footed goose

Non-Breeding Season 2022/2023

Table E-35: Pink-footed goose flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
2	2093.87	11417.39	0.0000163
3	1482.59	9191.03	0.0000116

Table E-36: Pink-footed goose mortality estimates

Mean activity in wind farm at rotor height	0.0255	hr^{-1}
Total Combined rotor swept volume	542843.5847	m^3
Bird occupancy	69.0664	hrs/season
Bird occupancy of rotor swept volume	86.7272	bird-sec
No. of transits through rotors	815.5633	per season
Estimated collisions	43.2182	per season
Estimated collisions after correction for operation	36.7355	per season
Estimated collisions after avoidance factor	0.0735	per season

E.8 Red kite

Non-Breeding Season 2022/2023

Table E-37: Red kite flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	318.56	6377.81	0.00000335
2	308.26	8388.28	0.00000324
3	67.50	6242.97	0.000000709
4	722.03	5419.58	0.00000759

Table E-38: Red kite mortality estimates

Mean activity in wind farm at rotor height	0.0136	hr^{-1}
Total Combined rotor swept volume	538417.4733	m^3
Bird occupancy	25.2557	hrs/season
Bird occupancy of rotor swept volume	31.4552	bird-sec
No. of transits through rotors	206.8642	per season
Estimated collisions	13.2426	per season
Estimated collisions after correction for operation	11.2562	per season
Estimated collisions after avoidance factor	0.1126	per season

Breeding Season 2023

Table E-39: Red kite flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	145.36	6377.81	0.00000154
2	105.69	8388.28	0.00000112
3	129.83	6242.97	0.00000137
4	549.05	5269.03	0.00000580

Table E-40: Red kite mortality estimates

Mean activity in wind farm at rotor height	0.0090	hr^{-1}
Total Combined rotor swept volume	538417.4733	m^3
Bird occupancy	23.7727	hrs/season
Bird occupancy of rotor swept volume	29.6082	bird-sec
No. of transits through rotors	194.7174	per season
Estimated collisions	12.4650	per season
Estimated collisions after correction for operation	10.5953	per season
Estimated collisions after avoidance factor	0.1060	per season

Non-Breeding Season 2023/2024

Table E-41: Red kite flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
6	15.00	4727.37	0.000000171
7	5.41	9479.39	0.0000000619
8	339.53	10102.60	0.00000388

Table E-42: Red kite mortality estimates

Mean activity in wind farm at rotor height	0.0038	hr^{-1}
Total Combined rotor swept volume	538417.4733	m^3
Bird occupancy	6.9778	hrs/season
Bird occupancy of rotor swept volume	8.6906	bird-sec
No. of transits through rotors	57.1538	per season
Estimated collisions	3.6588	per season
Estimated collisions after correction for operation	3.1099	per season
Estimated collisions after avoidance factor	0.0311	per season

Breeding Season 2024

Table E-43: Red kite flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
6	19.59	4727.37	0.000000224
7	84.91	9479.39	0.000000970
8	1.17	10102.60	0.0000000134

Table E-44: Red kite mortality estimates

Mean activity in wind farm at rotor height	0.0011	hr^{-1}
Total Combined rotor swept volume	538417.4733	m^3
Bird occupancy	2.9201	hrs/season
Bird occupancy of rotor swept volume	3.6369	bird-sec
No. of transits through rotors	23.9180	per season
Estimated collisions	1.5311	per season
Estimated collisions after correction for operation	1.3015	per season
Estimated collisions after avoidance factor	0.0130	per season

Non-Breeding Season 2024/2025

Table E-45: Red kite flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
6	96.00	4727.37	0.00000110
7	1557.92	9479.39	0.0000178
8	685.67	10102.60	0.00000783

Table E-46: Red kite mortality estimates

Mean activity in wind farm at rotor height	0.0245	hr^{-1}
Total Combined rotor swept volume	538417.4733	m^3
Bird occupancy	45.3556	hrs/season
Bird occupancy of rotor swept volume	56.4889	bird-sec
No. of transits through rotors	371.4979	per season
Estimated collisions	23.7818	per season
Estimated collisions after correction for operation	20.2146	per season
Estimated collisions after avoidance factor	0.2021	per season

