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Bhlaraidh Wind Farm extension
Ornithology
Appendix 6.1

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CONTENTS

1 INTRODUCTION

MacArthur Green was commissioned by the Applicant to complete ornithological surveys at the proposed Bhlaraidh Wind Farm extension (hereafter referred to as 'the Proposed Development'), on the Glenmoriston Estate, near Invermoriston, Highlands in The Highland Council area. The surveys were conducted between October 2018 and August 2020 to inform an assessment of the potential ornithological effects of the Proposed Development on the species assemblage present.

This technical report summarises the methods employed and the results of the field surveys and is supported by the following Annexes.

Annex A	Ornithological Legal Protection
Annex B	Ornithological Survey Methodologies
Annex C	Ornithological Survey Effort & General Information
Annex D	Ornithological Survey Results
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 in **Confidential Appendix 6.2**.

A range of surveys were employed to accurately record baseline conditions within the Proposed Development site ('the Site') and appropriate survey areas (detailed in **Annex B**). In this Technical Appendix, associated **Annexes A – E**, **Confidential Technical Appendix 6.2** and **Chapter 6 (Ornithology)** of the EIA Report, terms referred to are as follows:

- 'the Site' refers to the area within the red line boundary;
- 'survey area' is defined as the area covered by each survey type for the Proposed Development; and
- 'study area' is defined as the spatial extent of consideration of effects on each species at the time of assessment.

2 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** to this report details the various levels of legal protection afforded to UK bird species.

3 FIELD SURVEY METHODS

The following surveys were undertaken at the Site between October 2018 and August 2020:

- Flight activity surveys (two breeding seasons and two non-breeding seasons), from up to seven vantage points (VPs) (**Figure 6.1** and **Figure 6.2**);
- Breeding bird surveys (two breeding seasons), 500m survey buffer (**Figure 6.5**);
- Winter walkover surveys (two non-breeding seasons), 500m survey buffer (**Figure 6.5**);
- Scarce breeding bird surveys (two breeding seasons), 2km survey buffer (**Figure 6.5**); and
- Black grouse surveys (one breeding season), 1.5km survey buffer (**Figure 6.5**).

Survey methods followed the recommended NatureScot (SNH 2017[i]) guidance available at the time and methods are described in detail within **Annex B**. Where possible, each survey was carried out beyond the Site within a buffer distance specific to that method (e.g. 2km buffer for the scarce breeding bird surveys) and these are detailed within **Annex B**.

The relative importance of the data collected was determined by the specific level of protection assigned to those species recorded, coupled with their perceived susceptibility to potential effects resulting from the Proposed Development. The resulting 'target species' and 'secondary species' lists are a standard assessment tool for wind farm ornithological studies (see **Annex B**).

4 Field Survey Results

All survey results used in the assessment were collected 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 <1km was excluded from total survey effort and subsequent analysis (further detail in **section 4.1**). Schedule 1/Annex 1 surveys were carried out by appropriately licensed surveyors. All survey data were reviewed, inputted, and analysed by MacArthur Green.

A total 60 bird species were recorded within, or adjacent to, the Site during the various ornithological surveys conducted. Survey effort and results of the field surveys are detailed within **Annexes C & D**. The following sections summarise the results from each survey undertaken.

4.1 Flight Activity

The flight activity surveys recorded all target species' flight activity within the Site and beyond, for the purposes of collision risk modelling. The flights used for modelling were those within the 'Collision Risk Analysis Area' (CRAA) (i.e., the area to be occupied by operational turbines, together with a 500m buffer).

Flight activity surveys across the 2019 and 2020 breeding seasons and 2018/2019 and 2019/2020 non-breeding seasons were undertaken across up to seven VPs (**Figure 6.1** and **Figure 6.2**). Valid survey effort[1] is detailed in **Table 6.1.1** and full details of flight activity surveys are contained in **Annex C** with methodology in **Annex B**.

Table 6.1.1 Summary of total hours of valid survey per VP in each season

Period	VP1	VP2	VP3	VP4	VP5	VP6	VP7
2018/2019 non-breeding season	36	39	39	36	36	25.5	-
2019 breeding season	36	21	36.5	18	18	36	36
2019/2020 non-breeding season	37	-	40	-	-	33	39
2020 breeding season	36	-	36	-	-	6	36

A total of 13 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 6.1.2** shows the total number of flights recorded and the total number of birds recorded[2]. The bird seconds are calculated for each observation

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

[2] This includes flights that would not technically be 'at-risk' of collision (e.g., recorded outwith the CRAA and/or not at rotor height).

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 6.1.2 Target species recorded and total number of flights recorded during flight activity surveys, 20218-2020

Species	Total number of flightlines recorded	Total number of birds recorded	Total bird seconds recorded
Black-throated diver	2	2	247
Golden eagle	90	105	19,838
Golden plover	2	2	78
Goshawk	2	2	193
Greenshank	4	5	689
Greylag goose	2	8	834
Osprey	2	2	1,130
Peregrine falcon	3	3	351
Pink-footed goose	1	28	4,228
Red-throated diver	7	9	817
Red kite	7	7	1,123
Snipe	1	1	12
White-tailed eagle	7	11	3,395

4.1.1 Flightlines Used in Collision Risk Modelling

Only flightlines identified to be at least in part within the CRAA and recorded within the 2km 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 blade height[4] (taken to be from 22m to 180m for the Proposed Development).

Black-throated diver, golden plover, greylag goose, peregrine falcon, pink-footed goose and snipe were recorded during flight activity surveys but no flights were considered to be 'at-risk'[5]. 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 rates per season. The CRM calculations for each species can be found in **Annex E**. **Table 6.1.3** and **Table 6.1.4** provide the estimated collision rates and number of seasons per collision for each species.

Table 6.1.3 Estimated collision rates

Species	2018/2019 non-breeding season	2019 breeding season	2019/2020 non-breeding season	2020 breeding season	Mean breeding season	Mean non-breeding season	Mean annual
Golden eagle	0.1000	0.0928	0.0287	0.1384	0.1156	0.0644	0.1800
Goshawk	-	-	0.0182	-	-	0.0091	0.0091
Greenshank	-	-	-	0.0118	0.0059	-	0.0059
Osprey	-	0.0292	-	-	0.0146	-	0.0146
Red kite	-	-	0.0502	-	-	0.0251	0.0251
Red-throated diver	-	-	-	0.0088	0.0044	-	0.0044
White-tailed eagle	0.0894	-	-	0.0104	0.0052	0.0447	0.0499

Table 6.1.4 Estimated number of seasons per collision

Species	2018/2019 non-breeding season	2019 breeding season	2019/2020 non-breeding season	2020 breeding season	Mean breeding season	Mean non-breeding season	Mean annual
Golden eagle	10.00	10.77	34.81	7.23	8.65	15.54	5.56
Goshawk	-	-	54.81	-	-	109.62	109.62
Greenshank	-	-	-	84.96	169.93	-	169.93
Osprey	-	34.26	-	-	68.52	-	68.52
Red kite	-	-	19.94	-	-	39.88	39.88
Red-throated diver	-	-	-	113.15	226.30	-	226.30
White-tailed eagle	11.19	-	-	95.75	191.50	22.38	20.04

4.2 Breeding Waders

Two complete breeding bird seasons (comprising of four visits in 2019 and three[6] visits in 2020) were surveyed in 2019 and 2020 (April to July and May to July respectively). Surveys recorded six breeding wader species in 2019 and five breeding wader species in 2020 (**Table 6.1.5**) and wader activity is detailed on **Figure 6.10** and **Figure 6.11.** Lapwing and ringed plover were recorded in 2019 but were not considered to be breeding and curlew, lapwing and ringed plover were not recorded in 2020. Full details of the breeding bird surveys are provided within **Annexes C & D** and survey methodology is provided within **Annex B.**

Table 6.1.5 Breeding wader territories, 2019 and 2020

Species	2019 Number of territories recorded within the survey area	Number of territories recorded within the 500m study area	2020 Number of territories recorded within the survey area	Number of territories recorded within the 500m study area
Common sandpiper	4-10	2-4	8-11	4-7
Curlew	0-1	0	No birds recorded	
Dunlin	0-1	0	0-2	0
Golden plover	10-18	1-2	1-4	0-1

[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 2km 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.
[5] i.e. the flights were either not within the CRAA and associated viewshed or were only recorded flying above 150m.
[6] Surveys were not able to be undertaken during April 2020 due to coronavirus restrictions.

Species	2019 Number of territories recorded within the survey area	Number of territories recorded within the 500m study area	2020 Number of territories recorded within the survey area	Number of territories recorded within the 500m study area
Greenshank	11-17	1-4	2-4	2-3
Lapwing	0	0	No birds recorded	
Ringed plover	0	0	No birds recorded	
Snipe	8	1	4	0

4.3 Winter Walkovers

Winter walkover surveys were conducted during the 2018/2019 and 2019/2020 non-breeding seasons. Surveys recorded 11 species of which six are considered to be target species (**Table 6.1.6**). Full details of the winter walkover surveys are provided within **Annexes C and D** and survey methodology is provided within **Annex B**.

Table 6.1.6 Winter walkover: target species records (number of birds recorded per visit

Species	2018/2019 non-breeding season		2019/2020 non-breeding season	
	Number of records	Total number of birds	Number of records	Total number of birds
Golden eagle	8	8	3	4
Golden plover	1	1	-	-
Greylag goose	2	34	-	-
Peregrine falcon	1	1	-	-
Red kite	-	-	2	2
Woodcock	1	1	-	-

4.4 Scarce Breeding Birds

Scarce breeding bird surveys were conducted during the 2019 and 2020[6] breeding seasons (February to August).

There was evidence of possible breeding activity for black-throated diver, merlin and red-throated diver, with golden eagle and Slavonian grebe confirmed to be breeding within their respective survey areas (summarised in **Table 6.1.7**). **Confidential Technical Appendix 6.2** contains the full details of all breeding activity.

Table 6.1.7 Scarce breeding bird summary

Species	2019	2020
Black-throated diver	Pair thought to be establishing a nest on one loch but no further evidence of breeding	No evidence of breeding within the survey area
Red-throated diver	No evidence of breeding within the survey area	Pair alarm calling on a loch but no further evidence of breeding
Slavonian grebe	Two breeding locations (SZ_1 and SZ_2) – one pair fledged a chick, breeding success of second pair unknown	Two breeding locations (SZ_1 and SZ_3) – one pair suspected to have failed between mid-June and late July, breeding success of second pair unknown
Golden eagle	Pair present in territory with four eyries/roosts located during surveys (EA_1.1, EA_1.2, EA_1.3 and EA_1.4) – only one showed signs of some refurbishment (EA_1.3)	Pair present in territory with five eyries/roosts located during surveys (EA_1.1, EA_1.2, EA_1.3, EA_1.4 and EA_1.5) – only one showed signs of some refurbishment (EA_1.2)
Merlin	One possible territory (ML_1) – adult mobbing golden eagle	One possible territory (ML_2) – female and juvenile recorded together

Hen harrier, osprey, peregrine falcon, red kite and white-tailed eagle (target raptor species) were also recorded during surveys but were not considered to be breeding within the survey area.

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

Full details of the scarce breeding bird surveys are provided within **Annexes C and D** and **Confidential Technical Appendix 6.2** and survey methodology is provided within **Annex B**.

4.5 Black Grouse

Surveys to identify areas of black grouse activity, locate lek locations and establish lek size were conducted in the 2019 breeding season during April and May. Surveys identified four lek locations with lek 1 recording the largest numbers in April 2019 (**Table 6.1.8**). Full details of the black grouse surveys are provided within **Annexes C and D** and survey methodology is provided within **Annex B**.

Table 6.1.8 Black grouse lek activity: 2019

Lek	Location	2019 Maximum number of males recorded	Maximum number of females recorded
1	Levishie Forest	10	2
2	Creag an Fheadain	3	0
3	Allt na Criche	4	0
4	Coire Liath	6	0

[i] Scottish Natural Heritage (2017) Recommended Bird Survey Methods to inform impact assessment of Onshore Windfarms.

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 1A 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.

Further protection is described under the EU Birds Directive which requires member states to maintain wild bird species in favourable conservation status[12] and promote the conservation of bird species listed within Annex 1 of the Birds Directive through the protection of their habitat. This is achieved via the designation of Special Protection Areas (SPAs).

Red List bird species are those deemed to be globally threatened and to be suffering population declines within the UK. Although not legally enforceable, the conservation of Red List bird species, including those not covered by the aforementioned categories, represents a material consideration in planning terms.

[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.
[12] While the term 'favourable conservation status' is not used in the Birds Directive, EU court cases over recent years have progressively interpreted the concept as meaningful in a Birds Directive context (SNH, 2006).

ANNEX B. ORNITHOLOGICAL SURVEY METHODOLOGY

A range of ornithological surveys have been conducted on behalf of the proposed Bhlaraidh Wind Farm extension (the 'Proposed Development'). The methodologies used in these surveys are summarised in the sections below; more detailed descriptions are provided in the NatureScot guidance (SNH 2017[i]) on which these surveys are based.

Survey Areas

Surveys were undertaken during the 2019 and 2020 breeding and 2018/2019 and 2019/2020 non-breeding seasons. All surveys were buffered from a Site boundary provided by the Applicant and survey areas are detailed on **Figure 6.5**. It should be noted that the Site boundary was reduced during the survey period (June 2019), with survey areas adjusted (reduced) accordingly (**Figure 6.5** shows all the survey buffers for comparison), however it should be noted that the change in the survey areas is not considered to be a limitation as all survey buffers provided coverage of the assessment study areas shown on **Figure 6.4**.

B.1 Flight Activity Surveys

The aims of the flight activity (vantage point, VP) surveys are: (1) to record flight activity inside and within the vicinity of the Site in order to identify areas of importance to birds; and (2) to quantify flight activity within 500m of proposed turbine locations in order to estimate the likelihood of collisions (SNH 2017[i] P.14-19).

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) (SNH 2017[i] P.17);
- 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 divers, and to changing raptor behaviour across seasons (SNH 2017[i] P.17);
- Watches were undertaken in conditions of good ground visibility when the cloud base was higher than the most elevated ground being observed. Watches were suspended and resumed to take account of changes in visibility (e.g., fluctuations in cloud base); 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 20m above ground level[1];
- Reconnaissance surveys were undertaken to refine VP locations;
- The VP locations and associated viewsheds are shown in **Figure 6.1** and **Figure 6.2**;
- Care was taken to maximize the area visible whilst minimising disturbance to birds;
- When surveys commenced in October 2018, six VPs (1-6) were selected to provide optimum coverage of the Site boundary available at the time (with the aim of achieving coverage of all the proposed turbine locations such that no turbine was more than 2km from a VP). Revisions to the Site boundary and proposed turbine locations resulted in adjustments to the VPs selected, with VPs 2, 4 and 5 dropped and VP 7 created to ensure continued coverage of the proposed turbine locations. It should be noted that in the final turbine layout, three turbines (T8, T9 and T13) lie just outside the viewsheds and **Annex E** details how this is taken into account in the collision modelling;
- A maximum 180° view arc was scanned by surveyors. This rule did not however apply when tracking migratory waterfowl, raptors or divers across the Site;
- 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).

For each target and secondary species, the following data were recorded (SNH 2017[i] P.17-18):

- 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 (0-20m, 21-40m, 41-10 m, 101-150m and >151m[4]) 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 maximum proposed rotor height is 22 – 180m 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 only on arrival at the VP. Thereafter only flying birds and newly noticed perched/swimming birds were included in the activity summaries.

B.2 Moorland Breeding Bird Survey

Upland breeding bird survey methodology was employed as detailed within NatureScot guidance (SNH 2017[i] P.11). 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[ii]) method for upland bird survey;

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

- The objectives were to map the distribution of breeding bird territories within 500m of the Site and estimate the approximate size of breeding bird populations;
- 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[iii]). 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;
- The survey covered all areas within 500m of the Site; and
- All upland wader species were recorded during the breeding bird survey.

Timing

- As recommended in Calladine *et al.* (2009[iv]), four survey visits were undertaken between April and July 2019. Four visits were scheduled for 2020 however surveys were not able to be undertaken during April 2020 due to coronavirus restrictions;
- Fieldwork was undertaken between sunrise and 1800hrs; 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 300m), 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 100m; and
- 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.3 Winter Walkover

Winter walkovers were performed in the non-breeding seasons to map wintering populations of birds within 500m of the Site.

- The area was surveyed three times during each non-breeding season;
- These surveys involved following a route that optimised ground coverage, such that observers walked within 250m 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.

B.4 Scarce Breeding Bird Survey

The aim of the scarce breeding bird surveys was to determine the distribution of occupied nests/territories for target raptor, owl, diver species and Slavonian grebe within 2km of the Site and record breeding success. Secondary species such as buzzard, sparrowhawk and kestrel were also noted but location of their nests 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 (SNH 2017[i] P.11-14), '*Bird Monitoring Methods*' (Gilbert *et al.* 1998[v]) and '*Raptors: a field guide to survey and monitoring*' (Hardey *et al.* 2013[vi]) were all consulted to inform survey methodology and are referenced where appropriate in the species methodologies below.

Black-Throated Diver

Methodology outlined in Gilbert *et al.* (1998[v]) and as mentioned in SNH (2017[i] P.12), was used as guidance. Extreme care was taken not to disturb potential nests especially around the time of year when females were likely to be laying or incubating.

- All suitable habitats within 1km of the Site were searched, including areas of water, lochs and/or any shorelines where present;
- Searches carried out between April and July were focussed on locating summer territories and sitting, brooding or prospecting/nest-building birds as well as numbers of non-breeding adults;
- By observing from a distance, disturbance to nesting or incubating birds was kept to a minimum;
- Where pairs without eggs or young were present, a subsequent visit was made to confirm nest occupancy;
- Where breeding was confirmed, no subsequent visits were made (Gilbert *et al.* 1998[v]); and
- Where present, numbers of non-breeding divers were also assessed (SNH 2017[i] P.34).

Red-Throated Diver

Methodology outlined in Gilbert *et al.* (1998[v]) and as mentioned in SNH (2017[i] P.12), was used as guidance for the surveying of areas for potential red-throated diver breeding. Extreme care was taken not to disturb potential nests especially around the time of year when females were likely to be laying or incubating and by observing from a distance, disturbance to nesting or incubating birds was kept to a minimum.

- All suitable habitats within 1km of the Site were searched, including all areas of standing water (small pools and lochans in open moorland and forested areas) and shorelines where present;
- Searches carried out between late May and July focussed on locating breeding pairs, incubating adult birds and non-breeding adults; and

[2] All surveyors hold SNH Schedule 1 Licences.

- Surveyors recorded the number of breeding pairs (including incubating birds seen or young, eggshell fragments or dead chicks) and the maximum number of non-breeding adults.

Slavonian Grebe

Methodology outlined in Gilbert *et al.* (1998[v]) was used as guidance for the surveying of areas for potential Slavonian grebe breeding. Extreme care was taken not to disturb potential nests especially around the time of year when females were likely to be laying or incubating and by observing from a distance, disturbance to nesting or incubating birds was kept to a minimum.

- All suitable habitats within 2km of the Site were searched, including all areas of standing water (small pools and lochans in open moorland and forested areas) and shorelines where present;
- Searches carried out between late May and June focussed on establishing occupancy via breeding pairs/incubating adult birds; and

Searches carried out between mid-July and mid-August focussed on establishing breeding success at confirmed locations.

Golden Eagle

Methodology outlined in Hardey *et al.* (2013[vi]) was used as guidance. Extreme care was taken not to disturb potential nests, especially where nesting was confirmed or during periods of extremely wet, hot or cold conditions (Hardey *et al.* 2013[vi]).

- All habitats within 2km of the Site with the potential to accommodate golden eagle were searched including; Caledonian pine woodland, montane areas, heather moorland, open and unimproved habitat;
- Searches carried out between January and March focussed on watching for territorial displays and nest building activities. Occupancy of the home range was confirmed by seeing two adult birds together, or by seeing one bird incubating in the later months (Hardey *et al.* 2013[vi]);
- When searches of a nesting site were carried out, they were done so from a distance, so as to not cause disturbance to any displaying, nesting or incubating birds; and
- Where breeding was confirmed, scans of the nests were carried out in June, to check for the presence of young. Further scans were carried out in late July to search for fledged young.

Goshawk

Methodology outlined in Hardey *et al.* (2013[vi]) was used as guidance for the surveying of areas for potential goshawk breeding. Extreme care was taken not to disturb potential nests especially around the time of year when females were likely to be laying or incubating.

- Areas of suitable woodland were observed for the presence of nests. Searches for goshawk nests were focused on mature forestry blocks, although their presence was not ruled out of other wooded areas;
- Searches carried out between March and April focussed on observing territorial and nest building behaviours;
- Where nests were known to be present, scans were carried out between mid-March and May to confirm breeding. Scans were kept brief – carried out for between 5-10 minutes and from a distance; and
- When breeding was confirmed, searches for further nests were deferred until such a time as the young had hatched. Searches were then undertaken between late May and late June for evidence of provisioning young and then between late July and early August to watch for fledgling activity, this included listening for the begging calls of newly fledged young.

Hen Harrier

Methodology outlined in Hardey *et al.* (2013[vi]) was used as guidance for the surveying of areas for potential hen harrier breeding. Extreme care was taken not to disturb potential nests especially around the time of year when females were likely to be laying or in cold/wet weather when females were likely to be incubating or brooding. Areas of suitable habitat[3] were visited during four time periods across the breeding season to:

- Check for territory occupancy (between March and mid-April) – this consisted of watching over suitable habitat from a good vantage point for displaying males (and females) and checking all areas of suitable habitat to within 250m (watching out for signs of kills);
- Locate incubating females (between mid-April and late May) by listening for female begging calls and watching for food passes between the male and female – surveyors watched for at least four hours as Hardey *et al.* (2013[vi]) notes that when the female is incubating it can be up to six hours between feeding visits from the male, but on average it is less than every four hours. Surveys were undertaken between 06:00 to 12:00 or 16:00 to 20:00;
- Check for young or breeding evidence (between late May and late June) again by listening for female begging calls and watching for food passes between male and female when the female is brooding and watching for the male and female provisioning the nest with food once brooding has ended– surveyors should watch for at least two hours as Hardey *et al.* (2013[vi]) notes that an adult bird will visit the nest every 1-2 hours. Surveyors should also watch for display behaviour which could indicate a failed breeding attempt; and
- Check for fledged young (between late June and late August).

Merlin

Methodology outlined in Hardey *et al.* (2013[vi]) was used as guidance for the surveying of areas for potential merlin breeding.

- Areas of suitable nesting habitat (including forest edge where trees are >5m high) were closely observed between 20th March and 30th April;
- Boulders, fence lines, isolated posts, stone dykes, grouse butts, hummocks, stream banks, crags, trees and recently burnt areas of heather were checked for signs of occupation (e.g., plucked prey, moulted feathers, pellets and faeces);
- If merlin were observed, or signs found, areas were visited at least twice to verify occupation of the territory; and

[3] Unsuitable habitat areas include: land above 600m; improved pasture and arable land; extensive areas of degraded land with no heather cover and low vegetation; the vicinity of cliffs, rocky outcrops, boulder fields and scree; areas within 100m of hill farms and occupied dwellings.

- Potential nest areas were watched for 4-6 hours if necessary.

Osprey

Methodology outlined in Hardey *et al.* (2013[vi]) and Gilbert *et al.* (1998[v]) was used as guidance for the surveying of areas for potential osprey breeding. Care was taken when carrying out the searches so as not to disturb any displaying or nesting birds, with nests checked from a distance.

- All wooded areas within the study area were searched for the possible presence of nests, especially those located close to freshwater lochs and rivers that could provide feeding sites. Artificial platforms were also checked;
- If breeding was suspected within the study area, the location was visited between April and May until nesting was confirmed;
- In line with the methods suggested by Gilbert *et al.* (1998[v]) and Hardey *et al*. (2013[vi]), proof of occupancy was determined by:
    - Two ospreys seen on the same eyrie on more than one occasion (with a week separating observations);
    - Incubation; or
    - Feeding of chicks.
- Further scans were undertaken between late May and early July to try and observe any young in the nests.

Peregrine Falcon

- Potential nest sites were visited and checked for evidence of occupation between March and April;
- Sites checked included crags and steep banks identified from OS maps and searches of the survey area;
- Surveyors checked for signs of occupation (e.g., faecal splash, fresh plucked prey);
- If occupied sites were found they were re-visited to verify incubation; and
- Searches were made for eyries. Where this was not possible sites were watched from a suitable vantage point for 3-4 hours or until a nest was located.

Red Kite

Care was taken not to disturb any birds, especially between mid-March and mid-April when disturbance to displaying red kites can cause them to move to another area (Hardey *et al.* 2013[vi]).

- Wooded areas were scanned from outside for the presence of nests, with signs occupation searched for between February and March;
- Potential territories were watched for 1-2 hours between March and April to observe any breeding or nest-building behaviour; and
- Where breeding was confirmed, nests were scanned to determine the breeding success between late April and late June/early July.

Short-Eared Owl

- At least two visits between early April and the end of May were carried out, following Hardey *et al.* (2013[vi]) guidance;
- Suitable habitat was visited and checked for evidence of hunting males, territorial activity and other signs of presence; and
- If breeding was confirmed, a further visit was be made in June to watch birds, locate nest-sites and confirm breeding behaviour wherever possible.

B.5 Black Grouse Survey

The survey methodology used is detailed in NatureScot guidance (SNH 2007[vii], SNH 2017[i] P.12). A summary is provided below.

- Breeding black grouse were surveyed within 1.5km of the Site by counting total numbers of males and females at leks, most lekking activity taking place at or soon after dawn in spring.
- Known lek sites and other areas of suitable habitat which can host leks were identified and visited during April and May within 2 hours of dawn on calm dry days with good visibility;
- 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 200m apart within the same year were treated as separate leks.

[i] Scottish Natural Heritage (2017) Recommended bird survey methods to inform impact assessment of onshore windfarms.
[ii] Brown, A. F. and Shepherd, K. B. (1993) A method for censusing upland breeding waders. Bird Study, 40: 189-195.
[iii] Bibby, C. J., Neil D. Burgess, David A. Hill and Simon H. Mustoe (2000) Bird Census Techniques, 2nd Edition, London, Academic Press.
[iv] 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, 381-388.
[v] Gilbert, G., Gibbons, D. W. and Evans, J. (1998) Bird Monitoring Methods. RSPB, Sandy.
[vi] 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.
[vii] Scottish Natural Heritage (2007) Black grouse survey methodology.

ANNEX C. ORNITHOLOGICAL SURVEY EFFORT & 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		<150m	0
Light air	1	Fresh gale	8	Drizzle/Mist	1	*e.g.*	3/8	150-500m	1
Light breeze	2	Strong gale	9	Light showers	2			>500m	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 (<1km)	0
				On site	1	Ground	1	Moderate (1-2km)	1
				High ground	2	All day	2	Good (>2km)	2

C.1 Flight Activity Surveys

Flight activity surveys were undertaken during the 2019 and 2020 breeding seasons and 2018/2019 and 2019/2020 non-breeding seasons. Details of the flight activity surveys undertaken across each Vantage Point (VP) location are supplied in **Table C-2** (survey hours per VP per season are summarised in **Technical Appendix 6.1 Table 6-1**) and the associated weather data recorded is detailed in **Table C-3.** Refer to **Annex B** for survey methodology and **Annex D** for survey results.

