



ARCUS

CARRICK WINDFARM

APPENDIX 8.3

YEAR 2 BASELINE ORNITHOLOGY REPORT 2019-20

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## TABLE OF CONTENTS

ABBREVIATIONS .....	1
1 INTRODUCTION .....	2
1.1 Background .....	2
1.2 Description of Site and Surrounding Area.....	2
1.3 Survey Area .....	2
1.4 Sites Designated for Ornithological Features.....	2
1.4.1 Statutory Sites.....	2
1.4.2 Non-statutory Sites.....	3
1.5 Consultation .....	3
2 METHODS .....	3
2.1 Flight Activity Surveys.....	4
2.1.1 Vantage Point Locations.....	4
2.2 Black Grouse Surveys .....	5
2.3 Breeding Nightjar Surveys .....	5
2.4 Breeding Raptor Surveys.....	6
2.5 Breeding Bird Survey.....	6
2.5.1 Breeding Territory Analysis.....	6
2.6 Winter Walkover Survey.....	7
2.7 Survey Limitations.....	7
3 RESULTS .....	8
3.1 Flight Activity Surveys.....	8
3.1.1 Target Species Flights.....	8
3.1.2 Secondary Species Registrations .....	8
3.2 Black Grouse Survey .....	9
3.2.1 Black Grouse Survey Results.....	9
3.3 Breeding Raptor Surveys.....	9
3.3.1 Target Raptor Species .....	9
3.3.2 Secondary Species .....	9
3.4 Breeding Bird Survey.....	9
3.4.1 Species of Conservation Concern .....	9
3.4.2 Other Species .....	11
3.5 Winter Walkover Survey.....	11
4 SUMMARY OF KEY FINDINGS.....	12

4.1	Flight Activity by Target Species .....	12
4.2	Black Grouse Survey .....	12
4.3	Breeding Raptor Surveys.....	12
4.4	Breeding Bird Surveys .....	12
4.5	Winter Walkover Survey.....	12
APPENDIX 1 - FIGURES.....		13
APPENDIX 2 - BIRD SPECIES NAMES AND CONSERVATION DESIGNATIONS .....		14
APPENDIX 3 - ORNITHOLOGICAL SURVEY TIMES AND WEATHER CONDITIONS .....		17
APPENDIX 4 - DETAILS OF TARGET SPECIES FLIGHTS .....		44

## ABBREVIATIONS

BoCC:	Birds of Conservation Concern
BOU:	British Ornithologists' Union
FAS:	Flight Activity Surveys
NBN:	National Biodiversity Network
SBL:	Scottish Biodiversity List
SPA:	Special Protection Area
SSSI:	Site of Special Scientific Interest
VP:	Vantage Point

## 1 INTRODUCTION

### 1.1 Background

Arcus Consultancy Services Ltd (Arcus) was commissioned by ScottishPower Renewables (the Applicant) to evaluate the ornithological interest at the proposed Carrick Windfarm (hereafter referred to as 'the Site'). The Site is located approximately 6 kilometres (km) south of Straiton in South Ayrshire; the central co-ordinates of the Site are 237186, 598381.

Baseline Ornithology Surveys of the Site and surrounding area (the 'Survey Area', as defined below) commenced in September 2019 and concluded in August 2020. This report details the survey methods and results of the Year 2 baseline ornithology surveys (September 2019 to August 2020 inclusive). This document is supported by a Confidential Annex, which includes details of sensitive species.

Species names used in this report follow the British List<sup>1</sup>, which is maintained by the British Ornithologists' Union (BOU), with all species referred to by their British (English) vernacular name. A list of scientific names, as well as details of relevant legislation and conservation status, of all bird species referred to in this report is provided in Table A2.1, Appendix 2.

### 1.2 Description of Site and Surrounding Area

The Site is largely comprised of coniferous plantation forestry, which is connected to larger extents of forestry to the south east and south west. A substantial area of open ground is present to the north and north east of the Site. In addition, the Site surrounds Linfern Loch and contains a number of watercourses.

The wider area comprises a similar mosaic of plantation forestry and open ground, with numerous waterbodies of varying sizes.

### 1.3 Survey Area

The Survey Area was based on the Site Boundary at the time of survey, which was considerably larger in area than the final Site Boundary (the red line boundary) as described above. In addition, during Year 2 the Site Boundary was amended and included an additional area to the north west, and additional land to the south.

In light of the above, any further reference to the 'Site' within this appendix relates to the 'Site Boundary at the time of Survey' as presented as a green line boundary Figure 1, in Appendix 1.

### 1.4 Sites Designated for Ornithological Features

#### 1.4.1 Statutory Sites

A desk-study was undertaken for the following statutory designated sites:

- Sites of Special Scientific Interest (SSSIs) within 10km of the Site, and;
- Special Protection Areas (SPAs) and Ramsar sites within 20km of the Site

Two statutory designated sites for ornithological features have been identified within 10km of the Site, both of which are SSSIs; details are summarised in Table 1. No SPAs or Ramsar sites designated for ornithological features are present within 20km.