Breeding Season 2025

Table E-47: Red kite flight activity

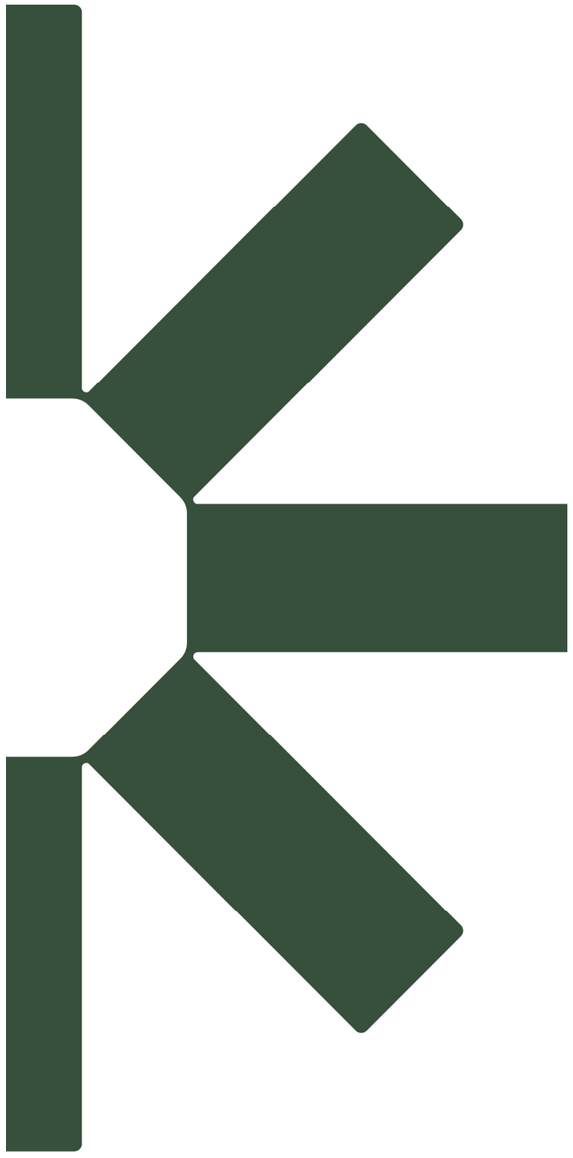
VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
6	150.08	4727.37	0.00000171
7	983.35	9479.39	0.0000112
8	1138.50	10102.60	0.0000130

Table E-48: Red kite mortality estimates

Mean activity in wind farm at rotor height	0.0238	hr^{-1}
Total Combined rotor swept volume	538417.4733	m^3
Bird occupancy	62.7828	hrs/season
Bird occupancy of rotor swept volume	78.1940	bird-sec
No. of transits through rotors	514.2406	per season
Estimated collisions	32.9197	per season
Estimated collisions after correction for operation	27.9817	per season
Estimated collisions after avoidance factor	0.2798	per season

[i] NatureScot (2025) Recommended Bird Survey Methods to inform impact assessment of Onshore Windfarms. Available at: https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms

[ii] Band, W., Madders, M., and Whitfield, D.P. (2007). Developing field and analytical methods to assess avian collision risk at wind farms. In: Janss, G., de Lucas, M. & Ferrer, M (eds.) Birds and Wind Farms. Quercus, Madrid. 259-275.



Making Sustainability Happen

Technical Appendix 7.3: Ornithology Assessment Methodology

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1.0 Assessment Methodology and Significance Criteria

The assessment of potentially significant effects upon ornithological features presented in **Chapter 7: Ornithology (EIAR Volume 2)** of the Environmental Impact Assessment (EIA) Report (EIAR) has been undertaken following the principles of CIEEM guidance (2018[i]) and has included the following stages:

- identification of potential impacts associated with the Proposed Development and the likelihood of occurrence of impacts on an ornithological feature;
- establishing the sensitivity of an ornithological feature to potential impacts based on the feature's Nature Conservation Importance (NCI) and conservation status;
- characterisation of impact magnitude (both spatially and temporally);
- determination of effect significance, and whether or not it is significant with respect to the EIA Regulations;
- outline of mitigation and enhancement measures to avoid and reduce any potentially significant effects to a non-significant level; and
- determination the significance of any residual effects after such measures.

1.1 Feature Sensitivity

The sensitivity of ornithological features within or near to the Site of the Proposed Development is assessed in line with good practice guidance, legislation, statutory designation information and / or professional judgement.

Determination of the overall level of sensitivity of an ornithological feature, adopted for the purposes of assessment, is based on a combination of the feature's NCI and conservation status, together with professional judgement.

There are three levels of NCI as detailed in **Table 7.3.1**. Important Ornithological Features ('IOFs', as per CIEEM, 2018[i]) for the purposes of assessment, are taken to be those species of 'high' or 'medium' NCI.

Table 7.3.1: Ornithological Feature Sensitivity Criteria

Sensitivity	Description
High	Populations receiving protection by a Special Protection Area (SPA), proposed SPA, Ramsar Site, Site of Special Scientific Interest (SSSI) or which would otherwise qualify under selection guidelines. Species present in nationally important numbers (>1 % national breeding or wintering population).
Medium	The presence of breeding species listed on Schedule 1 of the Wildlife and Countryside Act 1981. The presence of species listed in Annex I of the Birds Directive (but population does not meet the designation criteria under selection guidelines). The presence of rare, Red-listed breeding species noted on the latest Birds of Conservation Concern ('BoCC') Red list (Stanbury *et al.*, 2021[ii] and 2024[iii]). Regularly occurring migratory species, which are either rare or vulnerable, or warrant special consideration on account of the proximity of migration routes, or breeding, moulting, wintering or staging areas in relation to the proposed development. Species present in regionally important numbers (>1 % regional breeding population).
Low	All other species' populations not covered by the above categories.