Table C-2 Summary of flight activity surveys undertaken at Bhlaraidh Wind Farm extension (sorted chronologically)

Date	Season	VP	Observer	Survey start time	Survey finish time	No. hours[1] surveyed
22/10/2018	2018/2019 NBR	2	LH	1050	1350	3
22/10/2018	2018/2019 NBR	3	PR	1105	1405	3
25/10/2018	2018/2019 NBR	1	GR	1220	1520	3
28/10/2018	2018/2019 NBR	1	DL	0900	1200	3
28/10/2018	2018/2019 NBR	2	DL	1245	1545	3
29/10/2018	2018/2019 NBR	3	GR	1015	1315	3
29/10/2018	2018/2019 NBR	3	GR	1345	1645	3
06/11/2018	2018/2019 NBR	3	LH	0930	1230	3
06/11/2018	2018/2019 NBR	3	LH	1300	1600	3
06/11/2018	2018/2019 NBR	4	PR	0920	1220	3
06/11/2018	2018/2019 NBR	4	PR	1250	1550	3
07/11/2018	2018/2019 NBR	1	PR	1255	1555	3
07/11/2018	2018/2019 NBR	2	PR	0925	1225	3
10/11/2018	2018/2019 NBR	4	DL	1415	1615	2
10/11/2018	2018/2019 NBR	5	DL	1030	1330	3
12/11/2018	2018/2019 NBR	1	PR	1000	1300	3
12/11/2018	2018/2019 NBR	1	PR	1330	1630	3
15/11/2018	2018/2019 NBR	2	GR	1300	1600	3
15/11/2018	2018/2019 NBR	4	GR	0845	1145	3
19/11/2018	2018/2019 NBR	3	GR	0920	1220	3
19/11/2018	2018/2019 NBR	3	GR	1250	1550	3
19/11/2018	2018/2019 NBR	4	PR	0915	1215	3
19/11/2018	2018/2019 NBR	4	PR	1245	1545	3
20/11/2018	2018/2019 NBR	1	PR	0900	1200	3
20/11/2018	2018/2019 NBR	2	GR	0920	1220	3
20/11/2018	2018/2019 NBR	2	GR	1250	1550	3
21/11/2018	2018/2019 NBR	5	GR	1040	1240	2
21/11/2018	2018/2019 NBR	5	GR	1310	1510	2
27/11/2018	2018/2019 NBR	5	GR	0915	1215	3
27/11/2018	2018/2019 NBR	5	GR	1245	1445	2
29/11/2018	2018/2019 NBR	2	GR	0935	1235	3
05/12/2018	2018/2019 NBR	1	GR	0930	1200	2.5
05/12/2018	2018/2019 NBR	1	GR	1230	1500	2.5
05/12/2018	2018/2019 NBR	2	PR	0920	1150	2.5
05/12/2018	2018/2019 NBR	2	PR	1220	1450	2.5
09/12/2018	2018/2019 NBR	4	GR	0910	1210	2.5
09/12/2018	2018/2019 NBR	4	GR	1240	1440	2.5
10/12/2018	2018/2019 NBR	3	PR	0915	1145	2.5
10/12/2018	2018/2019 NBR	3	PR	1215	1445	2.5
10/12/2018	2018/2019 NBR	5	GR	1015	1215	2
10/12/2018	2018/2019 NBR	5	GR	1245	1445	2
11/12/2018	2018/2019 NBR	2	GR	1400	1500	1
11/12/2018	2018/2019 NBR	5	PR	0945	1145	2
11/12/2018	2018/2019 NBR	5	PR	1215	1415	2
19/12/2018	2018/2019 NBR	5	GR	1100	1400	3
07/01/2019	2018/2019 NBR	2	GR	1330	1430	1
07/01/2019	2018/2019 NBR	3	GR	1000	1300	3
14/01/2019	2018/2019 NBR	4	GR	0900	1200	3
14/01/2019	2018/2019 NBR	4	GR	1230	1430	2
18/01/2019	2018/2019 NBR	1	GR	0950	1150	2
18/01/2019	2018/2019 NBR	1	GR	1220	1520	3
18/01/2019	2018/2019 NBR	2	PR	1000	1200	2
18/01/2019	2018/2019 NBR	3	PR	1230	1430	2
25/01/2019	2018/2019 NBR	5	GR	1015	1215	2
25/01/2019	2018/2019 NBR	5	GR	1245	1445	2
01/02/2019	2018/2019 NBR	3	PR	0905	1005	1
06/02/2019	2018/2019 NBR	3	GR	1045	1245	2
06/02/2019	2018/2019 NBR	3	GR	1315	1515	2
08/02/2019	2018/2019 NBR	6	DL	1035	1335	3
08/02/2019	2018/2019 NBR	6	DL	1405	1335	2
11/02/2019	2018/2019 NBR	1	DL	1020	1250	2.5
11/02/2019	2018/2019 NBR	1	DL	1320	1520	2
11/02/2019	2018/2019 NBR	2	GR	1050	1250	2
11/02/2019	2018/2019 NBR	2	GR	1320	1520	2
12/02/2019	2018/2019 NBR	4	GR	0905	1005	1
12/02/2019	2018/2019 NBR	4	GR	1135	1435	3
12/02/2019	2018/2019 NBR	4	GR	1505	1605	1
13/02/2019	2018/2019 NBR	5	GR	1100	1400	3
14/02/2019	2018/2019 NBR	5	GR	1245	1545	3
15/02/2019	2018/2019 NBR	6	DL	1030	1330	3
15/02/2019	2018/2019 NBR	6	DL	1400	1600	2
18/02/2019	2018/2019 NBR	2	PR	1100	1300	2

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

Date	Season	VP	Observer	Survey start time	Survey finish time	No. hours[1] surveyed
19/02/2019	2018/2019 NBR	6	GR	0940	1210	2.5
19/02/2019	2018/2019 NBR	6	GR	1240	1510	2.5
04/03/2019	2018/2019 NBR	2	PR	0920	1220	3
04/03/2019	2018/2019 NBR	3	PR	1250	1550	3
05/03/2019	2018/2019 NBR	4	PR	1345	1545	2
05/03/2019	2018/2019 NBR	5	PR	1015	1315	3
05/03/2019	2018/2019 NBR	6	GR	1005	1205	2
05/03/2019	2018/2019 NBR	6	GR	1235	1535	3
06/03/2019	2018/2019 NBR	1	PR	1025	1225	2
06/03/2019	2018/2019 NBR	1	PR	1255	1425	1.5
11/03/2019	2018/2019 NBR	4	GR	1000	1200	2
13/03/2019	2018/2019 NBR	6	DL	1105	1335	2.5
15/03/2019	2018/2019 NBR	6	GR	0940	1240	3
20/03/2019	2019 BR	1	DA	1000	1300	3
20/03/2019	2019 BR	1	DA	1330	1630	3
20/03/2019	2019 BR	2	GR	1145	1445	3
20/03/2019	2019 BR	3	PR	0925	1055	1.5
20/03/2019	2019 BR	4	GR	0945	1045	1
21/03/2019	2019 BR	3	GR	1135	1435	2
21/03/2019	2019 BR	3	GR	1505	1705	3
21/03/2019	2019 BR	4	DA	1128	1328	2
21/03/2019	2019 BR	4	DA	1358	1558	2
22/03/2019	2019 BR	2	GR	0900	1200	3
22/03/2019	2019 BR	4	GR	0715	0815	1
25/03/2019	2019 BR	5	DA	1045	1345	3
25/03/2019	2019 BR	5	DA	1415	1645	2.5
26/03/2019	2019 BR	6	PR	1120	1350	2.5
26/03/2019	2019 BR	6	PR	1420	1620	2
05/04/2019	2019 BR	1	DA	1000	1300	3
05/04/2019	2019 BR	2	PR	1025	1325	3
05/04/2019	2019 BR	2	PR	1405	1605	2
11/04/2019	2019 BR	3	DA	0800	1100	3
11/04/2019	2019 BR	3	DA	1500	1700	2
11/04/2019	2019 BR	4	PD	0800	1100	3
11/04/2019	2019 BR	4	PD	1130	1430	3
12/04/2019	2019 BR	2	DA	1100	1200	1
12/04/2019	2019 BR	3	DA	0930	1030	1
12/04/2019	2019 BR	5	PD	0930	1200	2.5
12/04/2019	2019 BR	5	PD	1230	1500	2.5
17/04/2019	2019 BR	1	DA	0900	1200	3
17/04/2019	2019 BR	6	DA	1245	1545	3
18/04/2019	2019 BR	6	DA	1315	1615	3
22/04/2019	2019 BR	5	DA	1300	1430	1.5
23/04/2019	2019 BR	6	GR	1330	1500	1.5
01/05/2019	2019 BR	1	DA	1000	1300	3
01/05/2019	2019 BR	1	DA	1330	1630	3
02/05/2019	2019 BR	3	DA	1155	1455	3
04/05/2019	2019 BR	2	DA	0625	0925	3
04/05/2019	2019 BR	3	DA	0955	1255	3
06/05/2019	2019 BR	2	DA	1440	1740	3
06/05/2019	2019 BR	5	PR	1605	1905	3
13/05/2019	2019 BR	5	DA	1005	1305	3
13/05/2019	2019 BR	6	PD	1000	1300	3
15/05/2019	2019 BR	4	DA	0805	1105	3
30/05/2019	2019 BR	6	DA	0705	1005	3
31/05/2019	2019 BR	4	PD	1405	1705	3
10/06/2019	2019 BR	2	DA	0820	1120	3
10/06/2019	2019 BR	3	DA	0450	0750	3
19/06/2019	2019 BR	1	GR	1920	2220	3
19/06/2019	2019 BR	3	GR	1550	1850	3
21/06/2019	2019 BR	1	DA	0720	1020	3
21/06/2019	2019 BR	7	GR	1245	1545	3
21/06/2019	2019 BR	7	GR	1615	1915	3
22/06/2019	2019 BR	7	AJB	1000	1300	3
22/06/2019	2019 BR	7	AJB	1330	1630	3
03/07/2019	2019 BR	3	DA	0850	1150	3
03/07/2019	2019 BR	3	DA	1220	1520	3
03/07/2019	2019 BR	7	PD	0850	1150	3
03/07/2019	2019 BR	7	PD	1220	1520	3
05/07/2019	2019 BR	6	GR	0500	0800	3
05/07/2019	2019 BR	6	GR	0830	1130	3
15/07/2019	2019 BR	6	DA	1025	1325	3
15/07/2019	2019 BR	6	DA	1355	1655	3
26/07/2019	2019 BR	1	PD	1115	1415	3
26/07/2019	2019 BR	1	PD	1445	1745	3
26/07/2019	2019 BR	7	DA	0805	1105	3
26/07/2019	2019 BR	7	DA	1135	1435	3
08/08/2019	2019 BR	3	DA	1515	1815	3
08/08/2019	2019 BR	3	DA	1915	2215	3
08/08/2019	2019 BR	7	PD	0850	1150	3
08/08/2019	2019 BR	7	PD	1220	1520	3
09/08/2019	2019 BR	1	PD	0645	0945	3
09/08/2019	2019 BR	1	PD	1015	1315	3
09/08/2019	2019 BR	6	DA	1435	1735	3
09/08/2019	2019 BR	6	DA	1805	2105	3
20/08/2019	2019 BR	7	GR	0600	0900	3
20/08/2019	2019 BR	7	GR	0930	1230	3
06/09/2019	2019/2020 NBR	1	GR	0840	1140	3
06/09/2019	2019/2020 NBR	1	GR	1220	1520	3
06/09/2019	2019/2020 NBR	6	PD	0935	1235	3
06/09/2019	2019/2020 NBR	6	PD	1305	1605	3
10/09/2019	2019/2020 NBR	3	GR	0645	0945	3
10/09/2019	2019/2020 NBR	7	GR	1030	1330	3
12/09/2019	2019/2020 NBR	3	GR	0800	1100	3
12/09/2019	2019/2020 NBR	7	GR	1145	1445	3
18/09/2019	2019/2020 NBR	3	GR	1305	1605	3
18/09/2019	2019/2020 NBR	7	GR	1635	1935	3
24/09/2019	2019/2020 NBR	1	PD	0735	1035	3
24/09/2019	2019/2020 NBR	6	PD	1105	1405	3
11/10/2019	2019/2020 NBR	3	PD	0935	1235	3
11/10/2019	2019/2020 NBR	3	PD	1305	1605	3
21/10/2019	2019/2020 NBR	6	GR	1030	1330	3
21/10/2019	2019/2020 NBR	6	GR	1400	1700	3
21/10/2019	2019/2020 NBR	7	PD	1015	1315	3

Date	Season	VP	Observer	Survey start time	Survey finish time	No. hours[1] surveyed
21/10/2019	2019/2020 NBR	7	PD	1345	1645	3
22/10/2019	2019/2020 NBR	1	GR	0825	1125	3
22/10/2019	2019/2020 NBR	1	GR	1155	1455	3
22/10/2019	2019/2020 NBR	3	PD	1235	1535	3
22/10/2019	2019/2020 NBR	6	PD	0905	1205	3
30/10/2019	2019/2020 NBR	1	PD	1305	1605	3
30/10/2019	2019/2020 NBR	7	PD	0935	1235	3
13/11/2019	2019/2020 NBR	1	PD	1000	1230	2.5
13/11/2019	2019/2020 NBR	1	PD	1300	1530	2.5
13/11/2019	2019/2020 NBR	6	DA	1005	1205	2
13/11/2019	2019/2020 NBR	6	DA	1235	1535	3
21/11/2019	2019/2020 NBR	3	PD	0800	1100	3
21/11/2019	2019/2020 NBR	3	PD	1130	1430	3
25/11/2019	2019/2020 NBR	7	PD	0910	1140	2.5
25/11/2019	2019/2020 NBR	7	PD	1210	1440	2.5
18/12/2019	2019/2020 NBR	1	AJB	0945	1145	2
18/12/2019	2019/2020 NBR	1	AJB	1215	1415	2
18/12/2019	2019/2020 NBR	6	DA	1005	1205	2
18/12/2019	2019/2020 NBR	6	DA	1235	1435	2
19/12/2019	2019/2020 NBR	3	DA	0830	1130	3
19/12/2019	2019/2020 NBR	3	DA	1200	1300	1
24/12/2019	2019/2020 NBR	7	AJB	0900	1200	3
24/12/2019	2019/2020 NBR	7	AJB	1240	1340	1
13/01/2020	2019/2020 NBR	1	GR	0940	1140	2
13/01/2020	2019/2020 NBR	1	GR	1210	1410	2
14/01/2020	2019/2020 NBR	7	GR	0845	1045	2
14/01/2020	2019/2020 NBR	7	GR	1115	1315	2
27/01/2020	2019/2020 NBR	3	GR	1200	1400	2
30/01/2020	2019/2020 NBR	3	DA	0905	1105	2
31/01/2020	2019/2020 NBR	6	AB	1000	1200	2
17/02/2020	2019/2020 NBR	3	DA	1020	1220	2
17/02/2020	2019/2020 NBR	3	DA	1250	1450	2
19/02/2020	2019/2020 NBR	6	AB	1000	1200	2
19/02/2020	2019/2020 NBR	6	AB	1230	1430	2
19/02/2020	2019/2020 NBR	7	DA	1030	1230	2
19/02/2020	2019/2020 NBR	7	DA	1300	1500	2
03/03/2020	2019/2020 NBR	1	DA	1005	1305	3
03/03/2020	2019/2020 NBR	1	DA	1335	1535	2
04/03/2020	2019/2020 NBR	3	AB	0930	1130	2
04/03/2020	2019/2020 NBR	3	AB	1200	1400	2
04/03/2020	2019/2020 NBR	7	DA	0945	1145	2
04/03/2020	2019/2020 NBR	7	DA	1215	1415	2
05/03/2020	2019/2020 NBR	1	DA	1015	1115	1
16/03/2020	2020 BR	1	AB	0815	1115	3
16/03/2020	2020 BR	1	AB	1145	1445	3
16/03/2020	2020 BR	6	DA	0830	1130	3
16/03/2020	2020 BR	6	DA	1200	1500	3
17/03/2020	2020 BR	3	DA	0905	1205	3
17/03/2020	2020 BR	3	DA	1235	1535	3
18/03/2020	2020 BR	7	DA	0925	1225	3
18/03/2020	2020 BR	7	DA	1255	1555	3
20/05/2020	2020 BR	1	DA	0645	0945	3
20/05/2020	2020 BR	1	DA	1015	1315	3
22/05/2020	2020 BR	3	JD	1300	1600	3
22/05/2020	2020 BR	3	JD	1630	1930	3
22/05/2020	2020 BR	7	PS	1100	1400	3
22/05/2020	2020 BR	7	PS	1430	1730	3
04/06/2020	2020 BR	1	PS	0630	0930	3
04/06/2020	2020 BR	1	PS	1000	1300	3
04/06/2020	2020 BR	3	JD	0620	0920	3
04/06/2020	2020 BR	3	JD	0950	1250	3
11/06/2020	2020 BR	3	JD	1830	2130	3
11/06/2020	2020 BR	7	PS	1800	2100	3
22/06/2020	2020 BR	1	JD	1700	2000	3
23/06/2020	2020 BR	7	JD	0630	0930	3
23/06/2020	2020 BR	7	JD	1000	1300	3
22/07/2020	2020 BR	1	PS	1200	1500	3
22/07/2020	2020 BR	1	PS	1530	1830	3
23/07/2020	2020 BR	1	PS	1510	1810	3
30/07/2020	2020 BR	3	JD	1400	1700	3
30/07/2020	2020 BR	7	PS	1400	1700	3
31/07/2020	2020 BR	3	JD	1130	1430	3
31/07/2020	2020 BR	3	JD	1500	1800	3
31/07/2020	2020 BR	7	PS	1135	1435	3
31/07/2020	2020 BR	7	PS	1505	1805	3
18/08/2020	2020 BR	1	PS	1200	1500	3
18/08/2020	2020 BR	1	PS	1530	1830	3
19/08/2020	2020 BR	3	JD	1300	1600	3
19/08/2020	2020 BR	3	JD	1630	1930	3
19/08/2020	2020 BR	7	PS	1300	1600	3
19/08/2020	2020 BR	7	PS	1630	1930	3

Table C-3 Meteorological conditions during flight activity surveys at Bhlaraidh Wind Farm extension (sorted chronologically)