*Table 1 Summary of Statutory Sites Designated for Ornithological Interest within 20km of the Site, Listed in Order of Proximity*

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<sup>1</sup> British Ornithologists' Union. (2017). The British List: A Checklist of Birds of Britain (9<sup>th</sup> edition). *Ibis* 160: 190-240.

Site name	Designation	Approximate distance and direction from the Site*	Qualifying ornithological interests
Merrick Kells	SSSI	5.5km to south east	Breeding bird assemblage.
Bogton Loch	SSSI	8.75km to north east	Breeding bird assemblage.
*From closest point			

#### 1.4.2 Non-statutory Sites

The Site is located within the Galloway Forest Park Important Bird Area (IBA), which is described in the factsheet (BirdLife International, 2020) as “A very large area of forest, including lochs, rivers and moorland, that stretches from Newton Stewart in Dumfries and Galloway into the Strathclyde region. The IBA supports a range of breeding waders and waterbirds, in addition to species of forest and moorland.” The factsheet also lists three “trigger species”, namely black grouse, peregrine and short-eared owl (BirdLife International, 2020). Although IBAs are considered to be sites of international significance for bird conservation, they are not statutory sites.

In addition, as detailed in Chapter 7: Ecology and Biodiversity of the EIAR, River Stinchar (Milton to Black Hill) Provisional Wildlife Site (WS), which is located in the south west of the Site, is noted for its breeding bird interest.

#### 1.5 Consultation

A consultation letter was sent by Arcus to NatureScot<sup>2</sup> on 4 February 2019, in part to discuss ornithological sensitivities at the Site and the proposed survey scope.

In their response to this letter, NatureScot confirmed (via email dated 22 February 2019) that the proposed survey methods appeared appropriate, and provided additional comments relating to the ornithology surveys, to which Arcus responded via email dated 28 June 2019). Further clarifications were provided by NatureScot via email dated 23 July 2019.

A follow up consultation letter was sent by Arcus to NatureScot on 14 January 2020 summarising baseline results to date. NatureScot provided a response to this letter via email dated 06 February 2020 noting that the previous ornithology advice they had given had been taken onboard and they were in agreement with the planned scope of surveys.

A scoping report was submitted by the Applicant in May 2020 which detailed ornithological sensitivities to date. RSPB provided a response by email dated 2 June 2020 and stated that they were in agreement with the scope of assessment, survey methodology and target species considered.

## 2 METHODS

Based on the results of Year 1 surveys and the further consultation outlined above, the 2019-20 (Year 2) baseline ornithology survey programme comprised the following:

- Flight Activity Surveys (FAS) (September 2019 to August 2020 inclusive);
- Black Grouse Survey (May 2020);
- Breeding Raptor Survey (May to July 2020 inclusive);
- Nightjar Survey (June and July 2020 inclusive);
- Breeding Bird Survey (May to July 2020 inclusive); and
- Winter Walkover Survey (December 2019 and January 2020).

<sup>2</sup> Formerly known as Scottish Natural Heritage (SNH).

Full details of the methods followed for each of these surveys are provided below. Survey methods were based on current NatureScot guidance<sup>3</sup>, except where other methods are specified. Ornithological survey areas for the different surveys are presented in Figure 2, Appendix 1 and defined in further detail within Sections 2.2 – 2.6 below.

## 2.1 Flight Activity Surveys

FAS were carried out between September 2019 and August 2020 (inclusive) using a series of watches from VPs overlooking the Site (Figure 3, Appendix 1) to record flight activity of target bird species. Target species included the following:

- all wild swan, goose and duck species (excluding mallard and Canada goose);
- all raptors and owls listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and/or Annex I of the Birds Directive<sup>4</sup>;
- all wader species; and
- black grouse.

The flight lines of all target species were recorded on large scale maps with the flight height of target species recorded at 15 second intervals. Based on the proposed turbine specifications, the three height bands used were:

- <30 m;
- 30-175 m; and
- >175 m.

In addition to recording target species flights, the number and activity of 'secondary' species was summarised every 5-minutes during each Flight Activity Survey. Secondary species included the following: cormorant, all other raptors, all gulls, raven, and selected passerines in noteworthy numbers.

### 2.1.1 Vantage Point Locations

Six VP locations were identified to cover the area within the Site Boundary and an additional 500 m buffer (Figure 3, Appendix 1). All VPs locations were chosen via a pre-survey recce, these were run through the viewshed model on Geographic Information Systems (GIS), and then 'ground-truthed' before VP surveys commenced.

Year 1 surveys were undertaken from five VP locations. Due to the Site Boundary extending further to the north west to incorporate an area with potential to locate turbines, an additional VP location (VP 6) was included for Year 2 surveys. The Site Boundary was also extended to the south; however, survey coverage of this area was not required due to the absence of planned turbines.