As defined by NatureScot guidance (2025[iv]), the conservation status of a species is "*the sum of the influences acting on it which may affect its long-term distribution and abundance, within the geographical area of interest*". Conservation status is considered by NatureScot (2025[iv]) to be 'favourable' under the following circumstances:

- *"population dynamics indicate that the species is maintaining itself on a long-term basis as a viable component of its habitats;*
- *the natural range of the species is not being reduced, nor is likely to be reduced for the foreseeable future; and*
- *there is (and probably will continue to be) a sufficiently large habitat to maintain its population on a long-term basis."*

NatureScot guidance (2025[iv]) recommends that "*the concept of favourable conservation status of a species should be applied at the level of its Scottish population, to determine whether an impact is sufficiently significant to be of concern. An adverse impact on a species at a regional scale (within Scotland) may adversely affect its national conservation status*". Thus, "*An impact should therefore be judged as of concern where it would adversely affect the existing favourable conservation status of a species or prevent a species from recovering to favourable conservation status, in Scotland*."

In the case of non-designated sites in Scotland, the relevant regional context for many breeding species is considered to be the appropriate Natural Heritage Zone (NHZ) (NatureScot, 2025[iv]) within which a development is located. In the case of the Proposed Development, this is NHZ 19 'Western Southern Uplands and Inner Solway'.

For wintering or migratory species, the national UK population or flyway population is generally considered to be the relevant scale for determining effects on the conservation status.

1.2 Impact Magnitude

An impact is defined as a change of a particular magnitude to the abundance and/or distribution of a population as a result of the Proposed Development. Impacts can be adverse, neutral, or beneficial.

In determining the magnitude of impacts, the resilience of a population to recover from temporary adverse conditions is considered in respect of each potentially affected population.

The sensitivity of individual species to anthropogenic activities is considered when determining spatial and temporal magnitude of an effect and is assessed using guidance described in Goodship & Furness (2022[v]).

Impacts are judged in terms of magnitude in space and time. There are five levels of spatial and temporal impact magnitude as detailed in **Table 7.3.2** and **Table 7.3.3** respectively.

Table 7.3.2: Extent of Impact

Spatial Magnitude	Description
Very high	Total / near total loss of a bird population due to mortality or displacement. Total/near total loss of productivity in a bird population due to disturbance. Guide: >80 % of population lost or increase in additive mortality.
High	Major reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Guide: 21 to 80 % of population lost or increase in additive mortality.

Spatial Magnitude	Description
Medium	Partial reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Guide: 6 to 20% of population lost or increase in additive mortality.
Low	Small but discernible reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Guide: 1 to 5% of population lost or increase in additive mortality.
Negligible	Very slight (or no discernible) reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Reduction barely discernible, approximating to the "no change" situation. Guide: <1% of population lost or increase in additive mortality.

Table 7.3.3: Duration of impact

Temporal Magnitude	Description
Permanent	Effects continuing indefinitely beyond the span of one human generation (taken as approximately 25 to 30 years), except where there is likely to be substantial improvement after this period. Where this is the case, long-term may be more appropriate.
Long-term	Approximately 15 to 25 years or longer (see above).
Medium-term	Approximately 5 to 15 years.
Short-term	Up to approximately 5 years.
Negligible	<12 months.

1.3 Significance of Effect

The potential significance of an effect is determined through a standard method of assessment based on professional judgement, considering both feature sensitivity and magnitude of effect as detailed in **Table 7.3.4**.

Major and **Moderate** effects are considered 'significant' in the context of the EIA Regulations.

Table 7.3.4: Significance criteria.

Significance of Effect	Description
Major	The impact is likely to result in a long-term significant effect on the integrity of a feature.
Moderate	The impact is likely to result in a medium term, potentially significant effect on the integrity of a feature.
Minor	The impact is likely to affect a feature at an insignificant level by virtue of its limitations in terms of duration or extent, but there will probably be no effect on its integrity.
Negligible	No material effect.

2.0 Cumulative Effects

As recommended in NatureScot guidance (2025a[iv] and 2025b[vi]) potentially significant cumulative effects upon IOFs are assessed with other wind farm developments at the regional NHZ 19 level, unless another geographical scale is justified.

Table 7.3.5 presents the list of other wind farm developments identified within NHZ 19 and which have been considered for potentially significant cumulative effects upon ornithological features in-combination with the Proposed Development.

Table 7.3.5: List of other wind farm developments (NHZ 19)

Development	Status	No. of Turbines	Information available
Operational			
Afton	Operational	25	Yes
Airies	Operational	14	Yes
Andershaw	Operational	11	Yes
Arecleoch	Operational	60	Yes
Arecleoch Extension	Operational	13	Yes
Artfield Fell	Operational	15	No
Balmurrie Fell (Artfield Fell Extension)	Operational	7	Yes
Bankend Rig	Operational	11	No
Blackcraig Hill	Operational	23	Yes
Carscreugh	Operational	18	Yes
Clyde	Operational	152	Yes
Clyde Extension	Operational	54	Yes
Cumberhead	Operational	12	Yes
Dalswinton	Operational	15	Yes
Dersalloch	Operational	23	Yes
Dungavel	Operational	13	Yes
Galawhistle	Operational	22	Yes
Glen App	Operational	11	Yes
Glenchamber	Operational	11	No
Hare Hill	Operational	20	No
Hare Hill Extension	Operational	35	No
Harestanes	Operational	68	Yes
Kennoxhead	Operational	13	Yes
Kilgallioch	Operational	96	Yes
Kype Muir	Operational	26	Yes
Kype Muir Extension	Operational	15	Yes
Mark Hill	Operational	28	Yes
Middle Muir	Operational	15	Yes