Date	VP	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
22/10/2018	2	LH	1050	1350	1	4	SW	0	8	2	2	0	0
22/10/2018	2	LH	1050	1350	2	4	SW	0	8	2	2	0	0
22/10/2018	2	LH	1050	1350	3	4	SW	0	7	1	2	0	0
22/10/2018	3	PR	1105	1405	1	4	SW	0	8	2	2	0	0
22/10/2018	3	PR	1105	1405	2	4	SW	0	8	2	2	0	0
22/10/2018	3	PR	1105	1405	3	4	SW	0	7	1	2	0	0
25/10/2018	1	GR	1220	1520	1	3	SW	0	7	2	2	0	0
25/10/2018	1	GR	1220	1520	2	3	SW	1	8	2	2	0	0
25/10/2018	1	GR	1220	1520	3	3	SW	1	8	2	2	0	0
28/10/2018	1	DL	0900	1200	1	0	-	0	5	2	2	0	1
28/10/2018	1	DL	0900	1200	2	0	-	0	5	2	2	0	1
28/10/2018	1	DL	0900	1200	3	0	-	0	5	2	2	0	1
28/10/2018	2	DL	1245	1545	1	0	-	0	5	2	2	0	1
28/10/2018	2	DL	1245	1545	2	0	-	0	4	2	2	0	1
28/10/2018	2	DL	1245	1545	3	1	SW	0	3	2	2	0	1
29/10/2018	3	GR	1015	1315	1	3	SE	0	5	2	2	0	0
29/10/2018	3	GR	1015	1315	2	3	SE	0	5	2	2	0	0
29/10/2018	3	GR	1015	1315	3	4	SE	0	5	2	2	0	0
29/10/2018	3	GR	1345	1645	1	5	SE	0	5	2	2	0	0
29/10/2018	3	GR	1345	1645	2	5	SE	0	5	2	2	0	0
29/10/2018	3	GR	1345	1645	3	5	SE	0	5	2	2	0	0
06/11/2018	3	LH	0930	1230	1	6	SE	1	7	2	1	0	0
06/11/2018	3	LH	0930	1230	2	6	ESE	1	8	1	1	0	0
06/11/2018	3	LH	0930	1230	3	3	ESE	1	8	2	2	0	0
06/11/2018	3	LH	1300	1600	1	4	SE	0	8	2	2	0	0
06/11/2018	3	LH	1300	1600	2	4	ESE	0	8	2	1	0	0
06/11/2018	3	LH	1300	1600	3	5	SE	0	8	2	1	0	0
06/11/2018	4	PR	0920	1220	1	3	SE	0	8	0	1	0	0
06/11/2018	4	PR	0920	1220	2	3	SE	0	8	0	1	0	0
06/11/2018	4	PR	0920	1220	3	2	SE	0	7	1	2	0	0
06/11/2018	4	PR	1250	1550	1	3	SE	0	7	1	2	0	0
06/11/2018	4	PR	1250	1550	2	3	SE	0	8	1	2	0	0
06/11/2018	4	PR	1250	1550	3	4	SE	0	7	1	2	0	0
07/11/2018	1	PR	1255	1555	1	3	SE	2	8	1	2	0	0
07/11/2018	1	PR	1255	1555	2	4	SE	0	8	1	2	0	0
07/11/2018	1	PR	1255	1555	3	3	SE	2	8	1	2	0	0
07/11/2018	2	PR	0925	1225	1	4	SE	0	8	1	2	0	0
07/11/2018	2	PR	0925	1225	2	4	SE	0	8	1	2	0	0
07/11/2018	2	PR	0925	1225	3	4	SE	2	8	1	2	0	0
10/11/2018	4	DL	1415	1615	1	3	SE	0	4	2	2	0	0
10/11/2018	4	DL	1415	1615	2	3	SE	0	5	2	2	0	0
10/11/2018	5	DL	1030	1330	1	3	SE	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	Snow	Frost
10/11/2018	5	DL	1030	1330	2	3	SE	0	4	2	2	0	0
10/11/2018	5	DL	1030	1330	3	3	SE	0	4	2	2	0	0
12/11/2018	1	PR	1000	1300	1	2	SW	1	7	1	2	0	0
12/11/2018	1	PR	1000	1300	2	2	SW	0	7	1	2	0	0
12/11/2018	1	PR	1000	1300	3	2	SW	0	6	1	2	0	0
12/11/2018	1	PR	1330	1630	1	2	SW	0	6	1	2	0	0
12/11/2018	1	PR	1330	1630	2	2	SW	1	7	1	2	0	0
12/11/2018	1	PR	1330	1630	3	2	SW	0	7	1	2	0	0
15/11/2018	2	GR	1300	1600	1	4	SE	1	7	2	2	0	0
15/11/2018	2	GR	1300	1600	2	5	SSE	1	7	2	2	0	0
15/11/2018	2	GR	1300	1600	3	5	SSE	0	7	2	2	0	0
15/11/2018	4	GR	0845	1145	1	3	SE	1	6	2	2	0	0
15/11/2018	4	GR	0845	1145	2	4	SE	0	8	2	2	0	0
15/11/2018	4	GR	0845	1145	3	4	SE	0	6	2	2	0	0
19/11/2018	3	GR	0920	1220	1	2	SE	0	4	2	2	1	0
19/11/2018	3	GR	0920	1220	2	2	SE	0	4	2	2	0	0
19/11/2018	3	GR	0920	1220	3	3	SE	0	3	2	2	0	0
19/11/2018	3	GR	1250	1550	1	2	SE	0	2	2	2	0	0
19/11/2018	3	GR	1250	1550	2	2	SE	0	2	2	2	0	0
19/11/2018	3	GR	1250	1550	3	2	SE	0	2	2	2	0	0
19/11/2018	4	PR	0915	1215	1	2	ESE	0	3	2	2	0	0
19/11/2018	4	PR	0915	1215	2	2	SE	0	5	2	2	0	0
19/11/2018	4	PR	0915	1215	3	2	SE	0	5	2	2	0	0
19/11/2018	4	PR	1245	1545	1	2	SE	0	1	2	2	0	0
19/11/2018	4	PR	1245	1545	2	2	SE	0	2	2	2	0	0
19/11/2018	4	PR	1245	1545	3	3	SE	0	3	2	2	0	0
20/11/2018	1	PR	0900	1200	1	3	ENE	1	7	0	2	0	0
20/11/2018	1	PR	0900	1200	2	3	ENE	0	5	0	2	0	0
20/11/2018	1	PR	0900	1200	3	3	ENE	0	6	1	2	0	0
20/11/2018	2	GR	0920	1220	1	3	NE	1	8	0	1	0	0
20/11/2018	2	GR	0920	1220	2	3	NE	1	8	1	2	0	0
20/11/2018	2	GR	0920	1220	3	3	NE	0	8	1	2	0	0
20/11/2018	2	GR	1250	1550	1	3	NE	0	8	1	2	0	0
20/11/2018	2	GR	1250	1550	2	3	NE	0	8	1	2	0	0
20/11/2018	2	GR	1250	1550	3	3	NE	0	8	1	2	0	0
21/11/2018	5	GR	1040	1240	1	4	ENE	1	8	1	2	0	0
21/11/2018	5	GR	1040	1240	2	4	E	0	7	1	2	0	0
21/11/2018	5	GR	1310	1510	1	4	E	0	6	2	2	0	0
21/11/2018	5	GR	1310	1510	2	4	E	2	7	2	2	0	0
27/11/2018	5	GR	0915	1215	1	4	SE	0	7	2	2	0	0
27/11/2018	5	GR	0915	1215	2	4	SE	0	7	2	2	0	0
27/11/2018	5	GR	0915	1215	3	5	SE	0	8	1	2	0	0
27/11/2018	5	GR	1245	1445	1	5	SE	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	Snow	Frost
27/11/2018	5	GR	1245	1445	2	4	SE	0	8	2	2	0	0
29/11/2018	2	GR	0935	1235	1	2	S	2	8	1	2	0	0
29/11/2018	2	GR	0935	1235	2	2	S	2	8	1	2	0	0
29/11/2018	2	GR	0935	1235	3	2	S	1	8	2	2	0	0
05/12/2018	1	GR	0930	1200	1	1	SE	0	5	2	2	2	0
05/12/2018	1	GR	0930	1200	2	1	SE	0	3	2	2	2	0
05/12/2018	1	GR	0930	1200	3	1	SE	0	3	2	2	2	0
05/12/2018	1	GR	1230	1500	1	1	SE	0	3	2	2	2	0
05/12/2018	1	GR	1230	1500	2	1	SE	0	6	2	2	2	0
05/12/2018	1	GR	1230	1500	3	1	SE	0	5	2	2	2	0
05/12/2018	2	PR	0920	1150	1	2	SSE	0	6	2	2	1	2
05/12/2018	2	PR	0920	1150	2	2	SSE	0	5	2	2	1	2
05/12/2018	2	PR	0920	1150	3	2	SSE	0	4	2	2	1	2
05/12/2018	2	PR	1220	1450	1	3	SSE	0	4	2	2	1	2
05/12/2018	2	PR	1220	1450	2	2	SSE	0	4	2	2	1	2
05/12/2018	2	PR	1220	1450	3	2	SSE	0	6	2	2	1	2
09/12/2018	4	GR	0910	1210	1	3	NW	0	7	2	2	0	0
09/12/2018	4	GR	0910	1210	2	3	NW	0	7	2	2	0	0
09/12/2018	4	GR	0910	1210	3	4	NW	0	7	2	2	0	0
09/12/2018	4	GR	1240	1440	1	3	W	0	6	2	2	0	0
09/12/2018	4	GR	1240	1440	2	3	WNW	0	6	2	2	0	0
09/12/2018	4	GR	1240	1440	1	3	W	0	6	2	2	0	0
09/12/2018	4	GR	1240	1440	2	3	WNW	0	6	2	2	0	0
10/12/2018	3	PR	0915	1145	1	0	-	0	2	2	2	1	1
10/12/2018	3	PR	0915	1145	2	0	-	0	3	2	2	1	1
10/12/2018	3	PR	0915	1145	3	0	-	0	2	2	2	1	1
10/12/2018	3	PR	1215	1445	1	1	SSE	0	3	2	2	1	1
10/12/2018	3	PR	1215	1445	2	0	-	0	5	2	2	0	1
10/12/2018	3	PR	1215	1445	3	0	-	0	4	2	2	0	1
10/12/2018	5	GR	1015	1215	1	1	W	0	1	2	2	2	1
10/12/2018	5	GR	1015	1215	2	1	SW	0	3	2	2	2	1
10/12/2018	5	GR	1245	1445	1	1	SW	0	4	2	2	2	1
10/12/2018	5	GR	1245	1445	2	1	SW	0	4	2	2	2	1
11/12/2018	2	GR	1400	1500	1	3	S	0	6	2	2	0	0
11/12/2018	5	PR	0945	1145	1	3	S	0	7	2	2	0	0
11/12/2018	5	PR	0945	1145	2	3	S	0	7	2	2	0	0
11/12/2018	5	PR	1215	1415	1	3	S	0	7	2	2	0	0
11/12/2018	5	PR	1215	1415	2	3	S	0	7	2	2	0	0
19/12/2018	5	GR	1100	1400	1	5	S	0	7	2	2	0	0
19/12/2018	5	GR	1100	1400	2	5	SSW	0	6	2	2	0	0
19/12/2018	5	GR	1100	1400	3	4	SSW	0	6	2	2	0	0
07/01/2019	2	GR	1330	1430	1	7	W	2	8	2	2	0	0
07/01/2019	3	GR	1000	1300	1	4	WSW	0	7	2	2	0	0
07/01/2019	3	GR	1000	1300	2	4	W	2	7	2	2	0	0
07/01/2019	3	GR	1000	1300	3	5	W	2	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	Snow	Frost
14/01/2019	4	GR	0900	1200	1	2	WSW	0	2	2	2	1	0
14/01/2019	4	GR	0900	1200	2	2	WSW	0	3	2	2	1	0
14/01/2019	4	GR	0900	1200	3	3	WSW	0	3	2	2	0	0
14/01/2019	4	GR	1230	1430	1	3	WSW	0	5	2	2	0	0
14/01/2019	4	GR	1230	1430	2	3	WSW	0	6	2	2	0	0
18/01/2019	1	GR	0950	1150	1	1	SE	0	4	2	2	2	1
18/01/2019	1	GR	0950	1150	2	3	SE	0	4	2	2	2	1
18/01/2019	1	GR	1220	1520	1	3	SE	0	4	2	2	2	1
18/01/2019	1	GR	1220	1520	2	3	SE	0	4	2	2	2	1
18/01/2019	1	GR	1220	1520	3	3	SE	0	4	2	2	2	1
18/01/2019	2	PR	1000	1200	1	2	S	0	5	2	2	2	1
18/01/2019	2	PR	1000	1200	2	2	S	0	5	2	2	2	1
18/01/2019	3	PR	1230	1430	1	3	SSW	0	6	2	2	2	1
18/01/2019	3	PR	1230	1430	2	3	SSW	0	6	2	2	2	1
25/01/2019	5	GR	1015	1215	1	5	W	0	5	1	2	0	2
25/01/2019	5	GR	1015	1215	2	5	W	2	5	2	2	0	2
25/01/2019	5	GR	1245	1445	1	5	W	0	6	2	2	0	2
25/01/2019	5	GR	1245	1445	2	5	W	1	5	2	2	0	2
01/02/2019	3	PR	0905	1005	1	4	WNW	2	8	0	2	2	1
06/02/2019	3	GR	1045	1245	1	2	S	0	4	2	2	1	1
06/02/2019	3	GR	1045	1245	2	1	S	1	3	2	2	1	1
06/02/2019	3	GR	1315	1515	1	2	SSW	0	3	2	2	0	1
06/02/2019	3	GR	1315	1515	2	1	SSW	0	3	2	2	0	1
08/02/2019	6	DL	1035	1335	1	3	SE	0	8	2	2	0	1
08/02/2019	6	DL	1035	1335	2	3	SE	0	8	2	2	0	1
08/02/2019	6	DL	1035	1335	3	3	SE	0	7	2	2	0	1
08/02/2019	6	DL	1405	1605	1	3	SE	0	7	2	2	0	1
08/02/2019	6	DL	1405	1605	2	3	SE	0	8	2	2	0	1
11/02/2019	1	DL	1020	1250	1	1	SW	0	4	2	2	1	1
11/02/2019	1	DL	1020	1250	2	1	SW	0	4	2	2	1	1
11/02/2019	1	DL	1020	1250	3	2	SW	0	5	2	2	0	1
11/02/2019	1	DL	1320	1520	1	3	SW	0	7	2	2	0	1
11/02/2019	1	DL	1320	1520	2	3	SW	0	8	2	2	0	1
11/02/2019	2	GR	1050	1250	1	1	S	0	2	2	2	1	1
11/02/2019	2	GR	1050	1250	2	2	SSW	0	4	2	2	1	1
11/02/2019	2	GR	1320	1520	1	3	SSW	0	4	2	2	1	1
11/02/2019	2	GR	1320	1520	2	3	SW	0	6	2	2	1	1
12/02/2019	4	GR	0905	1005	1	3	SW	1	8	1	2	0	0
12/02/2019	4	GR	1135	1435	1	3	SW	0	8	1	2	0	0
12/02/2019	4	GR	1135	1435	2	4	SW	1	8	1	2	0	0
12/02/2019	4	GR	1135	1435	3	4	SSW	1	7	1	2	0	0
12/02/2019	4	GR	1505	1605	1	4	SW	0	7	1	2	0	0
13/02/2019	5	GR	1100	1400	1	6	SW	0	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	Snow	Frost
13/02/2019	5	GR	1100	1400	2	6	SW	2	8	1	2	0	0
13/02/2019	5	GR	1100	1400	3	6	SW	0	8	1	2	0	0
14/02/2019	5	GR	1245	1545	1	5	SW	0	8	0	2	0	0
14/02/2019	5	GR	1245	1545	2	5	SW	0	8	0	2	0	0
14/02/2019	5	GR	1245	1545	3	5	SW	0	8	0	2	0	0
15/02/2019	6	DL	1030	1330	1	3	S	1	6	2	2	0	0
15/02/2019	6	DL	1030	1330	2	3	SW	0	6	2	2	0	0
15/02/2019	6	DL	1030	1330	3	3	SW	0	6	2	2	0	0
15/02/2019	6	DL	1400	1600	1	3	SW	0	6	2	2	0	0
15/02/2019	6	DL	1400	1600	2	2	SW	0	6	2	2	0	0
18/02/2019	2	PR	1100	1300	1	4	S	3	8	1	2	0	0
18/02/2019	2	PR	1100	1300	2	4	S	3	8	0	2	0	0
19/02/2019	6	GR	0940	1210	1	2	SW	0	8	2	2	0	0
19/02/2019	6	GR	0940	1210	2	2	SW	2	8	1	2	0	0
19/02/2019	6	GR	0940	1210	3	3	SW	0	8	0	1	0	0
19/02/2019	6	GR	1240	1510	1	3	SW	0	8	0	1	0	0
19/02/2019	6	GR	1240	1510	2	2	SW	1	8	0	1	0	0
19/02/2019	6	GR	1240	1510	3	2	SW	1	8	1	2	0	0
04/03/2019	2	PR	0920	1220	1	4	SW	3	7	0	2	0	1
04/03/2019	2	PR	0920	1220	2	4	SW	2	8	0	1	0	1
04/03/2019	2	PR	0920	1220	3	4	SW	2	8	0	1	0	1
04/03/2019	2	PR	0920	1220	2	4	SW	2	8	0	1	0	1
04/03/2019	2	PR	0920	1220	3	4	SW	2	8	0	1	0	1
04/03/2019	3	PR	1250	1550	1	4	SW	2	7	0	1	0	1
04/03/2019	3	PR	1250	1550	2	4	SW	2	8	1	2	0	1
04/03/2019	3	PR	1250	1550	3	4	SW	2	7	0	2	0	1
05/03/2019	4	PR	1345	1545	1	2	SE	0	7	2	2	0	0
05/03/2019	4	PR	1345	1545	2	2	SE	3	8	1	2	0	0
05/03/2019	5	PR	1015	1315	1	2	SSE	0	2	2	2	0	1
05/03/2019	5	PR	1015	1315	2	2	SSE	0	4	2	2	0	1
05/03/2019	5	PR	1015	1315	3	2	SSE	0	6	2	2	0	1
05/03/2019	6	GR	1005	1205	1	1	S	0	1	2	2	1	0
05/03/2019	6	GR	1005	1205	2	1	S	0	3	2	2	0	0
05/03/2019	6	GR	1235	1535	1	1	S	0	7	2	2	0	0
05/03/2019	6	GR	1235	1535	2	1	S	0	7	2	2	0	0
05/03/2019	6	GR	1235	1535	3	1	S	0	6	2	2	0	0
06/03/2019	1	PR	1025	1225	1	4	NE	3	8	0	2	0	0
06/03/2019	1	PR	1025	1225	2	4	NE	3	8	0	2	0	0
06/03/2019	1	PR	1255	1425	1	4	NE	3	8	0	2	0	0
06/03/2019	1	PR	1255	1425	2	5	NE	3	8	0	1	0	0
11/03/2019	4	GR	1000	1200	1	5	WSW	0	6	1	2	1	1
11/03/2019	4	GR	1000	1200	2	5	SW	0	6	1	2	0	1
13/03/2019	6	DL	1105	1335	1	4	W	0	8	2	2	0	0
13/03/2019	6	DL	1105	1335	2	3	W	2	7	2	2	0	0
13/03/2019	6	DL	1105	1335	3	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	Snow	Frost
15/03/2019	6	GR	0940	1240	1	5	NW	3	5	2	2	0	0
15/03/2019	6	GR	0940	1240	2	5	WNW	2	5	2	2	0	0
15/03/2019	6	GR	0940	1240	3	5	WNW	0	5	1	2	0	0
20/03/2019	1	DA	1000	1300	1	3	SW	1	8	0	2	0	1
20/03/2019	1	DA	1000	1300	2	4	SW	1	8	0	2	0	1
20/03/2019	1	DA	1000	1300	3	4	SW	1	8	0	2	0	1
20/03/2019	1	DA	1330	1630	1	3	SW	1	8	0	2	0	1
20/03/2019	1	DA	1330	1630	2	4	SW	1	8	0	1	0	1
20/03/2019	1	DA	1330	1630	3	4	SW	1	8	0	1	0	1
20/03/2019	2	GR	1145	1445	1	3	SW	1	8	0	2	0	0
20/03/2019	2	GR	1145	1445	2	3	SW	1	8	0	1	0	0
20/03/2019	2	GR	1145	1445	3	3	SW	1	8	0	2	0	0
20/03/2019	3	PR	0925	1055	1	4	SW	1	8	0	1	0	1
20/03/2019	3	PR	0925	1055	2	4	SW	1	8	0	1	0	1
20/03/2019	4	GR	0945	1045	1	2	SW	1	8	0	1	0	0
21/03/2019	3	GR	1135	1435	1	4	SW	0	4	2	2	0	0
21/03/2019	3	GR	1135	1435	2	4	SW	0	4	2	2	0	0
21/03/2019	3	GR	1505	1705	1	5	SSW	0	5	2	2	0	0
21/03/2019	3	GR	1505	1705	2	5	SSW	0	6	2	2	0	0
21/03/2019	3	GR	1505	1705	3	4	SW	0	7	2	2	0	0
21/03/2019	4	DA	1128	1328	1	2	WSW	0	4	2	2	0	2
21/03/2019	4	DA	1128	1328	2	3	SW	0	6	2	2	0	2
21/03/2019	4	DA	1358	1558	1	2	SW	0	7	2	2	0	2
21/03/2019	4	DA	1358	1558	2	3	SW	0	7	2	2	0	2
22/03/2019	2	GR	0900	1200	1	5	SW	0	8	1	2	0	0
22/03/2019	2	GR	0900	1200	2	6	SW	2	8	1	2	0	0
22/03/2019	2	GR	0900	1200	3	6	SW	1	7	1	2	0	0
22/03/2019	4	GR	0715	0815	1	4	SW	0	7	1	2	0	0
25/03/2019	5	DA	1045	1345	1	2	SW	0	8	2	2	0	2
25/03/2019	5	DA	1045	1345	2	3	SW	2	8	1	2	0	2
25/03/2019	5	DA	1045	1345	3	2	SW	0	8	2	2	0	2
25/03/2019	5	DA	1415	1645	1	3	SW	0	7	2	2	0	2
25/03/2019	5	DA	1415	1645	2	3	SW	0	7	2	2	0	2
25/03/2019	5	DA	1415	1645	3	3	SW	0	7	2	2	0	2
26/03/2019	6	PR	1120	1350	1	4	SW	0	8	1	2	0	0
26/03/2019	6	PR	1120	1350	2	4	SW	0	8	1	2	0	0
26/03/2019	6	PR	1120	1350	3	4	SW	2	8	1	2	0	0
26/03/2019	6	PR	1420	1620	1	4	SW	2	8	1	2	0	0
26/03/2019	6	PR	1420	1620	2	3	SW	1	8	1	2	0	0
05/04/2019	1	DA	1000	1300	1	2	E	0	5	2	2	0	1
05/04/2019	1	DA	1000	1300	2	3	E	0	6	2	2	0	1
05/04/2019	1	DA	1000	1300	3	3	SE	0	7	2	2	0	1
05/04/2019	2	PR	1025	1325	3	3	SE	0	3	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	Snow	Frost
05/04/2019	2	PR	1025	1325	3	4	SE	0	6	2	2	0	1
05/04/2019	2	PR	1025	1325	3	4	SE	0	4	2	2	0	1
05/04/2019	2	PR	1405	1605	2	4	SE	0	4	2	2	0	1
05/04/2019	2	PR	1405	1605	2	3	SE	0	3	2	2	0	1
11/04/2019	3	DA	0800	1100	1	1	SW	0	3	2	2	0	0
11/04/2019	3	DA	0800	1100	2	0	SW	0	4	2	2	0	0
11/04/2019	3	DA	0800	1100	3	1	S	0	3	2	2	0	0
11/04/2019	3	DA	1500	1700	1	1	NE	0	7	2	2	0	0
11/04/2019	3	DA	1500	1700	2	1	NE	0	7	2	2	0	0
11/04/2019	4	PD	0800	1100	1	2	NW	0	2	2	2	0	0
11/04/2019	4	PD	0800	1100	2	2	NW	0	3	2	2	0	0
11/04/2019	4	PD	0800	1100	3	1	W	0	3	2	2	0	0
11/04/2019	4	PD	1130	1430	1	2	SE	0	5	2	2	0	0
11/04/2019	4	PD	1130	1430	2	3	E	0	6	2	2	0	0
11/04/2019	4	PD	1130	1430	3	1	NE	0	7	2	2	0	0
12/04/2019	2	DA	1100	1200	1	3	SE	0	3	2	2	0	0
12/04/2019	3	DA	0930	1030	1	2	SE	0	1	2	2	0	0
12/04/2019	5	PD	0930	1200	1	3	S	0	2	2	2	0	0
12/04/2019	5	PD	0930	1200	2	4	S	0	3	2	2	0	0
12/04/2019	5	PD	0930	1200	3	4	S	0	3	2	2	0	0
12/04/2019	5	PD	1230	1500	1	4	S	0	3	2	2	0	0
12/04/2019	5	PD	0930	1200	3	4	S	0	3	2	2	0	0
12/04/2019	5	PD	1230	1500	1	4	S	0	3	2	2	0	0
12/04/2019	5	PD	1230	1500	2	4	S	0	6	2	2	0	0
12/04/2019	5	PD	1230	1500	3	4	S	0	6	2	2	0	0
17/04/2019	1	DA	0900	1200	3	1	ESE	0	8	2	2	0	0
17/04/2019	1	DA	0900	1200	3	1	ESE	0	7	2	2	0	0
17/04/2019	1	DA	0900	1200	3	1	ESE	0	5	2	2	0	0
17/04/2019	6	DA	1245	1545	1	2	SE	0	1	2	2	0	0
17/04/2019	6	DA	1245	1545	2	3	SE	0	1	2	2	0	0
17/04/2019	6	DA	1245	1545	3	2	SE	0	1	2	2	0	0
18/04/2019	6	DA	1315	1615	3	2	SE	0	8	2	2	0	0
18/04/2019	6	DA	1315	1615	3	2	SE	0	6	2	2	0	0
18/04/2019	6	DA	1315	1615	3	2	SE	0	6	2	2	0	0
22/04/2019	5	DA	1300	1430	1	5	S	0	2	2	2	0	0
22/04/2019	5	DA	1300	1430	2	5	S	0	2	2	2	0	0
23/04/2019	6	GR	1330	1500	1	4	SSE	0	4	2	2	0	0
23/04/2019	6	GR	1330	1500	2	4	SSE	0	4	2	2	0	0
01/05/2019	1	DA	1000	1300	1	1	SW	0	8	2	2	0	0
01/05/2019	1	DA	1000	1300	2	1	SW	0	8	2	2	0	0
01/05/2019	1	DA	1000	1300	3	1	S	0	7	2	2	0	0
01/05/2019	1	DA	1330	1630	1	1	S	0	8	2	2	0	0
01/05/2019	1	DA	1330	1630	2	0	SW	0	8	2	2	0	0
01/05/2019	1	DA	1330	1630	3	1	SW	0	8	2	2	0	0
02/05/2019	3	DA	1155	1455	1	3	NE	3	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	Snow	Frost
02/05/2019	3	DA	1155	1455	2	4	NE	4	8	1	2	0	0
02/05/2019	3	DA	1155	1455	3	3	NE	3	8	1	2	0	0
04/05/2019	2	DA	0625	0925	1	2	NW	0	7	2	2	1	1
04/05/2019	2	DA	0625	0925	2	3	NW	2	8	1	2	1	1
04/05/2019	2	DA	0625	0925	3	3	NW	0	6	2	2	0	1
04/05/2019	3	DA	0955	1255	1	3	NW	2	6	2	2	0	0
04/05/2019	3	DA	0955	1255	2	4	NW	2	7	2	2	0	0
04/05/2019	3	DA	0955	1255	3	3	NW	2	7	2	2	0	0
06/05/2019	2	DA	1440	1740	1	1	N	0	5	2	2	0	0
06/05/2019	2	DA	1440	1740	2	3	N	2	7	1	2	0	0
06/05/2019	2	DA	1440	1740	3	2	N	0	7	2	2	0	0
06/05/2019	5	PN	1605	1905	1	2	N	3	6	1	2	0	0
06/05/2019	5	PN	1605	1905	2	3	N	3	7	1	2	0	0
06/05/2019	5	PN	1605	1905	3	3	N	3	8	2	2	0	0
13/05/2019	5	DA	1005	1305	1	2	S	0	6	2	2	0	0
13/05/2019	5	DA	1005	1305	2	4	S	0	6	2	2	0	0
13/05/2019	5	DA	1005	1305	3	4	SW	0	6	2	2	0	0
13/05/2019	6	PD	1000	1300	1	4	S	0	5	2	2	0	0
13/05/2019	6	PD	1000	1300	2	5	S	0	6	2	2	0	0
13/05/2019	6	PD	1000	1300	3	5	S	0	5	2	2	0	0
15/05/2019	4	DA	0805	1105	1	2	SW	0	2	2	2	0	0
15/05/2019	4	DA	0805	1105	2	2	SW	0	2	2	2	0	0
15/05/2019	4	DA	0805	1105	3	3	SW	0	1	2	2	0	0
30/05/2019	6	DA	0705	1005	1	2	ENE	2	8	1	2	0	0
30/05/2019	6	DA	0705	1005	2	2	E	1	8	0	1	0	0
30/05/2019	6	DA	0705	1005	3	2	E	0	8	0	2	0	0
31/05/2019	4	PD	1405	1705	1	3	SW	2	8	1	1	0	0
31/05/2019	4	PD	1405	1705	2	3	SW	3	8	1	1	0	0
31/05/2019	4	PD	1405	1705	3	4	SW	4	8	1	1	0	0
10/06/2019	2	DA	0820	1120	1	1	NW	0	7	2	2	0	0
10/06/2019	2	DA	0820	1120	2	1	N	0	8	2	2	0	0
10/06/2019	2	DA	0820	1120	3	2	NE	0	8	2	2	0	0
10/06/2019	3	DA	0450	0750	1	0	NW	0	6	2	2	0	0
10/06/2019	3	DA	0450	0750	2	0	NW	0	7	2	2	0	0
10/06/2019	3	DA	0450	0750	3	1	N	0	7	2	2	0	0
19/06/2019	1	GR	1920	2220	1	4	SW	0	7	2	2	0	0
19/06/2019	1	GR	1920	2220	2	2	SW	0	6	2	2	0	0
19/06/2019	1	GR	1920	2220	3	2	SW	0	7	2	2	0	0
19/06/2019	3	GR	1550	1850	1	4	SW	1	7	2	2	0	0
19/06/2019	3	GR	1550	1850	2	4	SW	0	6	2	2	0	0
19/06/2019	3	GR	1550	1850	3	3	SW	0	7	2	2	0	0
21/06/2019	1	DA	0720	1020	1	2	SW	0	5	2	2	0	0
21/06/2019	1	DA	0720	1020	2	2	SW	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	Snow	Frost
21/06/2019	1	DA	0720	1020	3	2	W	0	7	2	2	0	0
21/06/2019	7	GR	1245	1545	1	5	W	2	8	2	2	0	0
21/06/2019	7	GR	1245	1545	2	5	W	0	6	2	2	0	0
21/06/2019	7	GR	1245	1545	3	5	W	0	7	2	2	0	0
21/06/2019	7	GR	1615	1915	1	4	W	0	7	2	2	0	0
21/06/2019	7	GR	1615	1915	2	4	W	1	8	2	2	0	0
21/06/2019	7	GR	1615	1915	3	4	W	1	7	2	2	0	0
22/06/2019	7	AB	1000	1300	1	3	SSE	0	3	2	2	0	0
22/06/2019	7	AB	1000	1300	2	3	S	0	6	2	2	0	0
22/06/2019	7	AB	1000	1300	3	4	S	0	8	2	2	0	0
22/06/2019	7	AB	1330	1630	1	3	S	0	4	2	2	0	0
22/06/2019	7	AB	1330	1630	2	3	SSW	0	6	2	2	0	0
22/06/2019	7	AB	1330	1630	3	3	SSW	0	7	2	2	0	0
03/07/2019	3	DA	0850	1150	1	2	SSW	0	8	2	2	0	0
03/07/2019	3	DA	0850	1150	2	3	SW	0	8	2	2	0	0
03/07/2019	3	DA	0850	1150	3	3	sW	0	8	2	2	0	0
03/07/2019	3	DA	1220	1520	1	3	SW	0	8	2	2	0	0
03/07/2019	3	DA	1220	1520	2	3	SW	0	8	2	2	0	0
03/07/2019	3	DA	1220	1520	3	3	SW	0	7	2	2	0	0
03/07/2019	7	PD	0850	1150	1	4	SW	0	8	2	2	0	0
03/07/2019	7	PD	0850	1150	2	4	SW	0	8	2	2	0	0
03/07/2019	7	PD	0850	1150	3	4	SW	0	8	1	2	0	0
03/07/2019	7	PD	1220	1520	1	4	SW	0	8	1	2	0	0
03/07/2019	7	PD	1220	1520	2	3	W	0	8	1	2	0	0
03/07/2019	7	PD	1220	1520	3	4	W	0	6	1	2	0	0
05/07/2019	6	GR	0500	0800	1	2	W	0	8	1	2	0	0
05/07/2019	6	GR	0500	0800	2	2	W	0	7	1	2	0	0
05/07/2019	6	GR	0500	0800	3	3	W	0	7	2	2	0	0
05/07/2019	6	GR	0830	1130	1	3	WSW	2	7	2	2	0	0
05/07/2019	6	GR	0830	1130	2	3	WSW	0	6	2	2	0	0
05/07/2019	6	GR	0830	1130	3	3	WSW	1	7	2	2	0	0
15/07/2019	6	DA	1025	1325	1	3	SW	0	1	2	2	0	0
15/07/2019	6	DA	1025	1325	2	2	SW	0	2	2	2	0	0
15/07/2019	6	DA	1025	1325	3	2	SW	0	3	2	2	0	0
15/07/2019	6	DA	1355	1655	1	2	SW	0	5	2	2	0	0
15/07/2019	6	DA	1355	1655	2	1	SW	0	6	2	2	0	0
15/07/2019	6	DA	1355	1655	3	2	S	0	7	2	2	0	0
26/07/2019	1	PA	1115	1415	1	3	S	0	2	2	2	0	0
26/07/2019	1	PA	1115	1415	2	3	SE	0	3	2	2	0	0
26/07/2019	1	PA	1115	1415	3	3	SE	0	3	2	2	0	0
26/07/2019	1	PA	1445	1745	1	3	SE	0	3	2	2	0	0
26/07/2019	1	PA	1445	1745	2	3	SE	0	4	2	2	0	0
26/07/2019	1	PA	1445	1745	3	3	SE	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	Snow	Frost
26/07/2019	7	DA	0805	1105	1	5	S	0	5	2	2	0	0
26/07/2019	7	DA	0805	1105	2	4	S	0	4	2	2	0	0
26/07/2019	7	DA	0805	1105	3	3	S	0	3	2	2	0	0
26/07/2019	7	DA	1135	1435	1	4	S	0	3	2	2	0	0
26/07/2019	7	DA	1135	1435	2	5	S	0	4	2	2	0	0
26/07/2019	7	DA	1135	1435	3	4	S	0	6	2	2	0	0
08/08/2019	3	DA	1515	1815	1	2	NNE	0	8	2	2	0	0
08/08/2019	3	DA	1515	1815	2	3	NE	0	8	2	2	0	0
08/08/2019	3	DA	1515	1815	3	2	NE	0	8	2	2	0	0
08/08/2019	3	DA	1915	2215	1	2	NE	0	8	2	2	0	0
08/08/2019	3	DA	1915	2215	2	1	NE	0	8	2	2	0	0
08/08/2019	3	DA	1915	2215	3	1	NE	0	8	2	2	0	0
08/08/2019	7	PD	0850	1150	1	3	S	1	8	1	2	0	0
08/08/2019	7	PD	0850	1150	2	3	NE	0	8	1	2	0	0
08/08/2019	7	PD	0850	1150	3	3	NE	0	7	2	2	0	0
08/08/2019	7	PD	1220	1520	1	3	NE	0	8	1	2	0	0
08/08/2019	7	PD	1220	1520	2	3	E	0	7	2	2	0	0
08/08/2019	7	PD	1220	1520	3	3	E	0	8	2	2	0	0
09/08/2019	1	PD	0645	0945	1	2	E	3	8	1	2	0	0
09/08/2019	1	PD	0645	0945	2	2	E	2	8	1	2	0	0
09/08/2019	1	PD	0645	0945	3	3	E	0	8	2	2	0	0
09/08/2019	1	PD	1015	1315	1	3	E	2	8	1	2	0	0
09/08/2019	1	PD	1015	1315	2	3	E	3	8	1	2	0	0
09/08/2019	1	PD	1015	1315	3	3	E	4	8	1	2	0	0
09/08/2019	6	DA	1435	1735	1	3	E	2	8	1	2	0	0
09/08/2019	6	DA	1435	1735	2	2	E	2	8	1	2	0	0
09/08/2019	6	DA	1435	1735	3	2	E	0	8	1	2	0	0
09/08/2019	6	DA	1805	2105	1	2	E	2	8	2	2	0	0
09/08/2019	6	DA	1805	2105	2	3	E	3	8	2	2	0	0
09/08/2019	6	DA	1805	2105	3	3	E	4	8	2	2	0	0
20/08/2019	7	GR	0600	0900	1	2	W	0	6	2	2	0	0
20/08/2019	7	GR	0600	0900	2	2	W	0	6	2	2	0	0
20/08/2019	7	GR	0600	0900	3	2	W	1	6	2	2	0	0
20/08/2019	7	GR	0930	1230	1	2	SSW	0	6	2	2	0	0
20/08/2019	7	GR	0930	1230	2	2	SW	0	6	2	2	0	0
20/08/2019	7	GR	0930	1230	3	2	SW	0	6	2	2	0	0
06/09/2019	1	GR	0840	1140	1	3	WNW	1	6	1	2	0	0
06/09/2019	1	GR	0840	1140	2	3	WNW	0	5	2	2	0	0
06/09/2019	1	GR	0840	1140	3	3	WNW	0	6	2	2	0	0
06/09/2019	1	GR	1220	1520	1	3	WNW	2	6	2	2	0	0
06/09/2019	1	GR	1220	1520	2	3	WNW	0	6	2	2	0	0
06/09/2019	1	GR	1220	1520	3	3	WNW	0	6	2	2	0	0
06/09/2019	6	PD	0935	1235	1	3	SW	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	Snow	Frost
06/09/2019	6	PD	0935	1235	2	2	W	0	7	2	2	0	0
06/09/2019	6	PD	0935	1235	3	3	SW	0	7	2	2	0	0
06/09/2019	6	PD	1305	1605	1	3	W	2	5	2	2	0	0
06/09/2019	6	PD	1305	1605	2	3	W	0	5	2	2	0	0
06/09/2019	6	PD	1305	1605	3	3	W	1	4	2	2	0	0
10/09/2019	3	GR	0645	0945	1	1	E	1	8	1	2	0	0
10/09/2019	3	GR	0645	0945	2	1	E	0	8	1	2	0	0
10/09/2019	3	GR	0645	0945	3	1	E	1	8	1	2	0	0
10/09/2019	7	GR	1030	1330	1	1	E	2	8	1	2	0	0
10/09/2019	7	GR	1030	1330	2	1	E	2	8	1	2	0	0
10/09/2019	7	GR	1030	1330	3	3	W	2	8	1	2	0	0
12/09/2019	3	GR	0800	1100	1	5	SW	2	8	1	2	0	0
12/09/2019	3	GR	0800	1100	2	5	SW	0	8	1	2	0	0
12/09/2019	3	GR	0800	1100	3	4	SW	1	8	2	2	0	0
12/09/2019	7	GR	1145	1445	1	4	SW	3	7	2	2	0	0
12/09/2019	7	GR	1145	1445	2	4	SW	1	7	2	2	0	0
12/09/2019	7	GR	1145	1445	3	4	SW	0	6	2	2	0	0
18/09/2019	3	GR	1305	1605	1	3	SW	0	7	2	2	0	0
18/09/2019	3	GR	1305	1605	2	3	SW	1	7	2	2	0	0
18/09/2019	3	GR	1305	1605	3	3	SW	0	7	2	2	0	0
18/09/2019	7	GR	1635	1935	1	2	SSW	0	8	0	1	0	0
18/09/2019	7	GR	1635	1935	2	2	SSW	0	8	1	2	0	0
18/09/2019	7	GR	1635	1935	3	3	SW	1	7	2	2	0	0
24/09/2019	1	PD	0735	1035	1	2	SW	2	8	2	2	0	0
24/09/2019	1	PD	0735	1035	2	2	S	3	8	2	2	0	0
24/09/2019	1	PD	0735	1035	3	2	S	0	5	2	2	0	0
24/09/2019	3	PD	1105	1405	1	2	SE	0	5	2	2	0	0
24/09/2019	3	PD	1105	1405	2	2	SE	0	4	2	2	0	0
24/09/2019	3	PD	1105	1405	3	2	SE	0	3	2	2	0	0
11/10/2019	3	PS	0935	1235	1	4	SW	2	6	2	2	0	0
11/10/2019	3	PS	0935	1235	2	4	SW	2	8	2	2	0	0
11/10/2019	3	PS	0935	1235	3	4	SW	3	8	1	2	0	0
11/10/2019	3	PS	1305	1605	1	4	SW	1	7	2	2	0	0
11/10/2019	3	PS	1305	1605	2	3	SW	3	8	1	2	0	0
11/10/2019	3	PS	1305	1605	3	3	SW	2	8	1	2	0	0
21/10/2019	6	GR	1030	1330	1	1	SW	0	5	2	2	0	0
21/10/2019	6	GR	1030	1330	2	2	SW	0	6	2	2	0	0
21/10/2019	6	GR	1030	1330	3	3	SW	0	6	2	2	0	0
21/10/2019	6	GR	1400	1700	1	3	SW	0	7	2	2	0	0
21/10/2019	6	GR	1400	1700	2	4	SW	0	8	2	2	0	0
21/10/2019	6	GR	1400	1700	3	4	SW	0	8	2	2	0	0
21/10/2019	7	PD	1015	1315	1	3	SW	0	3	2	2	0	0
21/10/2019	7	PD	1015	1315	2	3	SW	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	Snow	Frost
21/10/2019	7	PD	1015	1315	3	4	SW	0	5	2	2	0	0
21/10/2019	7	PD	1345	1645	1	5	SW	0	7	2	2	0	0
21/10/2019	7	PD	1345	1645	2	5	SW	0	7	2	2	0	0
21/10/2019	7	PD	1345	1645	3	5	SW	0	8	2	2	0	0
22/10/2019	1	GR	0825	1125	1	3	SW	1	8	1	1	0	0
22/10/2019	1	GR	0825	1125	2	3	SW	0	8	1	2	0	0
22/10/2019	1	GR	0825	1125	3	4	SW	1	8	1	2	0	0
22/10/2019	1	GR	1155	1455	1	5	SW	2	8	1	2	0	0
22/10/2019	1	GR	1155	1455	2	5	SW	1	8	1	2	0	0
22/10/2019	1	GR	1155	1455	3	4	SW	1	8	1	2	0	0
22/10/2019	3	PD	1235	1535	1	5	S	1	8	1	1	0	0
22/10/2019	3	PD	1235	1535	2	4	SW	1	8	1	1	0	0
22/10/2019	3	PD	1235	1535	3	4	SW	1	8	1	2	0	0
22/10/2019	6	PD	0905	1205	1	5	S	1	8	1	2	0	0
22/10/2019	6	PD	0905	1205	2	3	S	0	8	1	2	0	0
22/10/2019	6	PD	0905	1205	3	4	S	1	8	1	2	0	0
30/10/2019	1	PD	1305	1605	1	2	SE	0	4	2	2	0	0
30/10/2019	1	PD	1305	1605	2	2	SE	0	5	2	2	0	0
30/10/2019	1	PD	1305	1605	3	2	S	0	4	2	2	0	0
30/10/2019	7	PD	0935	1235	1	2	SE	0	2	2	2	1	0
30/10/2019	7	PD	0935	1235	2	2	SE	0	2	2	2	1	0
30/10/2019	7	PD	0935	1235	3	3	SE	0	4	2	2	0	0
13/11/2019	1	PD	1000	1230	1	1	E	0	1	2	2	1	0
13/11/2019	1	PD	1000	1230	2	1	E	0	1	2	2	1	0
13/11/2019	1	PD	1000	1230	3	1	NE	0	3	2	2	1	0
13/11/2019	1	PD	1300	1530	1	2	NE	0	3	2	2	1	0
13/11/2019	1	PD	1300	1530	2	1	NE	0	2	2	2	1	0
13/11/2019	6	DA	1005	1205	1	0	ENE	0	2	2	2	2	2
13/11/2019	6	DA	1005	1205	2	1	ENE	0	2	2	2	2	2
13/11/2019	6	DA	1235	1535	1	1	E	0	3	2	2	2	2
13/11/2019	6	DA	1235	1535	2	1	E	0	3	2	2	2	2
13/11/2019	6	DA	1235	1535	3	1	E	0	4	2	2	2	2
21/11/2019	3	PD	0800	1100	1	4	SE	0	4	2	2	0	0
21/11/2019	3	PD	0800	1100	2	4	SE	0	5	2	2	0	0
21/11/2019	3	PD	0800	1100	3	3	E	0	6	2	2	0	0
21/11/2019	3	PD	1130	1430	1	4	SE	0	7	2	2	0	0
21/11/2019	3	PD	1130	1430	2	4	SE	0	7	2	2	0	0
21/11/2019	3	PD	1130	1430	3	2	S	0	7	2	2	0	0
25/11/2019	7	PD	0910	1140	1	2	SE	0	4	2	2	0	0
25/11/2019	7	PD	0910	1140	2	2	SE	0	5	2	2	0	0
25/11/2019	7	PD	0910	1140	3	2	E	0	5	2	2	0	0
25/11/2019	7	PD	1210	1440	1	3	SE	0	6	2	2	0	0
25/11/2019	7	PD	1210	1440	2	1	SE	1	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	Snow	Frost
25/11/2019	7	PD	1210	1440	3	1	SE	1	7	2	2	0	0
18/12/2019	1	AB	0945	1145	1	1	S	0	1	2	2	2	1
18/12/2019	1	AB	0945	1145	2	2	S	0	1	2	2	2	1
18/12/2019	1	AB	1215	1415	1	1	S	0	4	2	2	2	1
18/12/2019	1	AB	1215	1415	2	1	S	0	8	2	2	2	1
18/12/2019	6	DA	1005	1205	1	1	S	0	1	2	2	2	1
18/12/2019	6	DA	1005	1205	2	1	S	0	3	2	2	2	1
18/12/2019	6	DA	1235	1435	1	1	SW	0	7	2	2	2	1
18/12/2019	6	DA	1235	1435	2	1	SW	0	7	2	2	2	1
19/12/2019	3	DA	0830	1130	1	3	S	0	7	2	2	1	1
19/12/2019	3	DA	0830	1130	2	5	S	0	3	2	2	1	1
19/12/2019	3	DA	0830	1130	3	5	SE	0	3	2	2	1	1
19/12/2019	3	DA	1200	1300	1	4	S	0	4	2	2	1	1
24/12/2019	7	AB	0900	1200	1	0	-	2	8	1	2	0	1
24/12/2019	7	AB	0900	1200	2	0	W	1	8	2	2	0	1
24/12/2019	7	AB	0900	1200	3	0	W	0	8	2	2	0	1
24/12/2019	7	AB	1240	1340	1	1	W	0	8	1	2	0	1
13/01/2020	1	GR	0940	1140	1	4	SW	2	8	1	2	0	0
13/01/2020	1	GR	0940	1140	2	4	SW	2	8	1	2	0	0
13/01/2020	1	GR	1210	1410	1	4	SW	1	8	0	2	0	0
13/01/2020	1	GR	1210	1410	2	4	SW	3	7	0	2	0	0
14/01/2020	7	GR	0845	1045	1	4	SSW	0	5	2	2	0	0
14/01/2020	7	GR	0845	1045	2	5	SSW	0	5	2	2	0	0
14/01/2020	7	GR	1115	1315	1	5	SW	0	6	2	2	0	0
14/01/2020	7	GR	1115	1315	2	4	SW	0	6	2	2	0	0
27/01/2020	3	GR	1200	1400	1	5	SW	2	7	0	2	0	0
27/01/2020	3	GR	1200	1400	2	5	SW	3	7	1	1	0	0
30/01/2020	3	AD	0905	1105	1	5	S	2	8	0	1	0	1
30/01/2020	3	AD	0905	1105	2	5	S	2	8	0	1	0	1
31/01/2020	6	AB	1000	1200	1	3	SW	2	8	0	1	0	1
31/01/2020	6	AB	1000	1200	2	3	SW	2	8	0	1	0	1
17/02/2020	3	DA	1020	1220	1	4	SSW	3	7	2	2	0	1
17/02/2020	3	DA	1020	1220	2	4	SW	2	6	2	2	0	1
17/02/2020	3	DA	1250	1450	1	4	SW	2	5	2	2	0	1
17/02/2020	3	DA	1250	1450	2	4	SW	2	6	2	2	0	1
19/02/2020	6	AB	1000	1200	1	2	SW	0	7	1	2	2	1
19/02/2020	6	AB	1000	1200	2	2	SW	0	5	2	2	2	1
19/02/2020	6	AB	1230	1430	1	3	S	0	8	2	2	2	1
19/02/2020	6	AB	1230	1430	2	3	S	0	8	1	2	2	1
19/02/2020	7	DA	1030	1230	1	4	SW	0	5	2	2	0	1
19/02/2020	7	DA	1030	1230	2	4	SW	0	7	2	2	0	1
19/02/2020	7	DA	1300	1500	1	5	SW	0	8	1	2	0	1
19/02/2020	7	DA	1300	1500	2	4	SW	2	8	1	2	0	1