Development	Status	No. of Turbines	Information available
Minnygap	Operational	10	Yes
Nutberry	Operational	6	Yes
Plascow Wind Cluster	Operational	3	Yes
Sandy Knowe	Operational	24	Yes
Sanquhar	Operational	9	Yes
South Kyle	Operational	50	Yes
Sunnyside	Operational	2	Yes
Twentyshilling Hill	Operational	9	Yes
Wether Hill	Operational	14	Yes
Whiteside	Operational	10	Yes
Windy Rig	Operational	12	Yes
Windy Standard - Phase 1	Operational	36	No
Windy Standard - Phase 2	Operational	30	No
Construction			
Benbrack	Construction	18	Yes
Cumberhead West	Construction	21	Yes
Enoch Hill	Construction	16	Yes
Hagshaw Hill Repowering	Construction	14	Yes
North Kyle	Construction	54	Yes
Pencloe	Construction	19	Yes
Sanquhar 2	Construction	44	Yes
Stranoch 2	Construction	20	Yes
Consented			
Chirmorie	Consented	21	Yes
Cloud Hill	Consented	10	Yes
Cornharrow	Consented	7	Yes
Crookedstane	Consented	4	Yes
Fell Wind Farm	Consented	8	Yes
Glenmuckloch	Consented	8	Yes
Glenshimmeroch	Consented	10	Yes
Hare Craig	Consented	8	Yes
Kennoxhead Extension	Consented	14	Yes
Kennoxhead Extension II (Penbreck)	Consented	8	Yes
Kilgallioch Extension	Consented	9	Yes
Knockkippen	Consented	12	Yes
Knockman Hill	Consented	5	Yes

Development	Status	No. of Turbines	Information available
Lethans	Consented	22	Yes
Lethans Extension	Consented	10	Yes
Lion Hill	Consented	4	Yes
Lorg	Consented	10	Yes
Mid Moile	Consented	15	Yes
Mochrum Fell	Consented	8	Yes
Over Hill	Consented	10	Yes
Polquhairn	Consented	9	Yes
Sandy Knowe Extension	Consented	3	Yes
Sclenteuch	Consented	9	Yes
Shepherds' Rig	Consented	17	Yes
Troston Loch	Consented	14	Yes
Windy Standard – Phase 1 (Repower)	Consented	8	Yes
Windy Standard - Phase 3	Consented	20	Yes
Application			
Appin	Application	9	Yes
Bodinglee	Application	35	Yes
Daer	Application	17	Yes
Euchanhead	Application	21	Yes
Greenburn Variation	Application	14	Yes
Harestanes South	Application	8	Yes
Harestanes West	Application	12	Yes
Herds Hill	Application	3	Yes
M74 West Renewable Energy Park	Application	22	Yes
Rivox	Application	29	Yes
Rowancraig	Application	6	Yes
The Drum	Application	8	Yes

[i] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3, updated September 2024. Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester.

[ii] 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 Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, **114**, pp. 723-747

[iii] Stanbury, A., Burns, F., Aebischer, N., Baker, H., Balmer, D., Brown, A., Dunn, T., Lindley, P., Murphy, M., Noble, D.G., Owens, R. and Quinn, L. (2021). The status of the Uks breeding seabirds: an addendum to the fifth

Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, **117**, pp. 471-487

[iv] NatureScot (2025a). Assessing significance of impacts from onshore windfarms on birds out with designated areas. Available at: https://www.nature.scot/doc/guidance-note-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect.

[v] Goodship, N.M. and Furness, R.W. (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

[vi] NatureScot (2025b). Assessing the cumulative impacts of onshore wind farms on birds. Available at: https://www.nature.scot/doc/guidance-assessing-cumulative-impacts-onshore-wind-farms-birds .

Making Sustainability Happen

Technical Appendix 7.4: Red Kite Population Model

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Acronyms and Abbreviations

C-PGR	Counterfactual of population growth rate
C-PS	Counterfactual of population size
D&G	Dumfries & Galloway
NHZ	Natural Heritage Zone
PVA	Population Viability Analysis
SRMS	Scottish Raptor Monitoring Scheme

1.0 Introduction

Population Viability Analysis (PVA) has been used to investigate the impact of additional mortality associated with predicted collision mortality risks for the proposed Watchman Energy Park (the Proposed Development) and other wind farm developments, on the future growth rates of the Natural Heritage Zone (NHZ) 19: Western Southern Uplands and Inner Solway red kite population.

2.0 Model Methods and Assumptions

The modelling approach used is similar to that developed by RSPB Scotland on behalf of NatureScot using Vortex software (Lacy *et al*. 2005[1]) to predict the population trajectory of the North Scotland red kite population, in response to varying rates of additional mortality on adults and/or sub-adults (Sansom *et al.,* 2016[2]).

There are four key demographic parameters in the model:

- number of breeding pairs;
- mean number of young fledged per pair per year;
- annual survival rate of young birds; and
- annual survival rate of adult, range-holding birds.

Estimates for the first two are available with a reasonable degree of confidence, due to the annual monitoring carried out as part of the Scottish Raptor Monitoring Scheme (SRMS)[3]. Although not all breeding attempts will be monitored in NHZ 19, a reasonable estimate of minimum population size can be extrapolated from available monitoring data. It is also considered that there are enough nests monitored each year to provide a sufficiently accurate mean productivity rate for NHZ 19.

The latter two (survival) parameters are more difficult to estimate, particularly at an NHZ level, and therefore the values in Sansom *et al.* (2016) have been used.

The parameters considered for assessing the potential impacts of additional collision mortality are outlined in **Table 1** below.

During population projections, to simulate environmental stochasticity, demographic rates at each time step were drawn at random from appropriate probability distributions (beta for survival, bounded at 0-1 and a stretched beta bounded at 0 and 3 for productivity[4]) and used to estimate the population at the following time step. Since small populations are at an elevated risk due to chance events, demographic stochasticity was also incorporated using a binomial method. The simulations were run as density independent with no feedback between population size and demographic rates.

[1] Lacy, R. C., Borbat, M. & Pollak, J. P. (2005) Vortex: A stochastic simulation of the extinction process. Chicago Zoological Society, 9.50, Brookfield, IL.

[2] Sansom, A., Etheridge, B., Smart, J. & Roos, S. (2016). Population modelling of North Scotland red kites in relation to the cumulative impacts of wildlife crime and wind farm mortality. Scottish Natural Heritage (SNH) Commissioned Report No. 904.

[3] https://raptormonitoring.org/annual-report

[4] Morris, W.F. & Doak, D.F. (2002) Quantitative Conservation Biology: Theory and Practice of Population Viability Analysis. Sinauer Associates Inc., Sunderland, USA

Sansom *et al.* (2016)[2] stated that "*to date there is no evidence of density-dependent reproduction and survival of red kites in the UK*", and similarly, modelling of the Welsh red kite population by Hereward *et al*. (2024[5]) did not incorporate density dependence because the species is still recolonising in Wales and there is a lack of evidence to suggest what the carrying capacity is likely to be. The PVA in this instance follows suit by not incorporating any density dependence into the model, with the NHZ 19 / South Scotland population still apparently undergoing expansion.

Here, the model was run for the baseline situation (i.e., without any additional mortality), and for a range of additional annual mortalities, which could be attributable to wind turbine collisions. Comparison of the outputs from the paired baseline and impact simulations allows calculation of the relative change in population growth rate (counterfactual of population growth, C-PGR) and population size (counterfactual of population size, C-PS) predicted over a 25-year timeframe when additional losses occur, for the NHZ 19 population.

Although the two counterfactual measures may appear to be equally informative with respect to understanding the population consequences of an impact scenario, the form of model used (density dependent or density independent) has an important bearing on which one is more appropriate. Consideration of the properties of density dependent and density independent population projections illustrates why this is:

- A population regulated by density dependent feedback will (all else being equal) maintain itself around an equilibrium level. Since there is no long-term growth or decline for such a population, when an impact is applied the population growth rate will only change in the short term, following which the population will once again settle at a new, lower, equilibrium size. Hence the change in growth rate (i.e., C-PGR) when using a density dependent model is of limited value for understanding the effect of an impact. In contrast, the change in population size (C-PS) provides useful information on how much smaller the population will be in the presence of the impact.
- Conversely, when a population is simulated without regulation (i.e., density independent), the population will grow or decline exponentially. The baseline and impacted predictions will both change in this manner but the difference in population size between the two will increase with duration as the baseline population grows more rapidly. Hence, the time point when the differences are considered is critical to the C-PS value obtained and how this is interpreted. However, the average growth rate (C-PGR) of a density independent population is constant and therefore, a comparison of the baseline and impacted growth rates is insensitive to the duration over which the comparison is made and therefore provides a more reliable and consistent assessment of the impact's effect on the population.

Thus, for density independent PVA, as presented here for red kite (and in Sansom *et al*. 2016 and Hereward *et al.* 2024), the C-PGR is considered the more robust and reliable metric to use.

To obtain current population size and mean productivity parameters, reference has been made to SRMS annual reports. The NHZ 19 area is largely comparable in extent with the SRMS Dumfries & Galloway (D&G) monitoring area (**Figure 1**), albeit the D&G area does

[5] Hereward, H.F.R., Macgregor, C.J., Gabb, O., Connell, A., Thomas, R.J., Cross, A.V. & Taylor, R.C. (2024). Modelling population-level impacts of wind farm collision risk on Welsh Red Kites. BTO Research Report 766, BTO, Thetford, UK.

include the small NHZ 18: Wigtown Machars & Outer Solway and some of the neighbouring NHZ 20: Border Hills. It does however exclude some of the SRMS South Strathclyde (red) monitoring area.