Date	VP	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
03/03/2020	1	DA	1005	1305	1	1	SW	0	2	2	2	0	1
03/03/2020	1	DA	1005	1305	2	2	SW	0	4	2	2	0	1
03/03/2020	1	DA	1005	1305	3	1	SW	0	6	2	2	0	1
03/03/2020	1	DA	1335	1535	1	2	W	0	7	2	2	0	1
03/03/2020	1	DA	1335	1535	2	3	W	0	6	2	2	0	1
04/03/2020	3	AB	0930	1130	1	3	SSW	0	5	2	2	2	1
04/03/2020	3	AB	0930	1130	2	3	WSW	0	7	1	2	2	1
04/03/2020	3	AB	1200	1400	1	3	WSW	0	7	1	2	2	1
04/03/2020	3	AB	1200	1400	2	4	WSW	0	8	2	2	2	1
04/03/2020	7	DA	0945	1145	1	1	SW	0	7	2	2	0	1
04/03/2020	7	DA	0945	1145	2	3	SW	0	6	2	2	0	1
04/03/2020	7	DA	1215	1415	1	3	SW	0	4	2	2	0	1
04/03/2020	7	DA	1215	1415	2	3	SW	0	6	2	2	0	1
05/03/2020	1	DA	1015	1115	1	2	SW	0	7	2	2	0	1
16/03/2020	1	AB	0815	1115	1	2	SW	2	8	1	2	1	2
16/03/2020	1	AB	0815	1115	2	2	SW	0	7	2	2	1	2
16/03/2020	1	AB	0815	1115	3	2	SW	0	7	2	2	1	2
16/03/2020	1	AB	1145	1445	1	2	SW	0	4	2	2	0	2
16/03/2020	1	AB	1145	1445	2	2	SW	1	7	2	2	0	2
16/03/2020	1	AB	1145	1445	3	2	SW	2	8	1	2	0	2
16/03/2020	6	DA	0830	1130	1	5	SW	0	8	1	2	1	2
16/03/2020	6	DA	0830	1130	2	4	SW	0	7	2	2	0	2
16/03/2020	6	DA	0830	1130	1	5	SW	0	8	1	2	1	2
16/03/2020	6	DA	0830	1130	2	4	SW	0	7	2	2	0	2
16/03/2020	6	DA	0830	1130	3	4	SW	0	7	2	2	0	2
16/03/2020	6	DA	1200	1500	1	5	SW	0	4	2	2	0	2
16/03/2020	6	DA	1200	1500	2	4	SW	1	7	2	2	0	2
16/03/2020	6	DA	1200	1500	3	4	SW	2	8	2	2	0	2
17/03/2020	3	DA	0905	1205	1	4	SW	0	5	2	2	0	2
17/03/2020	3	DA	0905	1205	2	4	SW	0	7	2	2	0	2
17/03/2020	3	DA	0905	1205	3	5	SW	2	8	2	2	0	2
17/03/2020	3	DA	1235	1535	1	4	SW	3	8	1	2	0	2
17/03/2020	3	DA	1235	1535	2	3	SW	2	8	1	1	0	2
17/03/2020	3	DA	1235	1535	3	3	SW	4	8	1	1	0	2
18/03/2020	7	DA	0925	1225	1	3	SW	2	6	2	2	0	1
18/03/2020	7	DA	0925	1225	2	2	SW	0	5	2	2	0	1
18/03/2020	7	DA	0925	1225	3	3	WSW	0	2	2	2	0	1
18/03/2020	7	DA	1255	1555	1	3	W	0	2	2	2	0	1
18/03/2020	7	DA	1255	1555	2	3	W	2	4	2	2	0	1
18/03/2020	7	DA	1255	1555	3	3	W	0	5	2	2	0	1
20/05/2020	1	DA	0645	0945	1	1	SW	0	4	2	2	0	0
20/05/2020	1	DA	0645	0945	2	1	SW	0	7	2	2	0	0
20/05/2020	1	DA	0645	0945	3	2	SSW	0	4	2	2	0	0
20/05/2020	1	DA	1015	1315	1	2	SSW	0	6	2	2	0	0
20/05/2020	1	DA	1015	1315	2	1	SSW	0	4	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	Snow	Frost
20/05/2020	1	DA	1015	1315	3	1	SSW	0	5	2	2	0	0
22/05/2020	3	JD	1300	1600	1	4	SW	2	8	2	2	0	0
22/05/2020	3	JD	1300	1600	2	4	SW	2	8	2	2	0	0
22/05/2020	3	JD	1300	1600	3	4	SW	2	8	2	2	0	0
22/05/2020	3	JD	1630	1930	1	4	SW	2	8	2	2	0	0
22/05/2020	3	JD	1630	1930	2	4	SW	2	8	1	1	0	0
22/05/2020	3	JD	1630	1930	3	4	SW	2	8	1	1	0	0
22/05/2020	7	PS	1100	1400	1	3	SW	1	8	2	2	0	0
22/05/2020	7	PS	1100	1400	2	4	SW	1	8	2	2	0	0
22/05/2020	7	PS	1100	1400	3	4	SW	2	8	2	2	0	0
22/05/2020	7	PS	1430	1730	1	4	SW	2	8	2	2	0	0
22/05/2020	7	PS	1430	1730	2	4	SW	2	8	2	2	0	0
22/05/2020	7	PS	1430	1730	3	4	SW	2	8	2	2	0	0
04/06/2020	1	PS	0630	0930	1	1	W	0	8	1	2	0	0
04/06/2020	1	PS	0630	0930	2	0	-	0	8	1	2	0	0
04/06/2020	1	PS	0630	0930	3	0	-	1	8	2	2	0	0
04/06/2020	1	PS	1000	1300	1	2	NW	2	8	2	2	0	0
04/06/2020	1	PS	1000	1300	2	2	NW	2	8	2	2	0	0
04/06/2020	1	PS	1000	1300	3	2	NW	0	8	2	2	0	0
04/06/2020	3	JD	0620	0920	1	1	SW	1	8	1	1	0	0
04/06/2020	3	JD	0620	0920	2	1	SW	1	8	1	1	0	0
04/06/2020	3	JD	0620	0920	3	1	SW	1	8	1	1	0	0
04/06/2020	3	JD	0950	1250	1	1	SW	1	8	1	2	0	0
04/06/2020	3	JD	0950	1250	2	2	SW	2	8	2	2	0	0
04/06/2020	3	JD	0950	1250	3	2	SW	0	8	2	2	0	0
11/06/2020	3	JD	1830	2130	1	3	ESE	0	6	2	2	0	0
11/06/2020	3	JD	1830	2130	2	3	SE	0	2	2	2	0	0
11/06/2020	3	JD	1830	2130	3	3	SE	0	1	2	2	0	0
11/06/2020	7	PS	1800	2100	1	3	NE	0	6	2	2	0	0
11/06/2020	7	PS	1800	2100	2	3	NE	0	2	2	2	0	0
11/06/2020	7	PS	1800	2100	3	3	NE	0	1	2	2	0	0
22/06/2020	1	JD	1700	2000	1	1	SW	0	8	1	1	0	0
22/06/2020	1	JD	1700	2000	2	1	SW	0	8	2	2	0	0
22/06/2020	1	JD	1700	2000	3	1	SW	2	8	2	2	0	0
23/06/2020	7	JD	0630	0930	1	2	SW	1	8	1	1	0	0
23/06/2020	7	JD	0630	0930	2	1	SW	1	8	2	2	0	0
23/06/2020	7	JD	0630	0930	3	1	SW	2	8	2	2	0	0
23/06/2020	7	JD	1000	1300	1	2	SW	2	8	2	2	0	0
23/06/2020	7	JD	1000	1300	2	2	SW	1	8	2	2	0	0
23/06/2020	7	JD	1000	1300	3	1	SW	1	8	2	2	0	0
22/07/2020	1	PS	1200	1500	1	0	-	0	8	2	2	0	0
22/07/2020	1	PS	1200	1500	2	0	-	0	8	2	2	0	0
22/07/2020	1	PS	1200	1500	3	0	-	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	Snow	Frost
22/07/2020	1	PS	1530	1830	1	0	-	0	8	2	2	0	0
22/07/2020	1	PS	1530	1830	2	0	-	1	8	2	2	0	0
22/07/2020	1	PS	1530	1830	3	0	-	0	8	2	2	0	0
23/07/2020	1	PS	1510	1810	1	3	W	0	5	2	2	0	0
23/07/2020	1	PS	1510	1810	2	3	W	0	4	2	2	0	0
23/07/2020	1	PS	1510	1810	3	3	W	0	6	2	2	0	0
30/07/2020	3	JD	1400	1700	1	1	SW	0	8	2	2	0	0
30/07/2020	3	PS	1400	1700	1	3	SE	0	8	2	2	0	0
30/07/2020	3	JD	1400	1700	2	1	SW	1	8	2	2	0	0
30/07/2020	3	PS	1400	1700	2	2	SE	1	8	1	2	0	0
30/07/2020	3	JD	1400	1700	3	1	SW	1	8	2	2	0	0
30/07/2020	3	PS	1400	1700	3	3	SE	0	8	2	2	0	0
31/07/2020	3	JD	1130	1430	1	4	SW	0	6	2	2	0	0
31/07/2020	3	JD	1130	1430	2	4	SW	0	7	2	2	0	0
31/07/2020	3	JD	1130	1430	3	4	SW	0	7	2	2	0	0
31/07/2020	3	JD	1500	1800	1	4	SW	0	7	2	2	0	0
31/07/2020	3	JD	1500	1800	2	4	SW	0	8	2	2	0	0
31/07/2020	3	JD	1500	1800	3	4	SW	0	8	2	2	0	0
31/07/2020	7	PS	1135	1435	1	4	SE	0	5	2	2	0	0
31/07/2020	7	PS	1135	1435	2	3	SE	0	7	2	2	0	0
31/07/2020	7	PS	1135	1435	3	2	SE	0	7	2	2	0	0
31/07/2020	7	PS	1505	1805	1	3	S	0	6	2	2	0	0
31/07/2020	7	PS	1505	1805	2	4	S	0	8	2	2	0	0
31/07/2020	7	PS	1505	1805	3	4	S	0	7	2	2	0	0
18/08/2020	1	PS	1200	1500	1	1	S	0	6	2	2	0	0
18/08/2020	1	PS	1200	1500	2	0	-	0	6	2	2	0	0
18/08/2020	1	PS	1200	1500	3	0	-	0	7	2	2	0	0
18/08/2020	1	PS	1530	1830	1	3	NE	0	7	2	2	0	0
18/08/2020	1	PS	1530	1830	2	3	NE	0	6	2	2	0	0
18/08/2020	1	PS	1530	1830	3	2	NE	0	7	2	2	0	0
19/08/2020	3	JD	1300	1600	1	3	SE	0	7	2	2	0	0
19/08/2020	3	JD	1300	1600	2	2	SE	0	8	2	2	0	0
19/08/2020	3	JD	1300	1600	3	4	SE	0	8	2	2	0	0
19/08/2020	3	JD	1630	1930	1	4	SE	0	8	2	2	0	0
19/08/2020	3	JD	1630	1930	2	4	SE	2	8	2	2	0	0
19/08/2020	3	JD	1630	1930	3	4	SE	2	8	2	2	0	0
19/08/2020	7	PS	1300	1600	1	3	NE	0	8	2	2	0	0
19/08/2020	7	PS	1300	1600	2	3	NE	0	8	1	2	0	0
19/08/2020	7	PS	1300	1600	3	3	NE	0	8	1	2	0	0
19/08/2020	7	PS	1630	1930	1	3	NE	0	8	2	2	0	0
19/08/2020	7	PS	1630	1930	2	3	NE	2	8	2	2	0	0
19/08/2020	7	PS	1630	1930	3	3	NE	0	8	1	2	0	0

C.2 Moorland Breeding Bird Surveys

Moorland breeding bird surveys were undertaken during the 2019 and 2020 breeding seasons. **Table C-4** details survey dates and weather data recorded. Refer to **Annex B** for survey methodology and **Annex D** for survey results.

Table C-4 Meteorological conditions during breeding bird surveys at Bhlaraidh Wind Farm extension (sorted chronologically)

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
20/04/2019	1	FN	1000	1600	1	2	SSE	0	4	2	2	0	0
20/04/2019	1	FN	1000	1600	2	3	S	0	5	2	2	0	0
20/04/2019	1	FN	1000	1600	3	3	S	0	8	2	2	0	0
20/04/2019	1	FN	1000	1600	4	3	SSW	0	8	2	2	0	0
20/04/2019	1	FN	1000	1600	5	3	SSW	0	8	2	2	0	0
20/04/2019	1	FN	1000	1600	6	3	SSW	1	8	2	2	0	0
21/04/2019	1	FN	0945	1545	1	2	SSE	0	8	2	2	0	0
21/04/2019	1	FN	0945	1545	2	3	SE	0	8	2	2	0	0
21/04/2019	1	FN	0945	1545	3	3	SE	0	6	2	2	0	0
21/04/2019	1	FN	0945	1545	4	4	S	0	6	2	2	0	0
21/04/2019	1	FN	0945	1545	5	3	SSW	0	8	2	2	0	0
21/04/2019	1	FN	0945	1545	6	3	SW	0	8	2	2	0	0
24/04/2019	1	DA	1000	1600	1	3	E	0	6	2	2	0	0
24/04/2019	1	DA	1000	1600	2	4	E	0	7	2	2	0	0
24/04/2019	1	DA	1000	1600	3	4	E	0	7	2	2	0	0
24/04/2019	1	DA	1000	1600	4	4	E	0	6	2	2	0	0
24/04/2019	1	DA	1000	1600	5	4	E	0	5	2	2	0	0
24/04/2019	1	DA	1000	1600	6	3	E	0	6	2	2	0	0
24/04/2019	1	GR	1000	1600	1	3	E	0	6	2	2	0	0
24/04/2019	1	GR	1000	1600	2	4	E	0	7	2	2	0	0
24/04/2019	1	GR	1000	1600	3	4	E	0	7	2	2	0	0
24/04/2019	1	GR	1000	1600	4	4	E	0	6	2	2	0	0
24/04/2019	1	GR	1000	1600	5	4	E	0	5	2	2	0	0
24/04/2019	1	GR	1000	1600	6	3	E	0	6	2	2	0	0
24/04/2019	1	PD	1000	1600	1	3	E	0	6	2	2	0	0
24/04/2019	1	PD	1000	1600	2	4	E	0	7	2	2	0	0
24/04/2019	1	PD	1000	1600	3	4	E	0	7	2	2	0	0
24/04/2019	1	PD	1000	1600	4	4	E	0	6	2	2	0	0
24/04/2019	1	PD	1000	1600	5	4	E	0	5	2	2	0	0
24/04/2019	1	PD	1000	1600	6	3	E	0	6	2	2	0	0
24/04/2019	1	PR	1000	1600	1	3	E	0	6	2	2	0	0
24/04/2019	1	PR	1000	1600	2	4	E	0	7	2	2	0	0
24/04/2019	1	PR	1000	1600	3	4	E	0	7	2	2	0	0
24/04/2019	1	PR	1000	1600	4	4	E	0	6	2	2	0	0
24/04/2019	1	PR	1000	1600	5	4	E	0	5	2	2	0	0
24/04/2019	1	PR	1000	1600	6	3	E	0	6	2	2	0	0
23/05/2019	2	PD/DA	0900	1500	1	4	W	0	5	2	2	0	0
23/05/2019	2	PD/DA	0900	1500	2	5	W	0	4	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
23/05/2019	2	PD/DA	0900	1500	3	5	W	0	5	2	2	0	0
23/05/2019	2	PD/DA	0900	1500	4	5	W	0	5	2	2	0	0
23/05/2019	2	PD/DA	0900	1500	5	5	W	0	6	2	2	0	0
23/05/2019	2	PD/DA	0900	1500	6	5	W	0	5	2	2	0	0
24/05/2019	2	DA/AB	0855	1455	1	2	W	0	6	2	2	0	0
24/05/2019	2	DA/AB	0855	1455	2	2	WSW	0	6	2	2	0	0
24/05/2019	2	DA/AB	0855	1455	3	2	W	0	6	2	2	0	0
24/05/2019	2	DA/AB	0855	1455	4	2	WSW	0	6	2	2	0	0
24/05/2019	2	DA/AB	0855	1455	5	3	W	0	7	2	2	0	0
24/05/2019	2	DA/AB	0855	1455	6	3	W	0	5	2	2	0	0
28/05/2019	2	DA/AB	0850	1450	1	2	NW	2	4	2	2	0	0
28/05/2019	2	DA/AB	0850	1450	2	2	NW	0	5	2	2	0	0
28/05/2019	2	DA/AB	0850	1450	3	3	NW	2	6	2	2	0	0
28/05/2019	2	DA/AB	0850	1450	4	2	NW	0	6	2	2	0	0
28/05/2019	2	DA/AB	0850	1450	5	2	NW	0	7	2	2	0	0
28/05/2019	2	DA/AB	0850	1450	6	2	NW	0	7	2	2	0	0
14/06/2019	3	GR	0900	1800	1	3	S	0	6	2	2	0	0
14/06/2019	3	GR	0900	1800	2	3	S	1	5	2	2	0	0
14/06/2019	3	GR	0900	1800	3	4	S	0	5	2	2	0	0
14/06/2019	3	GR	0900	1800	4	4	S	1	6	2	2	0	0
14/06/2019	3	GR	0900	1800	5	4	S	0	5	2	2	0	0
14/06/2019	3	GR	0900	1800	6	3	S	0	5	2	2	0	0
14/06/2019	3	GR	0900	1800	7	4	S	0	5	2	2	0	0
14/06/2019	3	GR	0900	1800	8	3	S	0	6	2	2	0	0
14/06/2019	3	GR	0900	1800	9	3	S	0	5	2	2	0	0
14/06/2019	3	DA	0900	1800	1	3	S	0	6	2	2	0	0
14/06/2019	3	DA	0900	1800	2	3	S	1	5	2	2	0	0
14/06/2019	3	DA	0900	1800	3	4	S	0	5	2	2	0	0
14/06/2019	3	DA	0900	1800	4	4	S	1	6	2	2	0	0
14/06/2019	3	DA	0900	1800	5	4	S	0	5	2	2	0	0
14/06/2019	3	DA	0900	1800	6	3	S	0	5	2	2	0	0
14/06/2019	3	DA	0900	1800	7	4	S	0	5	2	2	0	0
14/06/2019	3	DA	0900	1800	8	3	S	0	6	2	2	0	0
14/06/2019	3	DA	0900	1800	9	3	S	0	5	2	2	0	0
13/06/2019	3	GR	0935	1535	1	3	N	0	7	1	2	0	0
13/06/2019	3	GR	0935	1535	2	4	NNE	2	8	2	2	0	0
13/06/2019	3	GR	0935	1535	3	4	NNE	2	7	2	2	0	0
13/06/2019	3	GR	0935	1535	4	4	NNE	1	7	2	2	0	0
13/06/2019	3	GR	0935	1535	5	3	NNE	1	8	2	2	0	0
13/06/2019	3	GR	0935	1535	6	3	NNE	1	8	2	2	0	0
13/06/2019	3	DA	0935	1535	1	3	N	0	7	1	2	0	0
13/06/2019	3	DA	0935	1535	2	4	NNE	2	8	2	2	0	0
13/06/2019	3	DA	0935	1535	3	4	NNE	2	7	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
13/06/2019	3	DA	0935	1535	4	4	NNE	1	7	2	2	0	0
13/06/2019	3	DA	0935	1535	5	3	NNE	1	8	2	2	0	0
13/06/2019	3	DA	0935	1535	6	3	NNE	1	8	2	2	0	0
13/06/2019	3	PD	0935	1535	1	3	N	0	7	1	2	0	0
13/06/2019	3	PD	0935	1535	2	4	NNE	2	8	2	2	0	0
13/06/2019	3	PD	0935	1535	3	4	NNE	2	7	2	2	0	0
13/06/2019	3	PD	0935	1535	4	4	NNE	1	7	2	2	0	0
13/06/2019	3	PD	0935	1535	5	3	NNE	1	8	2	2	0	0
13/06/2019	3	PD	0935	1535	6	3	NNE	1	8	2	2	0	0
08/07/2019	4	DA	0840	1440	1	1	SSE	0	2	2	2	0	0
08/07/2019	4	DA	0840	1440	2	1	S	0	3	2	2	0	0
08/07/2019	4	DA	0840	1440	3	1	S	0	4	2	2	0	0
08/07/2019	4	DA	0840	1440	4	2	S	0	4	2	2	0	0
08/07/2019	4	DA	0840	1440	5	2	SW	0	5	2	2	0	0
08/07/2019	4	DA	0840	1440	6	3	SW	0	6	2	2	0	0
08/07/2019	4	PD	0915	1515	1	1	SSE	0	2	2	2	0	0
08/07/2019	4	PD	0915	1515	2	1	S	0	3	2	2	0	0
08/07/2019	4	PD	0915	1515	3	1	S	0	4	2	2	0	0
08/07/2019	4	PD	0915	1515	4	2	S	0	4	2	2	0	0
08/07/2019	4	PD	0915	1515	5	2	SW	0	5	2	2	0	0
08/07/2019	4	PD	0915	1515	6	3	SW	0	6	2	2	0	0
08/07/2019	4	AB	0900	1500	1	1	SSE	0	2	2	2	0	0
08/07/2019	4	AB	0900	1500	2	1	S	0	3	2	2	0	0
08/07/2019	4	AB	0900	1500	3	1	S	0	4	2	2	0	0
08/07/2019	4	AB	0900	1500	4	2	S	0	4	2	2	0	0
08/07/2019	4	AB	0900	1500	5	2	SW	0	5	2	2	0	0
08/07/2019	4	AB	0900	1500	6	3	SW	0	6	2	2	0	0
09/07/2019	4	DA	0855	1455	1	1	SW	2	8	1	2	0	0
09/07/2019	4	DA	0855	1455	2	2	SW	3	8	1	1	0	0
09/07/2019	4	DA	0855	1455	3	2	SW	2	8	1	1	0	0
09/07/2019	4	DA	0855	1455	4	2	SW	1	8	1	1	0	0
09/07/2019	4	DA	0855	1455	5	2	SW	0	8	1	1	0	0
09/07/2019	4	DA	0855	1455	6	2	SW	0	8	1	1	0	0
09/07/2019	4	PD	0855	1455	1	1	SW	2	8	1	2	0	0
09/07/2019	4	PD	0855	1455	2	2	SW	3	8	1	1	0	0
09/07/2019	4	PD	0855	1455	3	2	SW	2	8	1	1	0	0
09/07/2019	4	PD	0855	1455	4	2	SW	1	8	1	1	0	0
09/07/2019	4	PD	0855	1455	5	2	SW	0	8	1	1	0	0
09/07/2019	4	PD	0855	1455	6	2	SW	0	8	1	1	0	0
21/05/2020	5	DA	0910	1510	1	1	SW	0	8	2	2	0	0
21/05/2020	5	DA	0910	1510	2	2	SW	0	7	2	2	0	0
21/05/2020	5	DA	0910	1510	3	2	SW	2	8	2	2	0	0
21/05/2020	5	DA	0910	1510	4	2	SSW	0	8	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
21/05/2020	5	DA	0910	1510	5	2	SW	2	7	2	2	0	0
21/05/2020	5	DA	0910	1510	6	2	SSW	2	8	2	2	0	0
25/05/2020	5	JD	1100	1700	1	2	SW	0	8	2	2	0	0
25/05/2020	5	JD	1100	1700	2	2	SW	0	8	2	2	0	0
25/05/2020	5	JD	1100	1700	3	3	SW	0	8	2	2	0	0
25/05/2020	5	JD	1100	1700	4	3	SW	0	8	2	2	0	0
25/05/2020	5	JD	1100	1700	5	4	SW	0	8	2	2	0	0
25/05/2020	5	JD	1100	1700	6	4	SW	0	8	2	2	0	0
25/05/2020	5	PS	1100	1700	1	3	SSW	0	8	2	2	0	0
25/05/2020	5	PS	1100	1700	2	3	SW	0	7	2	2	0	0
25/05/2020	5	PS	1100	1700	3	4	S	0	8	2	2	0	0
25/05/2020	5	PS	1100	1700	4	4	S	0	5	2	2	0	0
25/05/2020	5	PS	1100	1700	5	3	SSW	0	7	2	2	0	0
25/05/2020	5	PS	1100	1700	6	3	SSW	0	7	2	2	0	0
26/05/2020	5	JD	0900	1200	1	3	SW	0	4	2	2	0	0
26/05/2020	5	JD	0900	1200	2	2	SW	0	5	2	2	0	0
26/05/2020	5	JD	0900	1200	3	1	SW	0	6	2	2	0	0
26/05/2020	5	PS	0900	1500	1	3	SW	0	7	2	2	0	0
26/05/2020	5	PS	0900	1500	2	4	SW	0	6	2	2	0	0
26/05/2020	5	PS	0900	1500	3	3	SW	0	3	2	2	0	0
26/05/2020	5	PS	0900	1500	4	3	SW	0	5	2	2	0	0
26/05/2020	5	PS	0900	1500	5	4	SW	0	3	2	2	0	0
26/05/2020	5	PS	0900	1500	6	3	WSW	0	2	2	2	0	0
26/05/2020	5	PS	1500	1800	7	3	WSW	0	3	2	2	0	0
26/05/2020	5	PS	1500	1800	8	3	WSW	0	4	2	2	0	0
26/05/2020	5	PS	1500	1800	9	3	SW	0	2	2	2	0	0
18/06/2020	6	PS	0830	1430	1	2	NE	0	3	2	2	0	0
18/06/2020	6	PS	0830	1430	2	2	NE	0	2	2	2	0	0
18/06/2020	6	PS	0830	1430	3	2	NE	0	3	2	2	0	0
18/06/2020	6	PS	0830	1430	4	1	NE	0	3	2	2	0	0
18/06/2020	6	PS	0830	1430	5	2	NE	0	3	2	2	0	0
18/06/2020	6	PS	0830	1430	6	2	NE	0	2	2	2	0	0
18/06/2020	6	PS	1430	1730	7	3	NE	0	2	2	2	0	0
18/06/2020	6	PS	1430	1730	8	3	NE	0	1	2	2	0	0
18/06/2020	6	PS	1430	1730	9	3	NE	0	2	2	2	0	0
18/06/2020	6	JD	0830	1430	1	2	NE	0	3	2	2	0	0
18/06/2020	6	JD	0830	1430	2	2	NE	0	2	2	2	0	0
18/06/2020	6	JD	0830	1430	3	2	NE	0	3	2	2	0	0
18/06/2020	6	JD	0830	1430	4	1	NE	0	3	2	2	0	0
18/06/2020	6	JD	0830	1430	5	2	NE	0	3	2	2	0	0
18/06/2020	6	JD	0830	1430	6	2	NE	0	2	2	2	0	0
18/06/2020	6	JD	1430	1730	7	3	NE	0	2	2	2	0	0
18/06/2020	6	JD	1430	1730	8	3	NE	0	1	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
18/06/2020	6	JD	1430	1730	9	3	NE	0	2	2	2	0	0
19/06/2020	6	PS	0830	1430	1	0	-	0	8	2	2	0	0
19/06/2020	6	PS	0830	1430	2	0	-	0	8	2	2	0	0
19/06/2020	6	PS	0830	1430	3	0	-	1	8	1	1	0	0
19/06/2020	6	PS	0830	1430	4	0	-	0	8	2	2	0	0
19/06/2020	6	PS	0830	1430	5	0	-	1	8	1	1	0	0
19/06/2020	6	PS	0830	1430	6	0	-	0	8	2	2	0	0
19/06/2020	6	JD	0830	1430	1	0	-	0	8	2	2	0	0
19/06/2020	6	JD	0830	1430	2	0	-	0	8	2	2	0	0
19/06/2020	6	JD	0830	1430	3	0	-	1	8	1	1	0	0
19/06/2020	6	JD	0830	1430	4	0	-	0	8	2	2	0	0
19/06/2020	6	JD	0830	1430	5	0	-	1	8	1	1	0	0
19/06/2020	6	JD	0830	1430	6	0	-	0	8	2	2	0	0
02/07/2020	7	PS	0830	1730	1	0	-	0	8	2	2	0	0
02/07/2020	7	PS	0830	1730	2	0	-	0	8	2	2	0	0
02/07/2020	7	PS	0830	1730	3	0	-	0	8	2	2	0	0
02/07/2020	7	PS	0830	1730	4	0	-	0	8	2	2	0	0
02/07/2020	7	PS	0830	1730	5	1	SW	0	8	2	2	0	0
02/07/2020	7	PS	0830	1730	6	0	-	0	8	2	2	0	0
02/07/2020	7	PS	0830	1730	7	0	-	0	8	2	2	0	0
02/07/2020	7	PS	0830	1730	8	0	-	0	8	2	2	0	0
02/07/2020	7	PS	0830	1730	9	0	-	0	8	2	2	0	0
02/07/2020	7	JD	0830	1730	1	0	-	0	8	2	2	0	0
02/07/2020	7	JD	0830	1730	2	0	-	0	8	2	2	0	0
02/07/2020	7	JD	0830	1730	3	0	-	0	8	2	2	0	0
02/07/2020	7	JD	0830	1730	4	0	-	0	8	2	2	0	0
02/07/2020	7	JD	0830	1730	5	1	SW	0	8	2	2	0	0
02/07/2020	7	JD	0830	1730	6	0	-	0	8	2	2	0	0
02/07/2020	7	JD	0830	1730	7	0	-	0	8	2	2	0	0
02/07/2020	7	JD	0830	1730	8	0	-	0	8	2	2	0	0
02/07/2020	7	JD	0830	1730	9	0	-	0	8	2	2	0	0
04/07/2020	7	PS	0830	1730	1	1	SW	0	8	2	2	0	0
04/07/2020	7	PS	0830	1730	2	1	SW	0	8	2	2	0	0
04/07/2020	7	PS	0830	1730	3	2	SW	0	8	2	2	0	0
04/07/2020	7	PS	0830	1730	4	2	SW	0	8	2	2	0	0
04/07/2020	7	PS	0830	1730	5	2	SW	0	8	2	2	0	0
04/07/2020	7	PS	0830	1730	6	1	SW	1	8	2	2	0	0
04/07/2020	7	PS	0830	1730	7	1	SW	1	8	2	2	0	0
04/07/2020	7	PS	0830	1730	8	2	SW	0	8	2	2	0	0
04/07/2020	7	PS	0830	1730	9	1	SW	0	8	2	2	0	0
04/07/2020	7	JD	0830	1730	1	1	SW	0	8	2	2	0	0
04/07/2020	7	JD	0830	1730	2	1	SW	0	8	2	2	0	0
04/07/2020	7	JD	0830	1730	3	2	SW	0	8	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
04/07/2020	7	JD	0830	1730	4	2	SW	0	8	2	2	0	0
04/07/2020	7	JD	0830	1730	5	2	SW	0	8	2	2	0	0
04/07/2020	7	JD	0830	1730	6	1	SW	1	8	2	2	0	0
04/07/2020	7	JD	0830	1730	7	1	SW	1	8	2	2	0	0
04/07/2020	7	JD	0830	1730	8	2	SW	0	8	2	2	0	0
04/07/2020	7	JD	0830	1730	9	1	SW	0	8	2	2	0	0

C.3 Winter Walkover Surveys

Winter walkover surveys were undertaken during the 2018/2019 and 2019/2020 non-breeding seasons. **Table C-5** details survey dates and weather data recorded. Refer to **Annex B** for survey methodology and **Annex D** for survey results.

Table C-5 Meteorological conditions during winter walkover surveys at Bhlaraidh Wind Farm extension (sorted chronologically)

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
08/11/2018	1	DL	0900	1300	1	3	S	0	7	2	2	0	0
08/11/2018	1	DL	0900	1300	2	2	S	0	6	2	2	0	0
08/11/2018	1	DL	0900	1300	3	2	S	0	5	2	2	0	0
08/11/2018	1	DL	0900	1300	4	2	S	0	4	2	2	0	0
08/11/2018	1	GR	0900	1300	1	3	S	0	7	2	2	0	0
08/11/2018	1	GR	0900	1300	2	3	S	0	7	2	2	0	0
08/11/2018	1	GR	0900	1300	3	2	S	0	6	2	2	0	0
08/11/2018	1	GR	0900	1300	4	2	S	0	4	2	2	0	0
12/11/2018	1	GR	1030	1630	1	3	S	1	6	1	2	0	0
12/11/2018	1	GR	1030	1630	2	3	S	1	6	1	2	0	0
12/11/2018	1	GR	1030	1630	3	3	S	0	5	2	2	0	0
12/11/2018	1	GR	1030	1630	4	3	S	0	5	2	2	0	0
12/11/2018	1	GR	1030	1630	5	2	S	0	6	2	2	0	0
12/11/2018	1	GR	1030	1630	6	2	S	0	6	2	2	0	0
20/11/2018	1	PR	1200	1500	1	3	ENE	0	7	1	2	0	0
20/11/2018	1	PR	1200	1500	2	3	NE	0	7	1	2	0	0
20/11/2018	1	PR	1200	1500	3	3	NE	0	7	1	2	0	0
21/11/2018	1	GR	0915	1035	1	4	ENE	1	8	1	2	0	0
21/11/2018	1	GR	1510	1610	1	4	E	0	7	2	2	0	0
10/12/2018	2	GR	0915	1015	1	1	W	0	1	2	2	2	1
10/12/2018	2	GR	1445	1545	1	1	SW	0	5	2	2	2	1
11/12/2018	2	GR	0900	1400	1	2	SSE	0	5	2	2	0	0
11/12/2018	2	GR	0900	1400	2	2	SSE	0	6	2	2	0	0
11/12/2018	2	GR	0900	1400	3	3	S	0	6	2	2	0	0
11/12/2018	2	GR	0900	1400	4	3	SSW	0	6	2	2	0	0
11/12/2018	2	GR	0900	1400	5	3	SSW	0	6	2	2	0	0
11/12/2018	2	PR	1415	1515	1	3	SSW	0	7	2	2	0	0
19/12/2018	2	GR	0900	1100	1	4	S	0	6	2	2	0	0
19/12/2018	2	GR	1400	1530	1	5	S	0	5	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
19/12/2018	2	GR	0900	1100	2	5	S	0	6	2	2	0	0
19/12/2018	2	GR	1400	1530	2	4	S	0	5	2	2	0	0
13/02/2019	3	GR	0930	1100	1	4	SW	2	8	0	0	0	0
13/02/2019	3	GR	1400	1500	1	7	SW	2	8	1	2	0	0
13/02/2019	3	GR	0930	1100	2	6	SW	0	8	1	2	0	0
14/02/2019	3	GR	0935	1235	1	4	SW	1	8	1	1	0	0
14/02/2019	3	GR	0935	1235	2	5	SW	1	8	1	1	0	0
14/02/2019	3	GR	0935	1235	3	5	SW	0	8	1	2	0	0
18/02/2019	3	PR	1300	1700	1	3	S	2	8	0	2	0	0
18/02/2019	3	PR	1300	1700	2	3	S	3	8	0	2	0	0
18/02/2019	3	PR	1300	1700	3	3	S	2	7	0	2	0	0
18/02/2019	3	PR	1300	1700	4	3	S	2	7	1	2	0	0
19/02/2019	3	PR	0915	1515	1	2	SSW	0	7	1	2	0	0
19/02/2019	3	PR	0915	1515	2	3	SSW	0	7	1	2	0	0
19/02/2019	3	PR	0915	1515	3	2	SSW	2	8	0	1	0	0
19/02/2019	3	PR	0915	1515	4	3	SSW	2	8	0	2	0	0
19/02/2019	3	PR	0915	1515	5	3	SSW	2	8	0	1	0	0
19/02/2019	3	PR	0915	1515	6	3	SSW	0	8	1	2	0	0
20/02/2019	3	GR	1330	1630	1	5	SW	1	8	1	1	0	0
20/02/2019	3	GR	1330	1630	2	5	SW	1	8	1	1	0	0
20/02/2019	3	GR	1330	1630	3	5	SW	0	8	1	1	0	0
14/11/2019	4	PD	0845	1445	1	2	N	0	3	2	2	2	2
14/11/2019	4	PD	0845	1445	2	2	NE	0	4	2	2	2	2
14/11/2019	4	PD	0845	1445	3	3	NE	2	4	2	2	2	2
14/11/2019	4	PD	0845	1445	4	3	NE	2	6	2	2	2	2
14/11/2019	4	PD	0845	1445	5	3	NE	0	4	2	2	2	2
14/11/2019	4	PD	0845	1445	6	3	NE	0	3	2	2	2	2
14/11/2019	4	DA	0845	1445	1	2	N	0	3	2	2	2	2
14/11/2019	4	DA	0845	1445	2	2	NE	0	4	2	2	2	2
14/11/2019	4	DA	0845	1445	3	3	NE	2	4	2	2	2	2
14/11/2019	4	DA	0845	1445	4	3	NE	2	6	2	2	2	2
14/11/2019	4	DA	0845	1445	5	3	NE	0	4	2	2	2	2
14/11/2019	4	DA	0845	1445	6	3	NE	0	3	2	2	2	2
26/11/2019	4	PD	0815	1415	1	3	E	0	8	0	1	0	0
26/11/2019	4	PD	0815	1415	2	4	E	0	6	1	2	0	0
26/11/2019	4	PD	0815	1415	3	4	E	0	6	2	2	0	0
26/11/2019	4	PD	0815	1415	4	4	E	0	7	2	2	0	0
26/11/2019	4	PD	0815	1415	5	4	E	0	7	2	2	0	0
26/11/2019	4	PD	0815	1415	6	5	E	0	7	1	2	0	0
23/01/2020	5	GR	1000	1500	1	4	SW	0	8	1	2	0	0
23/01/2020	5	GR	1000	1500	2	5	SW	1	6	1	2	0	0
23/01/2020	5	GR	1000	1500	3	5	SW	0	6	2	2	0	0
23/01/2020	5	GR	1000	1500	4	4	SW	2	7	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
23/01/2020	5	GR	1000	1500	5	4	SW	1	7	2	2	0	0
29/01/2020	5	GR	0900	1100	1	3	W	0	6	2	2	1	1
29/01/2020	5	GR	0900	1100	2	3	WSW	2	7	1	1	1	1
29/01/2020	5	DA	0900	1100	1	3	W	0	6	2	2	1	1
29/01/2020	5	DA	0900	1100	2	3	WSW	2	7	1	1	1	1
31/01/2020	5	DA	0900	1400	1	3	SW	2	8	0	1	0	1
31/01/2020	5	DA	0900	1400	2	3	SW	2	8	0	1	0	1
31/01/2020	5	DA	0900	1400	3	3	SW	2	8	1	1	0	1
31/01/2020	5	DA	0900	1400	4	4	SW	2	8	0	1	0	1
31/01/2020	5	DA	0900	1400	5	4	SW	2	8	0	1	0	1
31/01/2020	5	AB	0900	1000	1	3	SW	2	8	0	1	0	1
31/01/2020	5	AB	1200	1400	1	4	SW	2	8	0	1	0	1
31/01/2020	5	AB	1200	1400	2	4	SW	2	8	0	1	0	1
17/02/2020	6	GR	1300	1530	1	4	SW	2	7	2	2	0	1
17/02/2020	6	GR	1300	1530	2	4	SW	0	7	2	2	0	1
17/02/2020	6	GR	1300	1530	3	4	SW	0	7	2	2	0	1
17/02/2020	6	DA	1450	1550	1	4	SW	2	7	2	2	0	1
18/02/2020	6	DA	0930	1400	1	3	SW	3	8	1	1	0	1
18/02/2020	6	DA	0930	1400	2	4	SW	2	6	2	2	0	1
18/02/2020	6	DA	0930	1400	3	2	SW	2	6	2	2	0	1
18/02/2020	6	DA	0930	1400	4	3	SW	2	6	2	2	0	1
18/02/2020	6	DA	0930	1400	5	3	SW	2	6	2	2	0	1
18/02/2020	6	AB	0930	1400	1	3	SW	3	8	1	1	0	1
18/02/2020	6	AB	0930	1400	2	4	SW	2	6	2	2	0	1
18/02/2020	6	AB	0930	1400	3	2	SW	2	6	2	2	0	1
18/02/2020	6	AB	0930	1400	4	3	SW	2	6	2	2	0	1
18/02/2020	6	AB	0930	1400	5	3	SW	2	6	2	2	0	1
18/02/2020	6	DA	0930	1400	1	3	SW	3	8	1	1	0	1
18/02/2020	6	DA	0930	1400	2	4	SW	2	6	2	2	0	1
18/02/2020	6	DA	0930	1400	3	2	SW	2	6	2	2	0	1
18/02/2020	6	DA	0930	1400	4	3	SW	2	6	2	2	0	1
18/02/2020	6	DA	0930	1400	5	3	SW	2	6	2	2	0	1
19/02/2020	6	AB	0900	1000	1	2	SW	2	7	1	2	2	1
19/02/2020	6	AB	1430	1530	2	4	S	2	8	1	2	2	1

C.4 Scarce Breeding Bird Surveys

Scarce breeding bird surveys were undertaken during the 2019 and 2020 breeding seasons. **Table C-6** details survey dates and weather data recorded. Refer to **Annex B** for survey methodology and **Annex D** for survey results.

Table C-6 Meteorological conditions during scarce breeding bird surveys at Bhlaraidh Wind Farm extension (sorted chronologically)