Both neighbouring South Strathclyde and Lothian & Borders (purple) SRMS regions have apparently low red kite populations (six and three monitored pairs respectively in 2023) compared to the D&G monitoring area, where up to 124 pairs (in 2022) have been monitored. Therefore, although the D&G monitoring area may include some Lothian & Borders pairs, it may also exclude similar numbers of South Strathclyde pairs. A minimum NHZ 19 breeding population of 124 pairs, equating to the D&G monitoring area population, has therefore been used for this PVA.

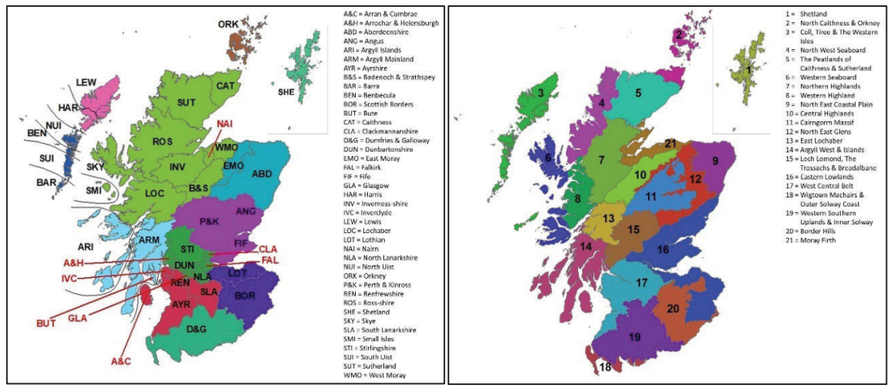

Figure 1: SRMS monitoring regions (left) and NatureScot NHZ extents (right)

Table 1. Parameters used in the red kite population model.

Parameter	Values used in PVA	Rationale
Number of breeding pairs	124 pairs	Minimum population size based on the peak number of pairs monitored in recent years (2022) in the SRMS Dumfries & Galloway monitoring area (Challis et al., 2023[6]).
Survival rate from fledging to adult	0-1: 0.58 ± 0.01 SD 1-2: 0.82 ± 0.20 SD Adult: 0.91 ± 0.02 SD	Survival rates were taken from Table 6 of Sansom *et al*. (2016)[2], under the scenario of "wild-hatched birds and 'no illegal killing'". This scenario is considered to be appropriate because of the relatively lower growth rate of the north Scotland population, as modelled by Sansom *et al*. (2016)[2], which was attributed by Smart *et al*. (2010[7]) to illegal killing. Five-year

[6] Challis, A., Beckmann, B.C., Wilson, M.W., Eaton, M.A., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N.I. (2023). Scottish Raptor Monitoring Scheme Report 2021 & 2022. BTO Scotland, Stirling.

[7] Smart, J., Amar, A., Sim, I. M. W., Etheridge, B., Cameron, D., Christie, G. & Wilson, J. D. (2010). Illegal killing slows population recovery of a re-introduced raptor of high conservation concern - The red kite *Milvus milvus*. *Biological Conservation*, **143**, pp. 1278-1286.

Parameter	Values used in PVA	Rationale
		mean productivity in Dumfries & Galloway appears to be lower than the national average (1.1 compared to 1.3 chicks fledged per territorial pair monitored by SRMS) which suggests that the continued growth is supported by higher survival rates than elsewhere.
Initial population in each age class	Year 0-1: 114 Year 1-2: 60 Adult: 248	Total estimated numbers in each age class (422 total individuals) based on original population size (124 pairs) and survival rates.
Age of first breeding	2	Sansom et al. (2016)[2] assumes that a proportion of birds first attempt to breed at 2 years.
Productivity: Number of chicks fledged per territorial pair	1.1	Mean productivity values for SRMS Dumfries & Galloway monitoring area from 2019 to 2023, using SRMS annual report data.

3.0 Model Results

3.1 Baseline Scenario

The baseline scenario represents the predicted population growth of the NHZ 19 population, without any additional mortality associated with wind turbine collisions, or influences of density-dependency.

Under the baseline scenario, an average annual growth rate of 13.6% was predicted. By year 25, assuming there is no limit in carrying capacity, the number of individuals is predicted to increase from 422 to nearly 11,000 (**Figure 2**).