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
04/02/2019	1	GR	1130	1630	1	1	SW	0	4	2	2	1	1
04/02/2019	1	GR	1130	1630	2	2	WSW	0	4	2	2	0	1
04/02/2019	1	GR	1130	1630	3	2	WSW	0	4	2	2	0	1
04/02/2019	1	GR	1130	1630	4	3	SW	0	3	2	2	0	1
04/02/2019	1	GR	1130	1630	5	2	WSW	0	4	2	2	0	1
14/02/2019	1	SB	1000	1600	1	3	SW	1	8	1	1	0	0
14/02/2019	1	SB	1000	1600	2	3	SW	1	8	1	1	0	0
14/02/2019	1	SB	1000	1600	3	4	SW	0	8	1	2	0	0
14/02/2019	1	SB	1000	1600	4	4	SW	0	7	2	2	0	0
14/02/2019	1	SB	1000	1600	5	4	SW	0	6	2	2	0	0
14/02/2019	1	SB	1000	1600	6	4	SW	0	6	2	2	0	0
20/02/2019	1	GR	1000	1200	1	4	SW	1	8	1	1	0	0
20/02/2019	1	GR	1000	1200	2	5	SW	0	8	1	1	0	0
21/02/2019	1	DL	0930	1530	1	2	SW	0	5	2	2	0	0
21/02/2019	1	DL	0930	1530	2	3	SW	0	5	2	2	0	0
21/02/2019	1	DL	0930	1530	3	3	SW	0	6	2	2	0	0
21/02/2019	1	DL	0930	1530	4	2	SW	0	6	2	2	0	0
21/02/2019	1	DL	0930	1530	5	2	SW	0	6	2	2	0	0
21/02/2019	1	DL	0930	1530	6	2	SW	0	6	2	2	0	0
21/02/2019	1	GR	1000	1600	1	4	SW	0	8	2	2	0	0
21/02/2019	1	GR	1000	1600	2	4	SW	1	8	2	2	0	0
21/02/2019	1	GR	1000	1600	3	5	SW	0	8	2	2	0	0
21/02/2019	1	GR	1000	1600	4	5	SW	0	7	2	2	0	0
21/02/2019	1	GR	1000	1600	5	5	SW	0	7	2	2	0	0
21/02/2019	1	GR	1000	1600	6	5	SW	0	8	2	2	0	0
06/03/2019	2	PR	1445	1545	1	4	NE	3	8	0	2	0	0
11/03/2019	2	GR	1235	1535	1	5	SW	0	7	2	2	0	2
11/03/2019	2	GR	1235	1535	2	5	SW	1	7	1	2	0	2
11/03/2019	2	GR	1235	1535	3	5	SW	0	6	2	2	0	2
13/03/2019	2	DL	1340	1640	1	3	W	2	7	2	2	0	0
13/03/2019	2	DL	1340	1640	2	3	W	0	6	2	2	0	0
13/03/2019	2	DL	1340	1640	3	2	W	0	6	2	2	0	0
15/03/2019	2	GR	1245	1545	1	5	WNW	3	5	1	2	0	0
15/03/2019	2	GR	1245	1545	2	5	WNW	2	4	1	2	0	0
15/03/2019	2	GR	1245	1545	3	5	W	2	5	1	2	0	0
20/03/2019	2	PR	1200	1500	1	3	SW	1	8	0	2	0	0
20/03/2019	2	PR	1200	1500	2	4	SW	2	8	0	2	0	0
20/03/2019	2	PR	1200	1500	3	4	SW	1	7	0	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
21/03/2019	2	GR	1000	1100	1	3	SW	0	4	2	2	0	0
25/03/2019	2	GR	0900	1200	1	3	SW	0	7	2	2	0	0
25/03/2019	2	GR	0900	1200	2	3	SW	0	6	2	2	0	0
25/03/2019	2	GR	0900	1200	3	3	SW	0	7	2	2	0	0
05/04/2019	3	DA	1300	1600	1	3	SE	0	5	2	2	0	1
05/04/2019	3	DA	1300	1600	2	4	SE	0	4	2	2	0	1
05/04/2019	3	DA	1300	1600	3	3	SE	0	4	2	2	0	1
11/04/2019	3	DA	1100	1500	1	1	S	0	4	2	2	0	0
11/04/2019	3	DA	1100	1500	2	2	E	0	5	2	2	0	0
11/04/2019	3	DA	1100	1500	3	2	NE	0	7	2	2	0	0
11/04/2019	3	DA	1100	1500	4	1	NE	0	7	2	2	0	0
11/04/2019	3	PD	1430	1730	1	2	NE	0	6	2	2	0	0
11/04/2019	3	PD	1430	1730	2	2	NE	0	6	2	2	0	0
11/04/2019	3	PD	1430	1730	3	2	NE	0	6	2	2	0	0
12/04/2019	3	DA	1230	1530	1	3	SE	0	5	2	2	0	0
12/04/2019	3	DA	1230	1530	2	3	SE	0	7	2	2	0	0
12/04/2019	3	DA	1230	1530	3	4	SE	0	7	2	2	0	0
18/04/2019	3	DA	1045	1315	1	2	SE	0	8	2	2	0	0
18/04/2019	3	DA	1045	1315	2	2	SE	0	7	2	2	0	0
18/04/2019	3	DA	1045	1315	3	2	SE	0	7	2	2	0	0
18/04/2019	3	FN	1030	1630	1	4	SSE	0	3	2	2	0	0
18/04/2019	3	FN	1030	1630	2	3	S	0	3	2	2	0	0
18/04/2019	3	FN	1030	1630	3	4	S	0	4	2	2	0	0
18/04/2019	3	FN	1030	1630	4	4	S	0	3	2	2	0	0
18/04/2019	3	FN	1030	1630	5	4	S	0	6	2	2	0	0
18/04/2019	3	FN	1030	1630	6	4	S	0	6	2	2	0	0
22/04/2019	3	DA	1100	1300	1	5	S	0	1	2	2	0	0
22/04/2019	3	DA	1100	1300	2	6	S	0	2	2	2	0	0
22/04/2019	3	DA	1430	1700	1	5	S	0	2	2	2	0	0
22/04/2019	3	DA	1430	1700	2	3	S	0	4	2	2	0	0
22/04/2019	3	DA	1430	1700	3	3	S	0	4	2	2	0	0
22/04/2019	3	GR	1215	1915	1	4	S	0	1	2	2	0	0
22/04/2019	3	GR	1215	1915	2	4	S	0	0	2	2	0	0
22/04/2019	3	GR	1215	1915	3	5	S	0	2	2	2	0	0
22/04/2019	3	GR	1215	1915	4	4	S	0	1	2	2	0	0
22/04/2019	3	GR	1215	1915	5	4	S	0	2	2	2	0	0
22/04/2019	3	GR	1215	1915	6	4	S	0	1	2	2	0	0
22/04/2019	3	GR	1215	1915	7	4	S	0	1	2	2	0	0
23/04/2019	3	DA	0730	1230	1	1	S	0	6	2	2	0	0
23/04/2019	3	DA	0730	1230	2	4	S	0	7	2	2	0	0
23/04/2019	3	DA	0730	1230	3	5	S	0	7	2	2	0	0
23/04/2019	3	DA	0730	1230	4	4	S	0	7	2	2	0	0
23/04/2019	3	DA	0730	1230	5	4	S	0	7	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
23/04/2019	3	GR	0800	1330	1	1	ENE	0	7	2	2	0	0
23/04/2019	3	GR	0800	1330	2	4	SSE	0	8	2	2	0	0
23/04/2019	3	GR	0800	1330	3	4	SSE	0	8	2	2	0	0
23/04/2019	3	GR	0800	1330	4	4	SSE	0	5	2	2	0	0
23/04/2019	3	GR	0800	1330	5	4	SSE	0	4	2	2	0	0
23/04/2019	3	GR	0800	1330	6	4	SSE	0	4	2	2	0	0
06/05/2019	4	DA	1740	2040	1	2	N	0	5	2	2	0	0
06/05/2019	4	DA	1740	2040	2	2	N	0	4	2	2	0	0
06/05/2019	4	DA	1740	2040	3	2	N	0	4	2	2	0	0
09/05/2019	4	GR	0850	1450	1	1	N	0	2	2	2	0	0
09/05/2019	4	GR	0850	1450	2	1	N	0	3	2	2	0	0
09/05/2019	4	GR	0850	1450	3	1	N	0	3	2	2	0	0
09/05/2019	4	GR	0850	1450	4	1	N	0	4	2	2	0	0
09/05/2019	4	GR	0850	1450	5	1	N	0	2	2	2	0	0
09/05/2019	4	GR	0850	1450	6	2	N	0	3	2	2	0	0
13/05/2019	4	DA	0835	1005	1	2	S	0	7	2	2	0	0
13/05/2019	4	DA	0835	1005	2	3	SW	0	5	2	2	0	0
13/05/2019	4	DA	1305	1435	1	3	SW	0	5	2	2	0	0
13/05/2019	4	DA	1305	1435	2	3	SW	0	5	2	2	0	0
13/05/2019	4	PD	0830	1000	1	4	S	0	7	2	2	0	0
13/05/2019	4	PD	0830	1000	2	4	S	0	5	2	2	0	0
13/05/2019	4	PD	0830	1000	1	4	S	0	7	2	2	0	0
13/05/2019	4	PD	0830	1000	2	4	S	0	5	2	2	0	0
13/05/2019	4	PD	1300	1430	1	4	S	0	5	2	2	0	0
13/05/2019	4	PD	1300	1430	2	3	S	0	4	2	2	0	0
30/05/2019	4	DA	1005	1305	1	2	E	1	8	1	2	0	0
30/05/2019	4	DA	1005	1305	2	2	E	0	8	1	2	0	0
30/05/2019	4	DA	1005	1305	3	2	E	0	8	2	2	0	0
31/05/2019	4	PD	0745	1345	1	2	NW	1	8	1	1	0	0
31/05/2019	4	PD	0745	1345	2	2	W	0	8	1	1	0	0
31/05/2019	4	PD	0745	1345	3	2	W	1	8	1	1	0	0
31/05/2019	4	PD	0745	1345	4	2	W	2	8	2	2	0	0
31/05/2019	4	PD	0745	1345	5	3	SW	2	8	1	2	0	0
31/05/2019	4	PD	0745	1345	6	3	SW	2	8	2	2	0	0
01/06/2019	5	DL	0800	1400	1	4	SW	0	8	2	2	0	0
01/06/2019	5	DL	0800	1400	2	4	SW	0	8	2	2	0	0
01/06/2019	5	DL	0800	1400	3	4	SW	0	8	2	2	0	0
01/06/2019	5	DL	0800	1400	4	4	SW	0	8	2	2	0	0
01/06/2019	5	DL	0800	1400	5	4	SW	0	8	2	2	0	0
01/06/2019	5	DL	0800	1400	6	4	SW	0	8	2	2	0	0
06/06/2019	5	DA	0905	1505	1	3	N	1	8	0	1	0	0
06/06/2019	5	DA	0905	1505	2	4	N	0	8	1	2	0	0
06/06/2019	5	DA	0905	1505	3	3	N	0	8	0	1	0	0
06/06/2019	5	DA	0905	1505	4	3	N	1	8	1	2	0	0
06/06/2019	5	DA	0905	1505	5	3	N	2	8	0	1	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
06/06/2019	5	DA	0905	1505	6	3	N	2	8	0	2	0	0
06/06/2019	5	PD	0905	1505	1	3	N	1	8	0	1	0	0
06/06/2019	5	PD	0905	1505	2	4	N	0	8	1	2	0	0
06/06/2019	5	PD	0905	1505	3	3	N	0	8	0	1	0	0
06/06/2019	5	PD	0905	1505	4	3	N	1	8	1	2	0	0
06/06/2019	5	PD	0905	1505	5	3	N	2	8	0	1	0	0
06/06/2019	5	PD	0905	1505	6	3	N	2	8	0	2	0	0
19/06/2019	5	GR	1250	1550	1	3	SW	0	6	2	2	0	0
19/06/2019	5	GR	1250	1550	2	3	SW	1	6	2	2	0	0
19/06/2019	5	GR	1250	1550	3	3	SW	0	6	2	2	0	0
20/06/2019	5	GR	0800	1400	1	3	SW	2	4	1	2	0	0
20/06/2019	5	GR	0800	1400	2	3	SW	0	5	1	2	0	0
20/06/2019	5	GR	0800	1400	3	4	W	0	5	2	2	0	0
20/06/2019	5	GR	0800	1400	4	4	W	1	7	2	2	0	0
20/06/2019	5	GR	0800	1400	5	4	W	0	7	2	2	0	0
20/06/2019	5	GR	0800	1400	6	4	W	0	7	2	2	0	0
21/06/2019	5	DA	1025	1325	1	2	W	0	7	2	2	0	0
21/06/2019	5	DA	1025	1325	2	2	W	0	6	2	2	0	0
21/06/2019	5	DA	1025	1325	3	2	W	0	4	2	2	0	0
24/06/2019	5	AB	1230	1830	1	3	NE	1	8	0	1	0	0
24/06/2019	5	AB	1230	1830	2	3	NE	1	8	1	1	0	0
24/06/2019	5	AB	1230	1830	3	3	NE	0	8	1	1	0	0
24/06/2019	5	AB	1230	1830	4	2	NNE	0	8	1	2	0	0
24/06/2019	5	AB	1230	1830	5	2	NNE	1	8	1	2	0	0
24/06/2019	5	AB	1230	1830	6	2	NNE	2	8	1	1	0	0
24/06/2019	5	DA	1230	1830	1	3	NE	1	8	0	1	0	0
24/06/2019	5	DA	1230	1830	2	3	NE	1	8	1	1	0	0
24/06/2019	5	DA	1230	1830	3	3	NE	0	8	1	1	0	0
24/06/2019	5	DA	1230	1830	4	2	NNE	0	8	1	2	0	0
24/06/2019	5	DA	1230	1830	5	2	NNE	1	8	1	2	0	0
24/06/2019	5	DA	1230	1830	6	2	NNE	2	8	1	1	0	0
24/06/2019	5	FN	1230	1830	1	3	NE	1	8	0	1	0	0
24/06/2019	5	FN	1230	1830	2	3	NE	1	8	1	1	0	0
24/06/2019	5	FN	1230	1830	3	3	NE	0	8	1	1	0	0
24/06/2019	5	FN	1230	1830	4	2	NNE	0	8	1	2	0	0
24/06/2019	5	FN	1230	1830	5	2	NNE	1	8	1	2	0	0
24/06/2019	5	FN	1230	1830	6	2	NNE	2	8	1	1	0	0
01/07/2019	6	DA	0850	1450	1	3	W	1	8	2	2	0	0
01/07/2019	6	DA	0850	1450	2	3	WNW	0	8	2	2	0	0
01/07/2019	6	DA	0850	1450	3	3	WNW	0	7	2	2	0	0
01/07/2019	6	DA	0850	1450	4	3	NW	0	7	2	2	0	0
01/07/2019	6	DA	0850	1450	5	4	NW	2	7	2	2	0	0
01/07/2019	6	DA	0850	1450	6	3	NW	0	6	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
01/07/2019	6	PD	0850	1450	1	3	W	1	8	2	2	0	0
01/07/2019	6	PD	0850	1450	2	3	WNW	0	8	2	2	0	0
01/07/2019	6	PD	0850	1450	3	3	WNW	0	7	2	2	0	0
01/07/2019	6	PD	0850	1450	4	3	NW	0	7	2	2	0	0
01/07/2019	6	PD	0850	1450	5	4	NW	2	7	2	2	0	0
01/07/2019	6	PD	0850	1450	6	3	NW	0	6	2	2	0	0
26/07/2019	6	DA	1435	1735	1	4	S	0	6	2	2	0	0
26/07/2019	6	DA	1435	1735	2	4	S	0	7	2	2	0	0
26/07/2019	6	DA	1435	1735	3	4	S	0	8	2	2	0	0
26/07/2019	6	PD	0815	1115	1	2	S	0	2	2	2	0	0
26/07/2019	6	PD	0815	1115	2	3	S	0	2	2	2	0	0
26/07/2019	6	PD	0815	1115	3	3	S	0	2	2	2	0	0
29/07/2019	6	AB	0915	1515	1	2	E	0	5	2	2	0	0
29/07/2019	6	AB	0915	1515	2	2	E	0	6	2	2	0	0
29/07/2019	6	AB	0915	1515	3	2	ENE	0	5	2	2	0	0
29/07/2019	6	AB	0915	1515	4	2	ENE	0	4	2	2	0	0
29/07/2019	6	AB	0915	1515	5	2	ENE	0	4	2	2	0	0
29/07/2019	6	AB	0915	1515	6	2	ENE	0	5	2	2	0	0
30/07/2019	6	GR	0900	1530	1	3	NE	0	3	2	2	0	0
30/07/2019	6	GR	0900	1530	2	3	NE	0	4	2	2	0	0
30/07/2019	6	GR	0900	1530	3	3	E	0	4	2	2	0	0
30/07/2019	6	GR	0900	1530	4	3	E	0	4	2	2	0	0
30/07/2019	6	GR	0900	1530	5	2	SE	0	3	2	2	0	0
30/07/2019	6	GR	0900	1530	6	3	E	0	4	2	2	0	0
30/07/2019	6	GR	0900	1530	7	3	E	0	4	2	2	0	0
08/08/2019	7	GR	0700	1300	1	2	S	0	7	2	2	0	0
08/08/2019	7	GR	0700	1300	2	2	S	0	7	2	2	0	0
08/08/2019	7	GR	0700	1300	3	3	NE	0	7	2	2	0	0
08/08/2019	7	GR	0700	1300	4	3	NE	0	7	2	2	0	0
08/08/2019	7	GR	0700	1300	5	3	NE	0	8	2	2	0	0
08/08/2019	7	GR	0700	1300	6	3	NE	0	8	2	2	0	0
20/08/2019	7	GR	1235	1535	1	2	SW	0	6	2	2	0	0
20/08/2019	7	GR	1235	1535	2	2	SW	0	6	2	2	0	0
20/08/2019	7	GR	1235	1535	3	2	SW	0	6	2	2	0	0
21/08/2019	7	PD	0945	1545	1	3	SW	0	8	2	2	0	0
21/08/2019	7	PD	0945	1545	2	3	SW	0	8	2	2	0	0
21/08/2019	7	PD	0945	1545	3	3	S	0	8	2	2	0	0
21/08/2019	7	PD	0945	1545	4	3	S	0	8	2	2	0	0
21/08/2019	7	PD	0945	1545	5	4	S	2	8	2	2	0	0
21/08/2019	7	PD	0945	1545	6	3	S	2	8	2	2	0	0
26/08/2019	7	GR	0640	1240	1	2	SW	0	0	2	2	0	0
26/08/2019	7	GR	0640	1240	2	2	SW	0	0	2	2	0	0
26/08/2019	7	GR	0640	1240	3	3	SW	0	0	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
26/08/2019	7	GR	0640	1240	4	4	SW	0	0	2	2	0	0
26/08/2019	7	GR	0640	1240	5	4	SW	0	0	2	2	0	0
26/08/2019	7	GR	0640	1240	6	4	SW	0	0	2	2	0	0
26/08/2019	7	GR	1400	1700	1	4	SW	0	2	2	2	0	0
26/08/2019	7	GR	1400	1700	2	4	SW	0	1	2	2	0	0
26/08/2019	7	GR	1400	1700	3	4	SW	0	2	2	2	0	0
17/02/2020	8	GR	1000	1300	1	4	SW	2	7	2	2	0	1
17/02/2020	8	GR	1000	1300	1	4	SW	2	7	2	2	0	1
17/02/2020	8	GR	1000	1300	2	4	SW	2	7	2	2	0	1
17/02/2020	8	GR	1000	1300	2	4	SW	2	7	2	2	0	1
17/02/2020	8	GR	1000	1300	3	4	SW	2	7	2	2	0	1
17/02/2020	8	GR	1000	1300	3	4	SW	2	7	2	2	0	1
19/02/2020	8	DA	0930	1030	1	4	SW	0	5	2	2	0	1
19/02/2020	8	DA	0930	1030	1	4	SW	0	5	2	2	0	1
19/02/2020	8	DA	1500	1530	2	4	SW	2	8	1	2	0	1
19/02/2020	8	DA	1500	1530	2	4	SW	2	8	1	2	0	1
19/02/2020	8	GR	0945	1445	1	4	SW	0	6	2	2	0	1
19/02/2020	8	GR	0945	1445	1	4	SW	0	6	2	2	0	1
19/02/2020	8	GR	0945	1445	2	4	SW	0	7	2	2	0	1
19/02/2020	8	GR	0945	1445	2	4	SW	0	7	2	2	0	1
19/02/2020	8	GR	0945	1445	2	4	SW	0	7	2	2	0	1
19/02/2020	8	GR	0945	1445	3	4	SW	1	8	2	2	0	1
19/02/2020	8	GR	0945	1445	3	4	SW	1	8	2	2	0	1
19/02/2020	8	GR	0945	1445	4	4	SW	0	8	2	2	0	1
19/02/2020	8	GR	0945	1445	4	4	SW	0	8	2	2	0	1
19/02/2020	8	GR	0945	1445	5	4	SW	0	8	2	2	0	1
19/02/2020	8	GR	0945	1445	5	4	SW	0	8	2	2	0	1
05/03/2020	9	DA	1115	1515	1	3	SW	0	6	2	2	0	1
05/03/2020	9	DA	1115	1515	2	2	SW	0	5	2	2	0	1
05/03/2020	9	DA	1115	1515	3	1	SW	0	4	2	2	0	1
05/03/2020	9	DA	1115	1515	4	2	SW	0	4	2	2	0	1
23/03/2020	9	DA	0815	1415	1	1	E	0	4	2	2	0	0
23/03/2020	9	DA	0815	1415	2	1	NE	0	4	2	2	0	0
23/03/2020	9	DA	0815	1415	3	1	NE	0	3	2	2	0	0
23/03/2020	9	DA	0815	1415	4	2	NE	0	3	2	2	0	0
23/03/2020	9	DA	0815	1415	5	2	NE	0	2	2	2	0	0
23/03/2020	9	DA	0815	1415	6	3	NE	0	2	2	2	0	0
22/05/2020	10	JD	1000	1300	1	2	SW	0	8	2	2	0	0
22/05/2020	10	JD	1000	1300	2	3	SW	1	8	2	2	0	0
22/05/2020	10	JD	1000	1300	3	4	SW	1	8	2	2	0	0
22/05/2020	10	PS	1000	1100	1	2	SW	0	8	2	2	0	0
22/05/2020	10	PS	1730	1930	2	4	SW	2	8	2	2	0	0
22/05/2020	10	PS	1730	1930	3	4	SW	2	8	2	2	0	0
26/05/2020	10	JD	1200	1800	1	2	SW	0	5	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
26/05/2020	10	JD	1200	1800	2	1	SW	0	3	2	2	0	0
26/05/2020	10	JD	1200	1800	3	1	WSW	0	2	2	2	0	0
26/05/2020	10	JD	1200	1800	4	2	WSW	0	3	2	2	0	0
26/05/2020	10	JD	1200	1800	5	3	WSW	0	4	2	2	0	0
26/05/2020	10	JD	1200	1800	6	2	WSW	0	2	2	2	0	0
28/05/2020	10	JD	1200	1800	1	3	SW	0	7	2	2	0	0
28/05/2020	10	JD	1200	1800	2	2	SW	0	7	2	2	0	0
28/05/2020	10	JD	1200	1800	3	2	SW	0	8	2	2	0	0
28/05/2020	10	JD	1200	1800	4	1	SW	0	5	2	2	0	0
28/05/2020	10	JD	1200	1800	5	1	SW	0	5	2	2	0	0
28/05/2020	10	JD	1200	1800	6	1	SW	0	3	2	2	0	0
28/05/2020	10	PS	1200	1800	1	3	SW	0	7	2	2	0	0
28/05/2020	10	PS	1200	1800	2	3	SW	0	7	2	2	0	0
28/05/2020	10	PS	1200	1800	3	2	SW	0	8	2	2	0	0
28/05/2020	10	PS	1200	1800	4	1	SW	0	5	2	2	0	0
28/05/2020	10	PS	1200	1800	5	1	SW	0	5	2	2	0	0
28/05/2020	10	PS	1200	1800	6	1	SW	0	3	2	2	0	0
29/05/2020	10	GR	0630	1230	1	2	SW	0	5	2	2	0	0
29/05/2020	10	GR	0630	1230	2	2	SW	0	5	2	2	0	0
29/05/2020	10	GR	0630	1230	3	2	SW	0	4	2	2	0	0
29/05/2020	10	GR	0630	1230	4	2	WSW	0	4	2	2	0	0
29/05/2020	10	GR	0630	1230	5	2	WSW	0	4	2	2	0	0
29/05/2020	10	GR	0630	1230	6	2	WSW	0	4	2	2	0	0
30/05/2020	10	GR	1400	2000	1	3	SE	0	3	2	2	0	0
30/05/2020	10	GR	1400	2000	2	3	SE	0	3	2	2	0	0
30/05/2020	10	GR	1400	2000	3	3	SE	0	1	2	2	0	0
30/05/2020	10	GR	1400	2000	4	3	SE	0	2	2	2	0	0
30/05/2020	10	GR	1400	2000	5	3	SE	0	3	2	2	0	0
30/05/2020	10	GR	1400	2000	6	3	SE	0	3	2	2	0	0
31/05/2020	10	GR	0500	1100	1	4	SE	0	2	2	2	0	0
31/05/2020	10	GR	0500	1100	2	4	SE	0	2	2	2	0	0
31/05/2020	10	GR	0500	1100	3	5	SE	0	1	2	2	0	0
31/05/2020	10	GR	0500	1100	4	4	ESE	0	3	2	2	0	0
31/05/2020	10	GR	0500	1100	5	4	ESE	0	1	2	2	0	0
31/05/2020	10	GR	0500	1100	6	4	SE	0	2	2	2	0	0
04/06/2020	11	JD	1320	1620	1	2	NE	0	7	2	2	0	0
04/06/2020	11	JD	1320	1620	2	2	NE	2	8	2	2	0	0
04/06/2020	11	JD	1320	1620	3	2	NE	0	7	2	2	0	0
04/06/2020	11	PS	1315	1615	1	1	NW	2	8	2	2	0	0
04/06/2020	11	PS	1315	1615	2	0	-	0	8	2	2	0	0
04/06/2020	11	PS	1315	1615	3	0	-	0	8	2	2	0	0
11/06/2020	11	JD	1200	1800	1	1	NE	0	8	2	2	0	0
11/06/2020	11	JD	1200	1800	2	2	NE	0	8	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
11/06/2020	11	JD	1200	1800	3	2	NE	0	7	2	2	0	0
11/06/2020	11	JD	1200	1800	4	1	NE	0	7	2	2	0	0
11/06/2020	11	JD	1200	1800	5	2	NE	0	8	2	2	0	0
11/06/2020	11	JD	1200	1800	6	2	NE	0	8	2	2	0	0
11/06/2020	11	PS	1200	1800	1	2	NE	0	8	2	2	0	0
11/06/2020	11	PS	1200	1800	2	2	NE	0	8	2	2	0	0
11/06/2020	11	PS	1200	1800	3	3	NE	0	8	2	2	0	0
11/06/2020	11	PS	1200	1800	4	3	NE	0	8	2	2	0	0
11/06/2020	11	PS	1200	1800	5	4	NE	0	8	2	2	0	0
11/06/2020	11	PS	1200	1800	6	3	NE	0	7	2	2	0	0
22/06/2020	11	JD	1100	1700	1	2	SW	0	8	2	2	0	0
22/06/2020	11	JD	1100	1700	2	2	SW	0	8	2	2	0	0
22/06/2020	11	JD	1100	1700	3	3	SW	0	8	2	2	0	0
22/06/2020	11	JD	1100	1700	4	3	SW	0	8	2	2	0	0
22/06/2020	11	JD	1100	1700	5	4	SW	2	8	2	2	0	0
22/06/2020	11	JD	1100	1700	6	4	SW	2	8	2	2	0	0
22/06/2020	11	PS	1400	2000	1	3	SW	0	8	2	2	0	0
22/06/2020	11	PS	1400	2000	2	3	SW	0	8	2	2	0	0
22/06/2020	11	PS	1400	2000	3	3	SW	0	8	2	2	0	0
22/06/2020	11	PS	1400	2000	4	2	SW	1	8	1	1	0	0
22/06/2020	11	PS	1400	2000	5	2	SW	0	8	2	2	0	0
22/06/2020	11	PS	1400	2000	6	2	SW	0	8	2	2	0	0
23/06/2020	11	PS	0640	1240	1	1	S	0	8	2	2	0	0
23/06/2020	11	PS	0640	1240	2	3	S	0	7	2	2	0	0
23/06/2020	11	PS	0640	1240	3	0	-	2	8	2	2	0	0
23/06/2020	11	PS	0640	1240	4	0	-	0	8	2	2	0	0
23/06/2020	11	PS	0640	1240	5	1	S	0	8	2	2	0	0
23/06/2020	11	PS	0640	1240	6	1	S	0	7	2	2	0	0
04/07/2020	12	PS	1200	1800	1	2	SW	0	8	2	2	0	0
04/07/2020	12	PS	1200	1800	2	2	SW	1	8	2	2	0	0
04/07/2020	12	PS	1200	1800	3	2	SW	0	8	2	2	0	0
04/07/2020	12	PS	1200	1800	4	2	SW	0	8	2	2	0	0
04/07/2020	12	PS	1200	1800	5	1	SW	0	8	2	2	0	0
04/07/2020	12	PS	1200	1800	6	2	SW	0	8	2	2	0	0
22/07/2020	12	JD	1230	1830	1	0	-	0	8	2	2	0	0
22/07/2020	12	JD	1230	1830	2	1	SW	0	8	2	2	0	0
22/07/2020	12	JD	1230	1830	3	1	SW	0	8	2	2	0	0
22/07/2020	12	JD	1230	1830	4	1	SW	0	8	2	2	0	0
22/07/2020	12	JD	1230	1830	5	1	SW	0	8	2	2	0	0
22/07/2020	12	JD	1230	1830	6	1	SW	0	8	2	2	0	0
23/07/2020	12	JD	0900	1500	1	1	SW	0	8	2	2	0	0
23/07/2020	12	JD	0900	1500	2	1	SW	0	8	2	2	0	0
23/07/2020	12	JD	0900	1500	3	1	SW	0	8	2	2	0	0

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
23/07/2020	12	JD	0900	1500	4	1	SW	0	8	2	2	0	0
23/07/2020	12	JD	0900	1500	5	1	SW	0	7	2	2	0	0
23/07/2020	12	JD	0900	1500	6	2	SW	0	8	2	2	0	0
23/07/2020	12	PS	0900	1500	1	1	SW	0	8	2	2	0	0
23/07/2020	12	PS	0900	1500	2	1	SW	0	8	2	2	0	0
23/07/2020	12	PS	0900	1500	3	1	SW	0	8	2	2	0	0
23/07/2020	12	PS	0900	1500	4	1	SW	0	8	2	2	0	0
23/07/2020	12	PS	0900	1500	5	1	SW	0	7	2	2	0	0
23/07/2020	12	PS	0900	1500	6	2	SW	0	8	2	2	0	0
30/07/2020	12	JD	1100	1400	1	1	SE	1	8	2	2	0	0
30/07/2020	12	JD	1100	1400	2	1	SE	1	8	2	2	0	0
30/07/2020	12	JD	1100	1400	3	1	SE	1	8	2	2	0	0
30/07/2020	12	PS	1100	1400	1	1	SE	1	8	2	2	0	0
30/07/2020	12	PS	1100	1400	2	0	-	1	8	2	2	0	0
30/07/2020	12	PS	1100	1400	3	0	-	0	8	2	2	0	0
18/08/2020	13	JD	0900	1800	1	1	NE	0	5	2	2	0	0
18/08/2020	13	JD	0900	1800	2	1	NE	0	6	2	2	0	0
18/08/2020	13	JD	0900	1800	3	1	NE	0	5	2	2	0	0
18/08/2020	13	JD	0900	1800	4	1	NE	0	6	2	2	0	0
18/08/2020	13	JD	0900	1800	5	1	NE	0	6	2	2	0	0
18/08/2020	13	JD	0900	1800	6	0	-	0	6	2	2	0	0
18/08/2020	13	JD	0900	1800	7	1	NE	0	7	2	2	0	0
18/08/2020	13	JD	0900	1800	8	1	NE	0	8	2	2	0	0
18/08/2020	13	JD	0900	1800	9	2	NE	0	8	2	2	0	0
18/08/2020	13	PS	0900	1200	1	0	-	0	7	2	2	0	0
18/08/2020	13	PS	0900	1200	2	0	-	0	5	2	2	0	0
18/08/2020	13	PS	0900	1200	3	0	-	0	6	2	2	0	0
19/08/2020	13	JD	1000	1300	1	1	ESE	0	8	2	2	0	0
19/08/2020	13	JD	1000	1300	2	1	ESE	0	7	2	2	0	0
19/08/2020	13	JD	1000	1300	3	1	ESE	0	8	2	2	0	0
19/08/2020	13	PS	1000	1300	1	3	NE	0	6	2	2	0	0
19/08/2020	13	PS	1000	1300	2	2	NE	0	7	2	2	0	0
19/08/2020	13	PS	1000	1300	3	3	NE	0	6	2	2	0	0

C.5 Black Grouse Surveys

Black grouse surveys were undertaken during the 2019 breeding season. **Table C-7** details survey dates and weather data recorded. Refer to **Annex B** for survey methodology and **Annex D** for survey results.

Table C-7 Meteorological conditions during black grouse surveys at Bhlaraidh Wind Farm extension (sorted chronologically)

Date	Survey visit	Observer	Survey start time	Survey finish time	Survey hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Snow	Frost
03/04/2019	1	DA	0630	0830	1	4	NE	3	8	0	1	0	1
03/04/2019	1	DA	0630	0830	2	3	NE	3	8	0	1	0	1
23/04/2019	1	DA	0500	0800	1	1	E	0	7	2	2	0	0
23/04/2019	1	DA	0500	0800	2	1	E	0	7	2	2	0	0
23/04/2019	1	DA	0500	0800	3	1	E	0	7	2	2	0	0
23/04/2019	1	GR	0500	0800	1	1	E	0	7	2	2	0	0
23/04/2019	1	GR	0500	0800	2	1	E	0	7	2	2	0	0
23/04/2019	1	GR	0500	0800	3	1	E	0	7	2	2	0	0
09/05/2019	2	GR	0430	0830	1	0	-	0	6	2	2	0	0
09/05/2019	2	GR	0430	0830	2	0	-	0	5	2	2	0	0
09/05/2019	2	GR	0430	0830	3	1	N	0	5	2	2	0	0
15/05/2019	2	DA	0450	0750	1	1	SW	0	1	2	2	0	0
15/05/2019	2	DA	0450	0750	2	1	SW	0	2	2	2	0	0
15/05/2019	2	DA	0450	0750	3	1	SW	0	1	2	2	0	0

ANNEX D. ORNITHOLOGICAL SURVEY RESULTS

D.1 Flight Activity Records: Target Species

In accordance with NatureScot guidance (SNH 2017), target species are those which may be considered to be at risk from the potential effects of wind farms. All flights of target species within the turbine area and the surrounding area were mapped and are detailed in **Table D-1.**

Table D-1 Details of target species recorded during flight activity surveys (sorted by species)

Date	VP	Flight start time	Species	No. of birds	Duration (sec)	Inside CRAA (seconds)					Outside CRAA (seconds)				
						0-20m	21-40m	41-100m	101-150m	>150m	0-20m	21-40m	41-100m	101-150m	>150m
02/05/2019	3	1202	Black-throated diver	1	187	0.00	0.00	0.00	0.00	0.00	0.00	60.00	127.00	0.00	0.00
31/07/2020	3	1250	Black-throated diver	1	60	0.00	0.00	0.00	0.00	0.00	15.00	15.00	15.00	15.00	0.00
22/10/2018	2	1123	Golden eagle	1	145	8.23	21.94	49.36	0.00	0.00	6.77	18.06	40.64	0.00	0.00
07/11/2018	2	1154	Golden eagle	1	261	0.00	0.00	0.00	0.00	0.00	30.00	180.00	51.00	0.00	0.00
12/11/2018	1	1407	Golden eagle	1	156	106.65	43.24	0.00	0.00	0.00	4.35	1.76	0.00	0.00	0.00
15/11/2018	2	1341	Golden eagle	1	50	23.89	15.93	0.00	0.00	0.00	6.11	4.07	0.00	0.00	0.00
19/11/2018	3	1022	Golden eagle	1	281	0.00	0.00	0.00	0.00	0.00	0.00	30.00	146.00	105.00	0.00
19/11/2018	3	1130	Golden eagle	1	1960	7.68	17.07	44.96	41.83	0.00	127.32	282.93	745.04	693.17	0.00
19/11/2018	3	1203	Golden eagle	1	131	0.00	0.00	0.00	0.00	0.00	105.00	26.00	0.00	0.00	0.00
19/11/2018	3	1400	Golden eagle	1	413	0.00	0.00	0.00	0.00	0.00	0.00	120.00	293.00	0.00	0.00
19/11/2018	3	1406	Golden eagle	1	603	0.00	0.00	0.00	0.00	0.00	30.00	105.00	288.00	180.00	0.00
19/11/2018	3	1409	Golden eagle	1	350	0.00	0.00	0.00	0.00	0.00	0.00	30.00	125.00	195.00	0.00
19/11/2018	4	1159	Golden eagle	1	218	0.00	14.99	93.93	0.00	0.00	0.00	15.01	94.07	0.00	0.00
19/11/2018	4	1200	Golden eagle	1	95	0.00	38.74	7.26	0.00	0.00	0.00	41.26	7.74	0.00	0.00
20/11/2018	2	1252	Golden eagle	1	36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.00	0.00	0.00
20/11/2018	2	1258	Golden eagle	1	55	0.00	0.00	0.00	0.00	0.00	0.00	30.00	25.00	0.00	0.00
05/12/2018	1	1113	Golden eagle	1	66	0.00	0.00	24.37	11.37	0.00	0.00	0.00	20.63	9.63	0.00
05/12/2018	1	1329	Golden eagle	1	41	0.00	0.00	37.30	0.00	0.00	0.00	0.00	3.70	0.00	0.00
05/12/2018	1	1332	Golden eagle	1	3	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05/12/2018	1	1352	Golden eagle	1	171	0.00	0.00	42.31	78.27	0.00	0.00	0.00	17.69	32.73	0.00
05/12/2018	2	1111	Golden eagle	1	142	0.00	0.00	0.00	0.00	0.00	0.00	0.00	142.00	0.00	0.00
05/12/2018	2	1331	Golden eagle	2	129	0.00	0.00	0.00	0.00	0.00	129.00	0.00	0.00	0.00	0.00
19/12/2018	5	1328	Golden eagle	2	377	0.00	0.00	0.00	0.00	0.00	0.00	0.00	107.00	195.00	75.00
14/01/2019	4	1013	Golden eagle	1	47	0.00	0.00	0.00	0.00	0.00	0.00	2.00	45.00	0.00	0.00
14/01/2019	4	1312	Golden eagle	1	62	0.00	0.00	0.00	0.00	0.00	0.00	15.00	47.00	0.00	0.00
18/01/2019	1	1000	Golden eagle	1	108	2.60	13.00	13.00	26.01	39.01	0.40	2.00	2.00	3.99	5.99
18/01/2019	1	1029	Golden eagle	1	95	0.00	0.00	0.00	0.00	0.00	15.00	0.00	80.00	0.00	0.00
18/01/2019	1	1056	Golden eagle	1	17	0.00	0.00	0.00	0.00	0.00	15.00	2.00	0.00	0.00	0.00
18/01/2019	1	1056	Golden eagle	1	47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.00	0.00	0.00
18/01/2019	1	1100	Golden eagle	1	15	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00
18/01/2019	1	1100	Golden eagle	1	58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.00	0.00	0.00
18/01/2019	2	1024	Golden eagle	1	131	3.52	13.12	14.06	0.00	0.00	11.48	42.88	45.94	0.00	0.00
18/01/2019	2	1033	Golden eagle	1	148	5.38	2.88	20.18	0.00	0.00	22.62	12.12	84.82	0.00	0.00
15/02/2019	6	1313	Golden eagle	1	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00
15/02/2019	6	1319	Golden eagle	1	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00

Date	VP	Flight start time	Species	No. of birds	Duration (sec)	Inside CRAA (seconds)					Outside CRAA (seconds)				
						0-20m	21-40m	41-100m	101-150m	>150m	0-20m	21-40m	41-100m	101-150m	>150m
15/02/2019	6	1419	Golden eagle	1	260	0.00	0.00	0.00	0.00	0.00	0.00	45.00	90.00	125.00	0.00
15/02/2019	6	1500	Golden eagle	1	141	0.00	0.00	0.00	0.00	0.00	0.00	111.00	30.00	0.00	0.00
19/02/2019	6	0940	Golden eagle	1	63	0.00	0.00	0.00	0.00	0.00	0.00	3.00	30.00	30.00	0.00
19/02/2019	6	0941	Golden eagle	1	17	0.00	0.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00
05/03/2019	6	1021	Golden eagle	1	165	0.00	0.00	0.00	0.00	0.00	60.00	30.00	75.00	0.00	0.00
05/03/2019	6	1024	Golden eagle	1	390	0.00	0.00	0.00	0.00	0.00	15.00	105.00	270.00	0.00	0.00
05/03/2019	6	1454	Golden eagle	1	16	0.00	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00
21/03/2019	3	1434	Golden eagle	1	8	0.00	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00
21/03/2019	3	1509	Golden eagle	1	57	0.00	0.00	0.00	0.00	0.00	0.00	27.00	30.00	0.00	0.00
21/03/2019	4	1358	Golden eagle	2	330	0.00	11.18	11.18	13.41	13.41	0.00	63.82	63.82	76.59	76.59
22/03/2019	4	0811	Golden eagle	1	66	0.00	0.00	0.00	0.00	0.00	0.00	36.00	15.00	15.00	0.00
25/03/2019	5	1251	Golden eagle	1	155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	155.00
25/03/2019	5	1418	Golden eagle	2	169	0.00	0.00	0.00	0.00	0.00	0.00	60.00	60.00	30.00	19.00
26/03/2019	6	1304	Golden eagle	2	284	0.00	7.40	27.63	0.00	0.00	0.00	52.60	196.37	0.00	0.00
11/04/2019	3	1515	Golden eagle	1	289	0.00	0.00	0.00	0.00	0.00	0.00	0.00	289.00	0.00	0.00
11/04/2019	4	1138	Golden eagle	2	131	9.78	28.04	4.89	0.00	0.00	20.22	57.96	10.11	0.00	0.00
11/04/2019	4	1220	Golden eagle	1	61	0.00	0.00	0.00	11.42	0.00	0.00	0.00	0.00	49.58	0.00
12/04/2019	5	1404	Golden eagle	1	80	0.00	0.00	0.00	0.00	0.00	5.00	30.00	0.00	30.00	15.00
17/04/2019	1	1123	Golden eagle	2	206	29.78	85.38	89.35	0.00	0.00	0.22	0.62	0.65	0.00	0.00
22/04/2019	5	1333	Golden eagle	1	272	0.00	0.00	0.00	0.00	0.00	32.00	15.00	45.00	15.00	165.00
22/04/2019	5	1353	Golden eagle	1	97	0.00	0.00	0.00	0.00	0.00	60.00	37.00	0.00	0.00	0.00
13/05/2019	5	1238	Golden eagle	2	423	0.00	0.00	0.00	0.00	0.00	25.00	75.00	323.00	0.00	0.00
13/05/2019	5	1258	Golden eagle	2	352	0.00	0.00	0.00	0.00	0.00	150.00	172.00	30.00	0.00	0.00
15/05/2019	4	1011	Golden eagle	2	182	0.00	0.00	0.00	0.00	0.00	30.00	122.00	30.00	0.00	0.00
15/05/2019	4	1057	Golden eagle	2	283	0.00	0.00	0.00	0.00	0.00	0.00	0.00	120.00	105.00	58.00
21/06/2019	7	1636	Golden eagle	1	75	0.00	3.32	4.97	0.00	0.00	0.00	26.68	40.03	0.00	0.00
03/07/2019	7	1245	Golden eagle	1	171	0.00	32.83	48.27	28.96	0.00	0.00	18.17	26.73	16.04	0.00
03/07/2019	7	1249	Golden eagle	1	113	0.00	14.01	27.41	27.41	0.00	0.00	8.99	17.59	17.59	0.00
05/07/2019	6	1015	Golden eagle	1	80	0.00	0.00	0.00	0.00	0.00	0.00	15.00	45.00	20.00	0.00
26/07/2019	7	1346	Golden eagle	1	11	0.00	0.00	0.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00
20/08/2019	7	1103	Golden eagle	1	242	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195.00	47.00
06/09/2019	1	1446	Golden eagle	1	170	0.00	0.00	41.61	76.28	0.00	0.00	0.00	18.39	33.72	0.00
18/09/2019	7	1705	Golden eagle	1	103	0.00	6.36	30.97	6.36	0.00	0.00	8.64	42.03	8.64	0.00
18/09/2019	7	1754	Golden eagle	1	24	0.00	0.00	0.00	0.00	0.00	0.00	9.00	15.00	0.00	0.00
21/10/2019	6	1102	Golden eagle	1	1	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
21/10/2019	6	1107	Golden eagle	1	10	3.62	0.00	0.00	0.00	0.00	6.38	0.00	0.00	0.00	0.00
30/10/2019	7	1123	Golden eagle	1	104	9.46	18.91	37.19	0.00	0.00	5.54	11.09	21.81	0.00	0.00
13/11/2019	6	1444	Golden eagle	1	252	0.00	0.00	0.00	0.00	0.00	15.00	60.00	177.00	0.00	0.00
14/01/2020	7	1122	Golden eagle	1	240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.00	135.00	45.00
17/02/2020	3	1059	Golden eagle	1	122	0.00	0.00	0.00	0.00	0.00	47.00	60.00	15.00	0.00	0.00
19/02/2020	6	1115	Golden eagle	1	270	0.00	0.00	0.00	0.00	0.00	150.00	75.00	45.00	0.00	0.00
19/02/2020	6	1134	Golden eagle	1	120	0.00	0.00	0.00	0.00	0.00	15.00	90.00	15.00	0.00	0.00

Date	VP	Flight start time	Species	No. of birds	Duration (sec)	Inside CRAA (seconds)					Outside CRAA (seconds)				
						0-20m	21-40m	41-100m	101-150m	>150m	0-20m	21-40m	41-100m	101-150m	>150m
03/03/2020	1	1050	Golden eagle	1	318	0.00	0.00	0.00	0.00	0.00	48.00	165.00	105.00	0.00	0.00
03/03/2020	1	1056	Golden eagle	1	129	0.00	0.00	0.00	0.00	0.00	99.00	30.00	0.00	0.00	0.00
03/03/2020	1	1113	Golden eagle	1	152	23.43	35.93	0.00	0.00	0.00	36.57	56.07	0.00	0.00	0.00
03/03/2020	1	1251	Golden eagle	2	240	0.00	0.00	0.00	0.00	0.00	0.00	15.00	45.00	60.00	120.00
05/03/2020	1	1101	Golden eagle	1	41	0.00	0.00	0.00	0.00	0.00	26.00	15.00	0.00	0.00	0.00
05/03/2020	1	1108	Golden eagle	1	11	0.00	0.00	0.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00
16/03/2020	1	0918	Golden eagle	1	450	0.00	0.00	0.00	0.00	0.00	285.00	150.00	15.00	0.00	0.00
16/03/2020	6	0950	Golden eagle	1	341	21.14	18.71	3.84	0.00	0.00	143.86	127.29	26.16	0.00	0.00
16/03/2020	6	0958	Golden eagle	2	118	0.00	0.00	0.00	0.00	0.00	88.00	30.00	0.00	0.00	0.00
18/03/2020	7	1145	Golden eagle	2	64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.00	0.00	0.00
18/03/2020	7	1416	Golden eagle	2	72	0.00	7.26	27.58	0.00	0.00	0.00	7.74	29.42	0.00	0.00
20/05/2020	1	1029	Golden eagle	1	667	22.07	220.73	247.95	0.00	0.00	7.93	79.27	89.05	0.00	0.00
20/05/2020	1	1142	Golden eagle	1	570	0.00	0.00	0.00	0.00	0.00	0.00	0.00	525.00	45.00	0.00
23/07/2020	1	1642	Golden eagle	1	232	0.00	30.00	157.00	45.00	0.00	0.00	0.00	0.00	0.00	0.00
23/07/2020	1	1747	Golden eagle	1	36	0.00	0.00	0.00	36.00	0.00	0.00	0.00	0.00	0.00	0.00
06/05/2019	5	1807	Golden plover	1	25	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00
16/03/2020	6	1332	Golden plover	1	53	0.00	0.00	0.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
05/03/2019	6	1243	Goshawk	1	45	0.00	0.00	0.00	0.00	0.00	0.00	30.00	15.00	0.00	0.00
06/09/2019	1	1138	Goshawk	1	148	0.00	0.00	56.87	46.74	11.68	0.00	0.00	16.13	13.26	3.32
20/05/2020	1	0751	Greenshank	1	492	3.93	1.40	40.72	0.00	0.00	38.07	13.60	394.28	0.00	0.00
04/06/2020	1	0757	Greenshank	1	21	21.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04/06/2020	1	0816	Greenshank	1	18	18.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04/06/2020	1	0923	Greenshank	2	79	79.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20/11/2018	2	1045	Greylag goose	5	75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	45.00
12/04/2019	3	1008	Greylag goose	3	153	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	138.00
01/05/2019	1	1517	Osprey	1	932	11.45	42.95	57.27	22.91	43.33	48.55	182.05	242.73	97.09	183.67
06/05/2019	2	1527	Osprey	1	198	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.00	165.00	0.00
18/01/2019	3	1254	Peregrine falcon	1	225	0.00	0.00	0.00	0.00	0.00	0.00	75.00	150.00	0.00	0.00
21/03/2019	3	1548	Peregrine falcon	1	101	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.00	60.00	0.00
21/10/2019	7	1106	Peregrine falcon	1	25	18.28	0.00	0.00	0.00	0.00	6.72	0.00	0.00	0.00	0.00
18/04/2019	6	1323	Pink-footed goose	28	151	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	151.00
11/12/2018	2	1413	Red kite	1	54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.00	0.00	0.00
17/04/2019	1	1152	Red kite	1	106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.00	60.00
22/10/2019	3	1242	Red kite	1	17	0.00	0.00	0.00	0.00	0.00	2.00	15.00	0.00	0.00	0.00
13/11/2019	1	1156	Red kite	1	206	0.00	55.78	0.00	0.00	0.00	0.00	150.22	0.00	0.00	0.00
13/11/2019	1	1415	Red kite	1	270	26.04	67.70	0.00	0.00	0.00	48.96	127.30	0.00	0.00	0.00
18/12/2019	1	1035	Red kite	1	375	0.00	0.00	66.92	267.68	0.00	0.00	0.00	8.08	32.32	0.00
18/12/2019	1	1052	Red kite	1	95	0.00	68.82	0.00	12.90	0.00	0.00	11.18	0.00	2.10	0.00
13/05/2019	5	1118	Red-throated diver	1	201	0.00	0.00	0.00	0.00	0.00	0.00	141.00	60.00	0.00	0.00
13/05/2019	5	1237	Red-throated diver	2	221	0.00	0.00	0.00	0.00	0.00	0.00	146.00	75.00	0.00	0.00
20/08/2019	7	1121	Red-throated diver	1	17	0.00	0.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00
20/08/2019	7	1121	Red-throated diver	1	9	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00

Date	VP	Flight start time	Species	No. of birds	Duration (sec)	Inside CRAA (seconds)					Outside CRAA (seconds)				
						0-20m	21-40m	41-100m	101-150m	>150m	0-20m	21-40m	41-100m	101-150m	>150m
04/06/2020	1	1044	Red-throated diver	1	18	14.89	0.00	0.00	0.00	0.00	3.11	0.00	0.00	0.00	0.00
22/07/2020	1	1423	Red-throated diver	1	78	0.00	73.46	0.00	0.00	0.00	0.00	4.54	0.00	0.00	0.00
30/07/2020	7	1611	Red-throated diver	2	26	11.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04/06/2020	1	0848	Snipe	1	12	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/11/2018	1	1318	White-tailed eagle	3	95	0.00	13.14	28.47	0.00	0.00	0.00	16.86	36.53	0.00	0.00
21/03/2019	3	1139	White-tailed eagle	2	804	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	120.00	684.00
21/03/2019	3	1241	White-tailed eagle	2	277	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	277.00
05/04/2019	2	1208	White-tailed eagle	1	50	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00
17/04/2019	1	1124	White-tailed eagle	1	677	0.00	0.00	0.00	0.00	0.00	0.00	15.00	135.00	225.00	302.00
04/03/2020	7	1106	White-tailed eagle	1	131	26.59	13.92	0.00	0.00	0.00	59.41	31.08	0.00	0.00	0.00
19/08/2020	3	1450	White-tailed eagle	1	90	0.00	0.00	0.00	0.00	0.00	30.00	15.00	45.00	0.00	0.00

D.2 Flight Activity Records: Secondary Species

Table D-2 details secondary species recorded per season during flight activity surveys. Secondary species were recorded to give an indication of the use of the site by these species. Refer to **Annex B** for survey methodology and **Annex C** for weather data.

Table D-2 Summary of secondary species recorded during flight activity surveys

Species	2018/2019 non-breeding season		2019 breeding season		2019/2020 non-breeding season		2020 breeding season	
	No. of records	No. of birds	No. of records	No. of birds	No. of records	No. of birds	No. of records	No. of birds
Buzzard	2	3	7	7	2	2	-	-
Gadwall	-	-	-	-	1	1	-	-
Goosander	4	5	1	4	1	1	1	2
Grey heron	-	-	2	2	-	-	-	-
Hooded crow	5	17	15	38	9	15	-	-
Kestrel	2	2	5	6	1	1	1	1
Meadow pipit	-	-	1	1	-	-	-	-
Raven	32	49	17	28	31	57	-	-
Red grouse	4	5	3	6	6	9	1	4
Snow bunting	-	-	-	-	2	19	1	14
Sparrowhawk	2	2	-	-	-	-	-	-

D.3 Moorland Breeding Bird Records

Moorland breeding bird surveys were undertaken during the 2019 and 2020 breeding seasons and focussed on recording activity of upland wader species within the survey area (**Table D-3**). Survey methodology is detailed in **Annex B** and survey timing/weather conditions in **Annex C.**

Table D-3 Wader activity: 2019 and 2020 breeding seasons

Date	Survey visit	Species	Number recorded	Territory ID	Notes
04/02/2019	SBBS 1	Woodcock	2	N/A	15:38 - Crossing over the clash (not mapped)
05/04/2019	SBBS 3	Golden plover	1	N/A	
11/04/2019	SBBS 3	Greenshank	2	GK_Q	
11/04/2019	SBBS 3	Greenshank	1	N/A	
18/04/2019	SBBS 3	Golden plover	1	N/A	
18/04/2019	SBBS 3	Greenshank	1	GK_B	
18/04/2019	SBBS 3	Golden plover	1	N/A	
20/04/2019	BBS 1	Greenshank	1	GK_K	Calling
21/04/2019	BBS 1	Golden plover	2	GP_C	Calling
21/04/2019	BBS 1	Greenshank	1	GK_D	Alarm calls
21/04/2019	BBS 1	Greenshank	1	GK_E	Alarm calls
21/04/2019	BBS 1	Greenshank	1	GK_L	Calling
21/04/2019	BBS 1	Greenshank	2	GK_C	Alarm calls
24/04/2019	BBS 1	Golden plover	2	GP_M	Calling
24/04/2019	BBS 1	Golden plover	1	GP_O	Calling
24/04/2019	BBS 1	Greenshank	2	GK_I	Calling
24/04/2019	BBS 1	Greenshank	1	N/A	
24/04/2019	BBS 1	Golden plover	1	GP_B	Calling (connected to Ref 134 by solid line)
24/04/2019	BBS 1	Golden plover	2	GP_B	Alarm calls (connected to Ref 133 by solid line)
24/04/2019	BBS 1	Golden plover	1	GP_J	Calling
24/04/2019	BBS 1	Golden plover	1	GP_K	Calling
24/04/2019	BBS 1	Golden plover	2	GP_N	
24/04/2019	BBS 1	Greenshank	1	GK_M	Calling
24/04/2019	BBS 1	Snipe	1	SN_B	Calling
24/04/2019	BBS 1	Snipe	1	SN_A	Calling
24/04/2019	BBS 1	Common sandpiper	2	CS_E	Calling, pair
24/04/2019	BBS 1	Common sandpiper	1	CS_H	Calling
24/04/2019	BBS 1	Greenshank	2	GK_J	Calling, pair
24/04/2019	BBS 1	Lapwing	1	N/A	
24/04/2019	BBS 1	Golden plover	1	GP_P	Calling
24/04/2019	BBS 1	Greenshank	1	GK_A	Alarm calls
02/05/2019	SBBS 4	Greenshank	1	GK_N	Calling
06/05/2019	SBBS 4	Greenshank	1	N/A	
13/05/2019	SBBS 4	Common sandpiper	1	CS_A	
13/05/2019	SBBS 4	Greenshank	1	GK_F	Repeatedly alarm calling, indicating territorial significance
13/05/2019	SBBS 4	Common sandpiper	2	CS_B	Pair, calling
13/05/2019	SBBS 4	Common sandpiper	1	CS_I	Calling
13/05/2019	SBBS 4	Greenshank	1	GK_A	Calling
23/05/2019	BBS 2	Golden plover	1	GP_B	
23/05/2019	BBS 2	Greenshank	1	GK_O	Calling
24/05/2019	BBS 2	Common sandpiper	1	CS_D	Calling
24/05/2019	BBS 2	Common sandpiper	2	CS_F	
24/05/2019	BBS 2	Golden plover	1	GP_L	
24/05/2019	BBS 2	Golden plover	1	GP_Q	Calling
24/05/2019	BBS 2	Greenshank	1	GK_C	Repeatedly alarm calling, indicating territorial significance
24/05/2019	BBS 2	Greenshank	1	GK_G	Repeatedly alarm calling, indicating territorial significance
24/05/2019	BBS 2	Greenshank	1	N/A	
24/05/2019	BBS 2	Greenshank	1	N/A	
28/05/2019	BBS 2	Golden plover	6	GP_G GP_H GP_I	Three pairs, repeatedly alarm calling - indicating territorial significance
28/05/2019	BBS 2	Golden plover	2	GP_D	Calling
28/05/2019	BBS 2	Golden plover	1	GP_C	Male, repeatedly alarm calling - indicating territorial significance

Date	Survey visit	Species	Number recorded	Territory ID	Notes
28/05/2019	BBS 2	Golden plover	8	GP_C GP_D GP_E GP_F	Four pairs, repeatedly alarm calling - indicating territorial significance. One female feigning injury in broken wing display.
28/05/2019	BBS 2	Greenshank	2	N/A	Pair
30/05/2019	SBBS 4	Common sandpiper	1	N/A	
30/05/2019	SBBS 4	Greenshank	1	GK_B	Calling
06/06/2019	SBBS 5	Dunlin	1	N/A	
13/06/2019	BBS 3	Common sandpiper	1	N/A	
13/06/2019	BBS 3	Common sandpiper	1	N/A	
13/06/2019	BBS 3	Common sandpiper	1	CS_D	
13/06/2019	BBS 3	Golden plover	1	GP_R	Calling
13/06/2019	BBS 3	Golden plover	1	GP_D	Calling
13/06/2019	BBS 3	Common sandpiper	1	N/A	
13/06/2019	BBS 3	Common sandpiper	1	CS_B	Calling
13/06/2019	BBS 3	Curlew	1	CU_A	Calling
13/06/2019	BBS 3	Dunlin	1	DN_A	Calling
13/06/2019	BBS 3	Greenshank	1	GK_B	Singing
13/06/2019	BBS 3	Greenshank	1	GK_P	Calling
13/06/2019	BBS 3	Snipe	1	SN_C	Calling
13/06/2019	BBS 3	Snipe	1	SN_B	Calling (chipping)
13/06/2019	BBS 3	Common sandpiper	1	CS_A	
13/06/2019	BBS 3	Snipe	1	SN_D	Calling
14/06/2019	BBS 3	Snipe	1	SN_A	Calling
14/06/2019	BBS 3	Common sandpiper	1	CS_J	Calling
14/06/2019	BBS 3	Golden plover	1	GP_L	Female repeatedly alarm calling indicating territorial significance
14/06/2019	BBS 3	Greenshank	2	GK_H	Repeatedly alarm calling indicating territorial significance
21/06/2019	SBBS 5	Common sandpiper	1	N/A	
24/06/2019	SBBS 5	Common sandpiper	1	CS_C	
24/06/2019	SBBS 5	Common sandpiper	2	CS_G	
24/06/2019	SBBS 5	Ringed plover	1	N/A	
24/06/2019	SBBS 5	Snipe	1	SN_E	Calling
24/06/2019	SBBS 5	Snipe	1	SN_F	
24/06/2019	SBBS 5	Snipe	1	SN_G	
24/06/2019	SBBS 5	Snipe	1	SN_H	
01/07/2019	SBBS 6	Common sandpiper	1	N/A	
08/07/2019	BBS 4	Common sandpiper	1	CS_C	
08/07/2019	BBS 4	Greenshank	1	N/A	
09/07/2019	BBS 4	Snipe	1	SN_B	
21/05/2020	BBS 5	Common sandpiper	1	CS_U	Loch Carn Tarsuinn Beag
21/05/2020	BBS 5	Common sandpiper	1	CS_L	In flight, Loch Liath
21/05/2020	BBS 5	Golden plover	1	GP_T	Calling, Carn a Choire Leith

Date	Survey visit	Species	Number recorded	Territory ID	Notes
21/05/2020	BBS 5	Greenshank	1	GK_S	Repeatedly vocalizing, Loch na Feannaig
22/05/2020	SBBS 10	Greenshank	2	GK_R	Male/female pair, repeatedly vocalizing
25/05/2020	BBS 5	Greenshank	2	GK_T	Male/female pair in flight, Meall nan Oighreagan
25/05/2020	BBS 5	Common sandpiper	1	CS_O	Loch Carn Tarsuinn
25/05/2020	BBS 5	Common sandpiper	1	CS_M	Calling, un-named loch near Loch Coire na Rainich
25/05/2020	BBS 5	Greenshank	2	GK_R	Male/female pair, repeatedly vocalizing, Carn Tarsuinn
26/05/2020	BBS 5	Snipe	1	SN_I	Calling, in flight
28/05/2020	SBBS 10	Common sandpiper	1	CS_K	In flight
28/05/2020	SBBS 10	Greenshank	1	N/A	Perched
31/05/2020	SBBS 10	Common sandpiper	2	CS_L	Pair, calling
31/05/2020	SBBS 10	Common sandpiper	1	CS_K	Calling, in flight
31/05/2020	SBBS 10	Greenshank	1	GK_S	Repeatedly vocalizing
11/06/2020	SBBS 11	Common sandpiper	1	CS_N	In flight, repeatedly vocalising
11/06/2020	SBBS 11	Dunlin	1	DN_B	Singing
11/06/2020	SBBS 11	Greenshank	2	GK_U	Pair, in flight, singing
11/06/2020	SBBS 11	Snipe	1	SN_J	Calling
11/06/2020	SBBS 11	Snipe	1	SN_J	In flight
18/06/2020	BBS 6	Common sandpiper	1	CS_O	Singing
18/06/2020	BBS 6	Common sandpiper	1	CS_P	Calling
18/06/2020	BBS 6	Common sandpiper	1	CS_K	In flight
18/06/2020	BBS 6	Common sandpiper	1	CS_K	In flight, singing
18/06/2020	BBS 6	Common sandpiper	1	CS_Q	Singing
18/06/2020	BBS 6	Common sandpiper	1	CS_R	Singing
18/06/2020	BBS 6	Greenshank	1	GK_T	Singing
19/06/2020	BBS 6	Snipe	1	SN_K	Singing
22/06/2020	SBBS 11	Dunlin	1	DN_C	Singing
22/06/2020	SBBS 11	Golden plover	1	GP_U	Calling
22/06/2020	SBBS 11	Golden plover	2	GP_S	Pair, repeatedly vocalizing
22/06/2020	SBBS 11	Greenshank	2	GK_T	Pair, repeatedly vocalizing
23/06/2020	SBBS 11	Snipe	1	SN_L	Singing
02/07/2020	BBS 7	Common sandpiper	1	CS_S	Repeatedly vocalizing
02/07/2020	BBS 7	Common sandpiper	1	CS_T	Singing
02/07/2020	BBS 7	Common sandpiper	2	CS_K	Pair, singing
02/07/2020	BBS 7	Golden plover	1	GP_S	Male, singing
02/07/2020	BBS 7	Golden plover	1	GP_V	Calling
22/07/2020	SBBS 12	Common sandpiper	1	CS_K	Singing

D.5 Winter Walkover Records

Table D-4 details all the species recorded (refer to **Table D-5** for winter records of golden eagle, peregrine falcon and red kite). Refer to **Annex B** for survey methodology and **Annex C** for weather data.

Table D-4 Winter walkover survey records: 2018/2019 and 2019/2020 non-breeding seasons

Date	WWO survey visit	Species	Number recorded	Notes
08/11/2018	1	Greylag goose	16	Flight over site at approximately 100m height
08/11/2018	1	Bullfinch	1	Male
08/11/2018	1	Greylag goose	18	Flock, calling
12/11/2018	1	Raven	1	
20/11/2018	1	Red grouse	1	Repeatedly alarm calling, indicating territorial significance
20/11/2018	1	Red grouse	2	Repeatedly alarm calling, indicating territorial significance
21/11/2018	1	Raven	1	Flying north calling
21/11/2018	1	Snow bunting	2	Heard but not seen. Minimum two birds
10/12/2018	2	Red grouse	1	
11/12/2018	2	Red grouse	2	
11/12/2018	2	Red grouse	1	
11/12/2018	2	Red grouse	2	Calling
11/12/2018	2	Red grouse	1	Repeatedly alarm calling, indicating territorial significance
11/12/2018	2	Red grouse	2	Repeatedly alarm calling, indicating territorial significance
19/12/2018	2	Raven	2	09:27
19/12/2018	2	Red grouse	2	1405: calling
13/02/2019	3	Raven	1	Flying south west from west of Loch Liath
13/02/2019	3	Red grouse	2	
13/02/2019	3	Red grouse	3	
13/02/2019	3	Red grouse	2	Short flight south west from Carn na Fiacail
13/02/2019	3	Red grouse	2	
13/02/2019	3	Red grouse	1	
14/02/2019	3	Raven	1	Flying north east between Carn an Tuairneir and Carn na Fiacail
14/02/2019	3	Raven	1	Flying west from Carn na Tuairneir
14/02/2019	3	Red grouse	1	East of Loch nam Meur
18/02/2019	3	Hooded crow	2	Flying west between Loch nam Meur and Loch na Leirisdein
18/02/2019	3	Red grouse	1	
18/02/2019	3	Red grouse	2	
19/02/2019	3	Hooded crow	1	
19/02/2019	3	Raven	6	
19/02/2019	3	Raven	2	Flying north east from Coire Liath
19/02/2019	3	Red grouse	2	
19/02/2019	3	Red grouse	2	
19/02/2019	3	Red grouse	1	
19/02/2019	3	Red grouse	1	
19/02/2019	3	Woodcock	1	
20/02/2019	3	Golden plover	1	Display flight
20/02/2019	3	Hooded crow	-	Nest on crag in gully
14/11/2019	4	Raven	2	Collie Levishie
14/11/2019	4	Raven	10	Carn an t-seana-bhlair
14/11/2019	4	Red grouse	1	In flight. Levishie burn
14/11/2019	4	Red grouse	4	In flight. Meall a'Chrathaich
14/11/2019	4	Red grouse	2	In flight. Meall a'Chrathaich
14/11/2019	4	Red grouse	1	Meall nan Oighreagan
14/11/2019	4	Snow bunting	14	In flight. An slochd dubh
26/11/2019	4	Red grouse	1	In flight. Carn Tarsuinn
26/11/2019	4	Red grouse	2	In flight. Loch Liath
26/11/2019	4	Red grouse	2	In flight. Carn choire Rainich
23/01/2020	5	Raven	3	In flight. Carn choire Rainich
23/01/2020	5	Raven	2	In flight. Carn Mòr
29/01/2020	5	Red grouse	3	Flushed, West of Loch Carn Tarsuinn
29/01/2020	5	Raven	1	
31/01/2020	5	Red grouse	2	No location provided
18/02/2020	6	Red grouse	3	Loch na Feannaig
18/02/2020	6	Red grouse	2	Carn na h-Iolaire
19/02/2020	6	Hooded crow	2	

D.6 Scarce Breeding Bird Records

Table D-5 details all records of raptors, divers and Slavonian grebe recorded during surveys, however only Annex 1[1] or Schedule 1[2] species are considered to be scarce breeding birds (i.e., target species - refer to **Table D-7** for each species conservation status). Refer to **Annex B** for survey methodology, **Annex C** for weather data and **Confidential Technical Appendix 6.2** for confidential data relating to black-throated diver, golden eagle, merlin, red-throated diver and Slavonian grebe (nest IDs and notes have been removed from **Table D-7** for these species).