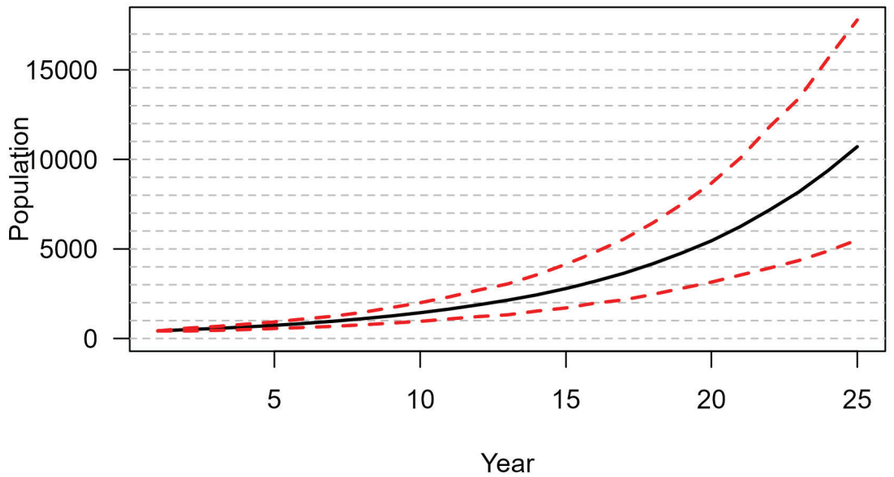

Figure 2: Projected red kite population within NHZ 19 for a period of 25 years with no additional mortality. The average population prediction is shown in black, 95% confidence intervals in red (dashed).

3.2 Additional Mortality

Additional annual mortality of 0.05 to 10 individuals per year was added to the model, split across each age class in proportion to their presence. Where values required applying mortalities of less than one individual to the individual age classes, the effect was instead applied by reducing the relevant survival rates by the equivalent amount.

Outputs are presented in **Table 2** as counterfactuals of population growth (C-PGR) and population size (C-PS), with C-PGR also shown on **Figure 3**.

Figure 4 presents an example of the effect on the predicted population when including additional annual mortality of 0.3 individuals, which is close to the predicted mean annual mortality for Watchman Energy Park alone (0.263, see **Chapter 7: Ornithology (EIAR Volume 2)**). The result for this example shows that growth remains essentially unchanged at 13.5%, albeit the total number individuals after 25 years is slightly lower, at c.10,500.

Figures 5 and 6 provide other examples of the effect on the population, with additional mortality of two and ten individuals respectively. In these scenarios, the population growth rate reduces to 13.0% and 10.4% respectively.

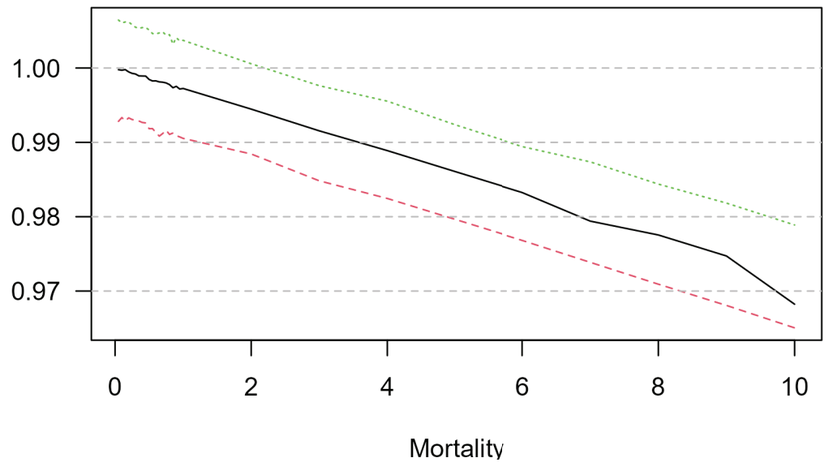

Figure 3: Predicted counterfactuals of population growth rate (C-PGR) for the NHZ 19 red kite population for a range of potential mortality values from 0.05 to 10 individuals per annum. The average population prediction is shown in black, upper and lower 95% confidence intervals in green and red (dashed) lines respectively.

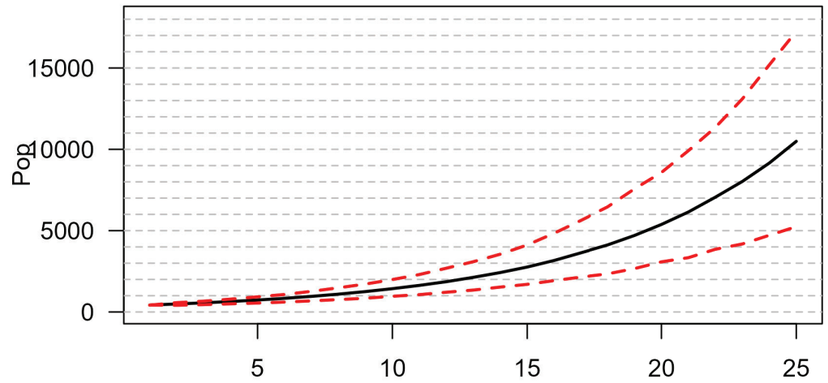

Figure 4: Projected NHZ 19 red kite population for a period of 25 years, when including an example additional mortality of 0.3 individuals per year. The average population prediction is shown in black, 95% confidence intervals in red (dashed).