Table D-5 Raptor, Slavonian grebe and diver records: 2019 and 2020 breeding seasons

Date	Survey visit	Species	Number recorded	Sex	Age	Notes
08/11/2018	WWO 1	Golden eagle	1	-	Adult	
08/11/2018	WWO 1	Golden eagle	1	-	Adult	
12/11/2018	WWO 1	Golden eagle	1	-	Adult	
12/11/2018	WWO 1	Golden eagle	1	-	Adult	
19/12/2018	WWO 2	Golden eagle	1	-	Adult	
19/12/2018	WWO 2	Peregrine falcon	1	-	Adult	1530: Hunting.

[1] Annex 1 of the EU Bird Directive

[2] Schedule 1 of the Wildlife and Countryside Act 1981, as amended by the Nature Conservation Act (Scotland) 2004

Date	Survey visit	Species	Number recorded	Sex	Age	Notes
04/02/2019	SBBS 1	Golden eagle	1	-	Adult	
14/02/2019	SBBS 1	Golden eagle	1	-	Adult	
14/02/2019	SBBS 1	Golden eagle	1	-	Adult	
14/02/2019	SBBS 1	Golden eagle	1	-	Adult/ Sub-adult	
14/02/2019	SBBS 1	Golden eagle	1	-	Adult	
19/02/2019	WWO 3	Golden eagle	1	-	Adult	
19/02/2019	WWO 3	Golden eagle	1	-	Adult	
19/02/2019	WWO 3	Golden eagle	1	-	Adult	
20/02/2019	SBBS 1	Golden eagle	1	-	Adult	
21/02/2019	SBBS 1	Golden eagle	1	-	Adult	
21/02/2019	SBBS 1	Golden eagle	1	-	Adult	
21/02/2019	SBBS 1	Golden eagle	2	-	Adult	
21/02/2019	SBBS 1	Golden eagle	2	-	Adult	
21/02/2019	SBBS 1	Golden eagle	2	-	Adult	
21/02/2019	SBBS 1	Golden eagle	1	-	Adult	
21/02/2019	SBBS 1	Golden eagle	1	-	Adult	
11/03/2019	SBBS 2	Buzzard	2	-	Adult	
11/03/2019	SBBS 2	Buzzard	2	-	Adult	
11/03/2019	SBBS 2	Red kite	1	-	Adult	
15/03/2019	SBBS 2	Buzzard	1	-	Adult	
15/03/2019	SBBS 2	Golden eagle	1	-	Adult	
20/03/2019	SBBS 2	Buzzard	1	-	Adult	
20/03/2019	SBBS 2	Golden eagle	1	-	Adult	
21/03/2019	SBBS 2	White-tailed eagle	2	-	Adult	10:11 - 10:39 - Pair circling from over Invermoriston junction over road and drifting north west to slope above windfarm entrance gate.
21/03/2019	SBBS 2	White-tailed eagle	2	-	Adult	10:11 - 10:39 - Same pair continuing to circle from over Invermoriston junction over road and drifting north west to slope above windfarm entrance gate.
21/03/2019	SBBS 2	White-tailed eagle	2	-	Adult	10:50 - 11:01 - Same pair at south east end of turbine area, soaring/hanging in wind. Drifted west.
25/03/2019	SBBS 2	Golden eagle	1	-	Adult	
25/03/2019	SBBS 2	Golden eagle	1	-	Adult	
25/03/2019	SBBS 2	Golden eagle	2	Male/female	Adult	
25/03/2019	SBBS 2	Golden eagle	1	-	Adult	
25/03/2019	SBBS 2	Merlin	1	-	Adult	10:02 - To the north of crag. Merlin mobbing eagle for ~60 seconds. Golden eagle drifted off north. Merlin soared briefly before stooping down and out of sight.
11/04/2019	SBBS 3	Golden eagle	2	-	Adult	
11/04/2019	SBBS 3	Red-throated diver	1	-	Adult	
11/04/2019	SBBS 3	Red-throated diver	2	Male/female	Adult	Pair
12/04/2019	SBBS 3	Golden eagle	2	-	Adult	
18/04/2019	SBBS 3	Osprey	1	-	Adult	14:14
20/04/2019	BBS 1	Red-throated diver	2	-	Adult	
21/04/2019	BBS 1	Red-throated diver	2	-	Adult	
22/04/2019	SBBS 3	Golden eagle	1	-	Adult	
23/04/2019	SBBS 3	Merlin	1	-	Adult	
23/04/2019	SBBS 3	Golden eagle	2	Male/female	Adult	
23/04/2019	SBBS 3	Golden eagle	2	Male/female	Adult	
24/04/2019	BBS 1	Red-throated diver	2	-	Adult	
24/04/2019	BBS 1	Black-throated diver	2	-	Adult	
24/04/2019	BBS 1	Buzzard	1	-	-	
24/04/2019	BBS 1	Golden eagle	1	-	Adult	
24/04/2019	BBS 1	Golden eagle	1	-	Adult	
24/04/2019	BBS 1	Red kite	1	-	Adult	14:32
02/05/2019	SBBS 4	Red-throated diver	1	-	Adult	
02/05/2019	SBBS 4	White-tailed eagle	2	Male/female	Adult	Pair
06/05/2019	SBBS 4	Golden eagle	1	-	Adult	
13/05/2019	SBBS 4	Golden eagle	1	-	Adult	
13/05/2019	SBBS 4	Slavonian grebe	2	Male/female	Adult	
15/05/2019	BK 2	Black-throated diver	2	Male/female	Adult	
23/05/2019	BBS 2	Slavonian grebe	2	Male/female	Adult	
24/05/2019	BBS 2	Kestrel	1	Male	Adult	
24/05/2019	BBS 2	Red-throated diver	1	-	Adult	
24/05/2019	BBS 2	Red-throated diver	1	-	Adult	
24/05/2019	BBS 2	Red-throated diver	1	-	Adult	
24/05/2019	BBS 2	Red-throated diver	1	-	Adult	
24/05/2019	BBS 2	Red-throated diver	1	-	Adult	
24/05/2019	BBS 2	Red-throated diver	2	-	Adult	
28/05/2019	BBS 2	Red-throated diver	1	-	Adult	
30/05/2019	SBBS 4	Red-throated diver	1	-	Adult	
31/05/2019	SBBS 4	Black-throated diver	2	Male/female	Adult	
31/05/2019	SBBS 4	Kestrel	1	-	Adult	
01/06/2019	SBBS 5	Slavonian grebe	2	-	Adult	
06/06/2019	SBBS 5	Golden eagle	1	-	Adult	
06/06/2019	SBBS 5	Golden eagle	1	-	Adult	
13/06/2019	BBS 3	Kestrel	1	-	Adult	
13/06/2019	BBS 3	Red-throated diver	1	-	Adult	

Date	Survey visit	Species	Number recorded	Sex	Age	Notes
13/06/2019	BBS 3	Slavonian grebe	1	-	Adult	
13/06/2019	BBS 3	Black-throated diver	1	-	Adult	
13/06/2019	BBS 3	Kestrel	1	-	Adult	
14/06/2019	BBS 3	Buzzard	1	-	Adult	
19/06/2019	SBBS 5	Pellet	-	-	-	One pellet found - golden eagle size
20/06/2019	SBBS 5	Golden eagle	1	-	Adult	
20/06/2019	SBBS 5	Golden eagle	1	-	Adult	
20/06/2019	SBBS 5	Pellet/feather	-	-	-	Pellet and breast feather - golden eagle
21/06/2019	SBBS 5	Slavonian grebe	1	-	Adult	
01/07/2019	SBBS 6	Black-throated diver	4	Male/female	Adult	
01/07/2019	SBBS 6	Red-throated diver	1	-	Adult	
01/07/2019	SBBS 6	Slavonian grebe	2	Male/female	Adult	
08/07/2019	BBS 4	Golden eagle	1	-	Adult	
09/07/2019	BBS 4	Slavonian grebe	3	Male/female	Adult/ chick	
26/07/2019	SBBS 6	Slavonian grebe	2	-	Adult/ chick	
29/07/2019	SBBS 6	Black-throated diver	2	-	Adult	
29/07/2019	SBBS 6	Golden eagle	1	-	Immature	
29/07/2019	SBBS 6	Kestrel	1	-	Adult	
08/08/2019	SBBS 7	Golden eagle	1	Male/female	Adult	
08/08/2019	SBBS 7	Golden eagle	1	Male/female	Adult	
08/08/2019	SBBS 7	Golden eagle	1	-	Adult	
20/08/2019	SBBS 7	Black-throated diver	2	-	Adult	
20/08/2019	SBBS 7	Red-throated diver	4	Male/female	Adult	
21/08/2019	SBBS 7	Kestrel	1	Female	Adult	Flying over track near Loch a'Mheig
21/08/2019	SBBS 7	Slavonian grebe	1	-	Chick	
26/08/2019	SBBS 7	Black-throated diver	1	-	Adult	
26/08/2019	SBBS 7	Buzzard	2	-	Adult	Distant over 10 miles south of site
26/08/2019	SBBS 7	Buzzard	1	-	Adult	Close to site entrance in larch
26/08/2019	SBBS 7	Golden eagle	1	-	Sub-adult	
26/08/2019	SBBS 7	Sparrowhawk	2	-	Juvenile	Chasing/calling
14/11/2019	WWO 4	Red kite	1	-	Adult	
14/11/2019	WWO 4	Red kite	1	-	Adult	
23/01/2020	WWO 5	Golden eagle	1	-	Adult	
29/01/2020	WWO 5	Golden eagle	1	-	Adult	
17/02/2020	SBBS 8	Golden eagle	1	-	Adult	
17/02/2020	WWO 6	Golden eagle	2	Male/female	Adult	
19/02/2020	SBBS 8	Golden eagle	1	-	Adult	
05/03/2020	SBBS 9	Golden eagle	2	-	Adult	

Date	Survey visit	Species	Number recorded	Sex	Age	Notes
21/05/2020	BBS 5	Slavonian grebe	2	-	Adult	
22/05/2020	SBBS 10	Osprey	1	-	Adult	In flight, fishing on lochs, caught fish and flew southeast
26/05/2020	BBS 5	Buzzard	1	-	Adult	In flight, Caochan na Muic
26/05/2020	BBS 5	Buzzard	1	-	Adult	In flight, Caochan na Muic
26/05/2020	BBS 5	Sparrowhawk	1	Female	Adult	In flight, Caochan na Muic
26/05/2020	BBS 5	Buzzard	1	-	Adult	In flight, Levishie Forest
26/05/2020	SBBS 10	Golden eagle	1	-	Adult	
26/05/2020	SBBS 10	Golden eagle	1	Female	Adult	
26/05/2020	SBBS 10	Osprey	1	-	Adult	In flight
28/05/2020	SBBS 10	Golden eagle	1	-	Adult	
28/05/2020	SBBS 10	Buzzard	1	-	Adult	In flight, Collie Levishie
28/05/2020	SBBS 10	Golden eagle	1	-	Adult	
28/05/2020	SBBS 10	Golden eagle	1	-	Adult	
29/05/2020	SBBS 10	Hen harrier	1	-	Adult	Circled high, then flew off
30/05/2020	SBBS 10	Red-throated diver	1	-	Adult	
30/05/2020	SBBS 10	Red-throated diver	1	-	Adult	
31/05/2020	SBBS 10	Red-throated diver	2	Male/female	Adult	
31/05/2020	SBBS 10	Red-throated diver	2	Male/female	Adult	
04/06/2020	SBBS 11	Buzzard	1	-	Adult	In flight, Creag Eas a Chatha
04/06/2020	SBBS 11	Peregrine falcon	1	Female	Adult	Hunting between Carn Tarsuinn Beag and Carn Choire Rainich
04/06/2020	SBBS 11	Red-throated diver	2	Male/female	Adult	
11/06/2020	SBBS 11	Buzzard	1	-	Adult	In flight, Meall nan Aighean
11/06/2020	SBBS 11	Red-throated diver	1	-	Adult	
18/06/2020	BBS 6	Red-throated diver	2	Male/female	Adult	
18/06/2020	BBS 6	Slavonian grebe	2	Male/female	Adult	
23/06/2020	SBBS 11	Red-throated diver	1	-	Adult	
23/06/2020	SBBS 11	Red-throated diver	1	-	Adult	
04/07/2020	BBS 7	Buzzard	1	-	Adult	In flight, Levishie Forest
22/07/2020	SBBS 12	Buzzard	1	-	Adult	In flight, Carn Loch an t-Sionnach
23/07/2020	SBBS 12	Merlin	2	Female	Adult/ juvenile	Female, calling, in flight with juvenile
23/07/2020	SBBS 12	Merlin	1	Female	Adult	In flight

Date	Survey visit	Species	Number recorded	Sex	Age	Notes
23/07/2020	SBBS 12	Red-throated diver	2	Male/female	Adult	
23/07/2020	SBBS 12	Golden eagle	1	-	Adult	
30/07/2020	SBBS 12	Buzzard	1	-	Adult	In flight, Drochaidh Bhlaraidh
30/07/2020	SBBS 12	Osprey	1	-	Adult	In flight, fishing
30/07/2020	SBBS 12	Red kite	2	-	Adult	In flight
30/07/2020	SBBS 12	Red-throated diver	2	Male/female	Adult	
19/08/2020	SBBS 13	White-tailed eagle	1	-	Adult	In flight, hunting and landed on hill

D.7 Black Grouse Records

Table D-6 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-6 Black grouse activity records: 2019

Lek number	Date	Survey visit	No. males	No. females	No. unsexed	Notes
-	15/03/2019	SBBS 2	-	1	-	Single bird feeding in birch tree just north of VP
-	20/03/2019	VP 1 -	3	-	-	Disturbed 30m below VP on leaving
1	03/04/2019	BK 1	8	2	-	
1	20/04/2019	BBS 1	7	-	-	16:10 - Males at lek site on access road (not lekking)
-	22/04/2019	SBBS 3	-	1	-	Flushed
1	23/04/2019	BK 1	10	2	-	Main lek near track - NH375 187. 2 females just north of lek.
3	23/04/2019	BK 1	4	-	-	Lek NH410 187 - 4 males spread out on slope to north of old fort site.
2	23/04/2019	BK 1	3	-	-	Lek NH391 175 - 12:18 - 3 males. Likely small lek here
4	23/04/2019	BK 1	6	-	-	Lek NH41201 20267 - 4 males flushed (by vehicle? ~680m away - very open glen) (Ref 89), 2 males continued lekking
4	23/04/2019	BK 1	4	-	-	Males flushed from lek (by vehicle? ~680m away - very open glen), landed 300-350m away
-	24/04/2019	BBS 1	-	1	-	
-	24/04/2019	BBS 1	1	-	-	Male
4	09/05/2019	BK 2	5	-	-	Males, similar location above dam
3	09/05/2019	BK 2	4	-	-	Males, same place Carn Mor
-	09/05/2019	BK 2	-	-	-	None up towards small dam east of Carn an T-Sionnaich
-	15/05/2019	BK 2	-	-	-	No new lek sites or black grouse seen
1	31/05/2019	SBBS 4	-	-	1	
-	08/08/2019	SBBS 7	2	-	-	Flushed from beside track on way off.

D.8 Bird Species Index

A total of 60 bird species or signs was recorded at, or adjacent, to the Site during the ornithological surveys. **Table D-7** comprises a list of all these species along with their conservation status.

Table D-7 All bird species recorded: October 2018 to August 2020

Species	Conservation status	Species	Conservation status
Black grouse	BoCC[3] Red	Meadow pipit	BoCC Amber
Blackbird	BoCC Green	Merlin	Annex 1, Schedule 1, BoCC Red
Black-throated diver	Annex 1, Schedule 1, BoCC Amber	Mistle thrush	BoCC Red
Bullfinch	BoCC Amber	Osprey	Annex 1, Schedule 1, BoCC Amber
Buzzard	BoCC Green	Peregrine falcon	Annex 1, Schedule 1, BoCC Green
Carrion crow	BoCC Green	Pheasant	No status
Chaffinch	BoCC Green	Pied wagtail	BoCC Green
Common sandpiper	BoCC Amber	Pink-footed goose	BoCC Amber
Cuckoo	BoCC Red	Raven	BoCC Green
Curlew	BoCC Red	Red grouse	BoCC Amber
Dunlin	BoCC Amber	Red kite	Annex 1, Schedule 1, BoCC Green
Dunnock	BoCC Amber	Red-throated diver	Annex 1, Schedule 1, BoCC Green
Fieldfare	Schedule 1, BoCC Red	Ringed plover	BoCC Red
Gadwall	BoCC Amber	Sand martin	BoCC Green
Golden eagle	Annex 1, Schedule 1, BoCC Green	Skylark	BoCC Red
Golden plover	Annex 1, BoCC Green	Slavonian grebe	Annex 1, Schedule 1, BoCC Red
Goosander	BoCC Green	Snipe	BoCC Amber
Goshawk	Schedule 1, BoCC Green	Snow bunting	Schedule 1, BoCC Amber
Greenshank	Schedule 1, BoCC Amber	Song thrush	BoCC Red
Grey heron	BoCC Green	Sparrowhawk	BoCC Green
Grey wagtail	BoCC Red	Spotted flycatcher	BoCC Red
Greylag goose	BoCC Amber	Stonechat	BoCC Green
Hen harrier	Annex 1, Schedule 1, BoCC Red	Teal	BoCC Amber
Hooded crow	BoCC Green	Wheatear (Northern)	BoCC Green
Jackdaw	BoCC Green	White-tailed eagle	Annex 1, Schedule 1, BoCC Red
Jay	BoCC Green	Willow tit	BoCC Red
Kestrel	BoCC Amber	Willow warbler	BoCC Amber
Lapwing	BoCC Red	Woodcock	BoCC Red
Lesser redpoll	BoCC Red	Woodpigeon	BoCC Green
Mallard	BoCC Amber	Wren	BoCC Green

[3] BoCC – Birds of Conservation Concern (Eaton *et al.* 2015)

ANNEX E. COLLISION RISK ASSESSMENTS

E.1 Collision Risk Analysis Area

To establish a Collision Risk Analysis Area (CRAA) for modelling purposes, GIS Delaunay Triangulation[1] from the proposed turbine locations was used to create a wind farm area[2] and from this a 500m buffer was added to create the CRAA (**Figure 6.1** and **Figure 6.2**). Including this 500m area around the turbines accounts for possible inaccuracies in the recording of flightlines during field surveys and ensures the assessment is precautionary.

The flying time at risk height across a season for each species is calculated as a single mean activity rate within the CRAA (secsHahr^{-1}). The ultimate aim is to have 100% coverage of the turbines and associated CRAA by the viewsheds, however in practice this is often unachievable as a result of the topography of the Site. For the Proposed Development, although some small areas of the CRAA remain 'invisible' at 20m above ground level (including turbine locations T8, T9 and T13, **Figure 6.1** and **Figure 6.2**), the habitat within these areas is of sufficient similarity to those parts covered, meaning that the survey data are considered to be representative of the whole CRAA. In addition, there were no records made during any of the surveys which would suggest that these areas were of any particular importance to target species (e.g. for nesting purposes). Consequently, as a result of the assumptions built in to the collision model (i.e. birds are active at the same rates across all daylight hours and that activity rates are the same across the CRAA), the mean activity rates used for extrapolating collision risk are considered sufficiently accurate.

E.2 Input Parameters

Table E-1, **Table E-2** and **Table E-3** present the input parameters used in the Collision Risk Model (CRM).

Table E-1 Wind farm parameters

Size of wind farm envelope	800.86	hectares (ha)
Number of turbines	18	turbines
Rotor diameter	158	metres (m)
Hub height	101	m
Max. rotor depth	1.61	m (at 15° pitch angle)
Max. chord	4	m
Pitch	15	degrees (°)
Rotation period	6.18	seconds (secs)
Turbine operation time	0.85	percent (%)
Risk height: highest	180	m
Risk height: lowest	22	m
Flight risk volume	1265352471	m^3

Table E-2 CRM parameters per species

Species	Length (m)	Wingspan (m)	Assumed flight speed (ms^{-1})	Avoidance rate	Probability of collision	Bird transit time (secs)
Golden eagle	0.815	2.12	15	0.99	0.0624	0.1620
Goshawk	0.62	1.65	9.7	0.98	0.0700	0.2304
Greenshank	0.315	0.69	14	0.98	0.0437	0.1378
Osprey	0.58	1.7	11.4	0.98	0.0619	0.1925
Red kite	0.66	1.95	12	0.99	0.0640	0.1896
Red-throated diver	0.73	1.3	17	0.995	0.0535	0.1379
White-tailed eagle	0.90	2.4	13.6	0.95	0.0691	0.1849

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

VP	Area (ha)	VP	Area (ha)	VP	Area (ha)
1	374.13	4	256.10	7	303.69
2	82.17	5	0.00		
3	16.59	6	32.15		

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
Eagles	1st February	31st August	2,816	1st September	31st January	1,688
Divers	15th April	31st August	2,292	1st September	14th April	2,212
Raptors	15th March	31st August	2,693	1st September	14th March	1,811
Waders	1st April	31st July	2,010	1st August	31st March	2,494

E.3 CRM Outputs

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

- Golden eagle;
- Goshawk;
- Greenshank;
- Osprey;
- Red kite;
- Red-throated diver; and
- White-tailed eagle.

[1] Delaunay triangulation is a form of mathematical/computational geometry where a given set of points (in this case the turbine locations) are all joined to create discrete triangles. Further information is available here: https://uk.mathworks.com/help/matlab/math/delaunay-triangulation.html

[2] This was adjusted where appropriate depending on the spatial location of the turbines in relation to other turbines.

Golden Eagle

Non-Breeding Season 2018/2019

Table E-5 Golden eagle flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	294.98	10475.77	0.0000040
2	132.08	2465.01	0.0000018
3	102.15	514.30	0.0000014
4	149.54	6914.72	0.0000020

Table E-6 Golden eagle mortality estimates

Mean activity in wind farm at rotor height	0.0074	hr^{-1}
Total Combined rotor swept volume	857520	m^3
Bird occupancy	12.5139	hrs/season
Bird occupancy of rotor swept volume	30.5300	bird-sec
No. of transits through rotors	188.4733	per season
Estimated collisions	11.7650	per season
Estimated collisions after correction for operation	10.0002	per season
Estimated collisions after avoidance factor	0.1000	per season
Equivalent to 1 bird every	10.00	seasons

Breeding Season 2019

Table E-7 Golden eagle flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	332.38	16461.92	0.0000023
4	149.03	6914.72	0.0000010
6	68.59	1977.04	0.0000005
7	182.17	10933.00	0.0000013

Table E-8 Golden eagle mortality estimates

Mean activity in wind farm at rotor height	0.0041	hr^{-1}
Total Combined rotor swept volume	857520	m^3
Bird occupancy	11.6145	hrs/season
Bird occupancy of rotor swept volume	28.3358	bird-sec
No. of transits through rotors	174.9280	per season
Estimated collisions	10.9194	per season
Estimated collisions after correction for operation	9.2815	per season
Estimated collisions after avoidance factor	0.0928	per season
Equivalent to 1 bird every	10.77	seasons

Non-Breeding Season 2019/2020

Table E-9 Golden eagle flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	117.88	11598.17	0.0000015
7	97.27	9414.52	0.0000012

Table E-10 Golden eagle mortality estimates

Mean activity in wind farm at rotor height	0.0021	hr^{-1}
Total Combined rotor swept volume	857520	m^3
Bird occupancy	3.5950	hrs/season
Bird occupancy of rotor swept volume	8.7707	bird-sec
No. of transits through rotors	54.1447	per season
Estimated collisions	3.3798	per season
Estimated collisions after correction for operation	2.8729	per season
Estimated collisions after avoidance factor	0.0287	per season
Equivalent to 1 bird every	34.81	seasons

Breeding Season 2020

Table E-11 Golden eagle flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	743.94	15713.65	0.0000069
6	20.68	321.47	0.0000002
7	68.23	13362.55	0.0000006

Table E-12 Golden eagle mortality estimates

Mean activity in wind farm at rotor height	0.0061	hr^{-1}
Total Combined rotor swept volume	857520	m^3
Bird occupancy	17.3169	hrs/season
Bird occupancy of rotor swept volume	42.2480	bird-sec
No. of transits through rotors	260.8135	per season
Estimated collisions	16.2806	per season
Estimated collisions after correction for operation	13.8385	per season
Estimated collisions after avoidance factor	0.1384	per season
Equivalent to 1 bird every	7.23	seasons

Goshawk

Non-Breeding Season 2019/2020

Table E-13 Goshawk flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	107.12	13842.98	0.0000011

Table E-14 Goshawk mortality estimates

Mean activity in wind farm at rotor height	0.0009	hr^{-1}
Total Combined rotor swept volume	788701	m^3
Bird occupancy	1.5747	hrs/season
Bird occupancy of rotor swept volume	3.5335	bird-sec
No. of transits through rotors	15.3371	per season
Estimated collisions	1.0732	per season
Estimated collisions after correction for operation	0.9122	per season
Estimated collisions after avoidance factor	0.0182	per season
Equivalent to 1 bird every	54.81	seasons

Greenshank

Breeding Season 2020

Table E-15 Greenshank flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	41.99	8979.23	0.0000007

Table E-16 Greenshank mortality estimates

Mean activity in wind farm at rotor height	0.0006	hr^{-1}
Total Combined rotor swept volume	681060	m^3
Bird occupancy	1.1263	hrs/season
Bird occupancy of rotor swept volume	2.1824	bird-sec
No. of transits through rotors	15.8325	per season
Estimated collisions	0.6923	per season
Estimated collisions after correction for operation	0.5885	per season
Estimated collisions after avoidance factor	0.0118	per season
Equivalent to 1 bird every	84.96	seasons

Osprey

Breeding Season 2019

Table E-17 Osprey flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	131.86	13468.84	0.0000011

Table E-18 Osprey mortality estimates

Mean activity in wind farm at rotor height	0.0009	hr^{-1}
Total Combined rotor swept volume	774584	m^3
Bird occupancy	2.4230	hrs/season
Bird occupancy of rotor swept volume	5.3397	bird-sec
No. of transits through rotors	27.7352	per season
Estimated collisions	1.7169	per season
Estimated collisions after correction for operation	1.4593	per season
Estimated collisions after avoidance factor	0.0292	per season
Equivalent to 1 bird every	34.26	seasons

Red Kite

Non-Breeding Season 2019/2020

Table E-19 Red kite flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	520.57	13842.98	0.000005

Table E-20 Red kite mortality estimates

Mean activity in wind farm at rotor height	0.0042	hr^{-1}
Total Combined rotor swept volume	802818	m^3
Bird occupancy	7.6527	hrs/season
Bird occupancy of rotor swept volume	17.4792	bird-sec
No. of transits through rotors	92.2069	per season
Estimated collisions	5.9008	per season
Estimated collisions after correction for operation	5.0156	per season
Estimated collisions after avoidance factor	0.0502	per season
Equivalent to 1 bird every	19.94	seasons

Red-Throated Diver

Breeding Season 2020

Table E-21 Red-throated diver flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	66.12	11224.03	0.0000009

Table E-22 Red-throated diver mortality estimates

Mean activity in wind farm at rotor height	0.0010	hr^{-1}
Total Combined rotor swept volume	827522	m^3
Bird occupancy	2.2791	hrs/season
Bird occupancy of rotor swept volume	5.3657	bird-sec
No. of transits through rotors	38.9021	per season
Estimated collisions	2.0795	per season
Estimated collisions after correction for operation	1.7676	per season
Estimated collisions after avoidance factor	0.0088	per season
Equivalent to 1 bird every	113.15	seasons

White-Tailed Eagle

Non-Breeding Season 2018/2019

Table E-23 White-tailed eagle flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
1	120.87	10475.77	0.0000016

Table E-24 White-tailed eagle mortality estimates

Mean activity in wind farm at rotor height	0.0013	hr^{-1}
Total Combined rotor swept volume	887518	m^3
Bird occupancy	2.2285	hrs/season
Bird occupancy of rotor swept volume	5.6270	bird-sec
No. of transits through rotors	30.4310	per season
Estimated collisions	2.1030	per season
Estimated collisions after correction for operation	1.7876	per season
Estimated collisions after avoidance factor	0.0894	per season
Equivalent to 1 bird every	11.19	seasons

Breeding Season 2020

Table E-25 White-tailed eagle flight activity

VP	Seconds at risk height	Observation effort (HaHr)	Flying time at risk height (secsHahr^{-1})
7	12.52	13362.55	0.00000012

Table E-26 White-tailed eagle mortality estimates

Mean activity in wind farm at rotor height	0.00009	hr^{-1}
Total Combined rotor swept volume	887518	m^3
Bird occupancy	0.2604	hrs/season
Bird occupancy of rotor swept volume	0.6575	bird-sec
No. of transits through rotors	3.5559	per season
Estimated collisions	0.2457	per season
Estimated collisions after correction for operation	0.2089	per season
Estimated collisions after avoidance factor	0.0104	per season
Equivalent to 1 bird every	95.75	seasons