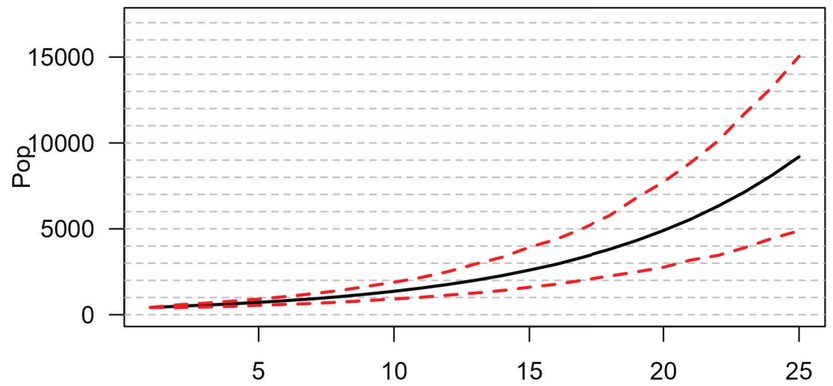

Figure 5: Projected NHZ 19 red kite population for a period of 25 years, when including an example additional mortality of 2 individuals per year. The average population prediction is shown in black, 95% confidence intervals in red (dashed).

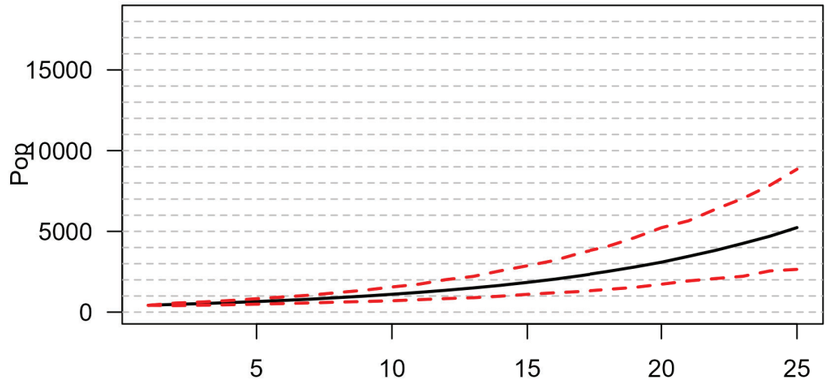

Figure 6: Projected NHZ 19 red kite population for a period of 25 years, when including an example additional mortality of 10 individuals per year. The average population prediction is shown in black, 95% confidence intervals in red (dashed).

Table 2: Predicted counterfactuals of population growth rate (C-PGR) and population size (C-PS) for the NHZ 19 population for a range of potential mortality values between 0.05 to 10 individuals per annum. Mean C-PS and C-PGR as well as lower (2.5%) and upper 97.5% confidence intervals are presented.

Additional Mortality	C-PGR	2.5%	97.5%	C-PS	2.5%	97.5%
0.05	0.999771	0.99282	1.00645	0.997778	0.835289	1.17443
0.10	0.999706	0.99333	1.00607	0.995755	0.846045	1.16337
0.15	0.999785	0.99288	1.00619	0.998226	0.836421	1.16697
0.20	0.999478	0.99329	1.00618	0.990133	0.845197	1.16658
0.25	0.999281	0.99307	1.00584	0.985509	0.840551	1.15673
0.30	0.999195	0.99296	1.00548	0.983031	0.838140	1.14666
0.35	0.998943	0.99287	1.00534	0.976900	0.836297	1.14250
0.40	0.998925	0.99267	1.00543	0.976734	0.832098	1.14522
0.45	0.998913	0.99261	1.00544	0.976489	0.830910	1.14553
0.50	0.998462	0.99184	1.00511	0.965448	0.814826	1.13616
0.55	0.998257	0.99184	1.00463	0.960361	0.814965	1.12258
0.60	0.998269	0.99132	1.00459	0.960819	0.804233	1.12137
0.65	0.998133	0.99083	1.00471	0.957640	0.794420	1.12482
0.70	0.998095	0.99119	1.00485	0.956766	0.801554	1.12868
0.75	0.997993	0.99163	1.00442	0.954198	0.810507	1.11657
0.80	0.997771	0.99106	1.00447	0.948988	0.799104	1.11821
0.85	0.997348	0.99125	1.00320	0.938746	0.802763	1.08337
0.90	0.997535	0.99090	1.00407	0.943399	0.795882	1.10711
0.95	0.997175	0.99073	1.00364	0.934984	0.792293	1.09529
1.00	0.997249	0.99053	1.00372	0.936689	0.788450	1.09735

Additional Mortality	C-PGR	2.5%	97.5%	C-PS	2.5%	97.5%
2.00	0.994472	0.98843	1.00057	0.873316	0.747651	1.01439
3.00	0.991550	0.98482	0.99762	0.811642	0.682337	0.94222
4.00	0.988890	0.98245	0.99554	0.759121	0.642385	0.89427
5.00	0.986062	0.97963	0.99235	0.706476	0.597860	0.82543
6.00	0.983253	0.97681	0.98943	0.657781	0.556261	0.76674
7.00	0.979406	0.97386	0.98737	0.611058	0.515774	0.72790
8.00	0.977542	0.97092	0.98438	0.568922	0.478190	0.67474
9.00	0.974715	0.96806	0.98182	0.529193	0.444225	0.63227
10.00	0.968227	0.96504	0.97888	0.492875	0.410883	0.58658

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