It is acknowledged that VP4 lies within the Site Boundary; surveyors working onsite concurrently were in regular contact with one another to ensure that there was no disturbance to any FAS from VP 4, thus avoiding the risk of disturbance affecting results of surveys from this VP.

### 2.1.2 Survey Effort

Surveys were stratified to cover all times of day including dawn and dusk periods. Each watch lasted three hours with a 30-minute break in between watches. A breakdown of monthly survey effort is shown in Table 2. Full details of survey dates, times and hourly weather conditions are presented in Table A3.1, Appendix 3.

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<sup>3</sup> NatureScot (2017) *Recommended bird survey methods to inform impact assessment of onshore wind farms*, (version 2, March 2017). NatureScot.

<sup>4</sup> Directive 2009/147/EC on the Conservation of Wild Birds ('Birds Directive')



*Table 2 Breakdown of Monthly FAS Effort Completed Between September 2019 and August 2020*

Month and year	Number of survey hours					
	VP 1	VP 2	VP 3	VP 4	VP 5	VP 6
Non-breeding season						
September 2019	6	6	6	6	6	6
October 2019	6	6	6	6	6	6
November 2019	6	6	6	6	6	6
December 2019	6	6	6	6	6	6
January 2020	6	6	6	6	6	6
February 2020	6	6	6	6	6	6
Total non-breeding season hours	36	36	36	36	36	36
Breeding Season						
March 2020	6	6	6	6	6	6
April 2020*	0	6	6	6	6	0
May 2020	12	6	6	6	6	12
June 2020	6	6	6	6	6	6
July 2020	6	6	6	6	6	6
August 2020	6	6	6	6	6	6
Total breeding season hours	36	36	36	36	36	36
*Surveys during April were delayed due to COVID-19 restrictions. These were caught up with in May to appropriately cover the required survey effort.						

## 2.2 Black Grouse Surveys

Black Grouse Surveys were completed in early May 2020, based on methods detailed in Gilbert *et al.* (1998)<sup>5</sup>. Surveys covered all potentially suitable lekking habitat within the Site Boundary and a surrounding 1.5km buffer of the Site Boundary. The Survey Area is shown in Figure 2, Appendix 1.

Survey visits sought to locate black grouse leks, and count the number of males present at each lek if necessary. A third survey visit to determine the number of lekking males was not required, as no black grouse were recorded during Visit 1 or 2 in May 2020. Full details of survey dates, times and hourly weather conditions are presented in Table A3.2, Appendix 3.

## 2.3 Breeding Nightjar Surveys

Breeding Nightjar Surveys were completed in June and July 2020, based on methods detailed in Gilbert *et al.* (1998)<sup>5</sup>. Surveys covered all potentially suitable breeding habitat within the Site Boundary and a surrounding 500 m buffer of the Site Boundary. The Survey Area is shown in Figure 2, Appendix 1.

Survey visits sought to locate 'churring' (singing) males at dusk. Full details of survey dates, times and hourly weather conditions are presented in Table A3.3, Appendix 3.

<sup>5</sup> Gilbert, G., Gibbons, D. W. and Evans, E. (2012) *Bird Monitoring Methods: A Manual of Techniques for Key UK Species*. Pelagic Publishing. ISBN 1-901930-03-3.

## 2.4 Breeding Raptor Surveys

In line with NatureScot guidance<sup>3</sup>, walkover surveys and additional watches of suitable areas of breeding habitat were undertaken to detect the presence of target raptors and owls within 2km of the Site Boundary (1km for barn owl), following methods detailed in with Hardey *et al.* (2013)<sup>6</sup>.

Target raptor species included those associated with the habitats present within the Site; such as, osprey, goshawk, hen harrier, short-eared owl, and merlin as well as all other Annex I (EU Birds Directive)<sup>7</sup> and Schedule 1 (Wildlife and Countryside Act)<sup>8</sup> raptors.

The Survey Area is shown in Figure 2, Appendix 1. Details of survey dates, times and hourly weather conditions are presented in Table A3.4, Appendix 3.

## 2.5 Breeding Bird Survey

A Breeding Bird Survey (BBS) was undertaken between May and July 2020 to map breeding birds, targeted within open moorland in the Survey Area. In line with NatureScot guidance<sup>Error! Bookmark not defined.</sup>, the survey followed an adapted Brown and Shepherd (1993) method (designed to census upland breeding waders), with four survey visits undertaken to map territories of moorland birds of conservation concern as per NatureScot survey guidelines. The Survey Area is shown in Figure 2, Appendix 1. Full details of survey dates, times and hourly weather conditions are presented in Table A3.5, Appendix 3.

### 2.5.1 Breeding Territory Analysis

Upon completion of all four BBS visits, an analysis was completed to determine the number and approximate location of breeding territories of species of conservation concern, which are defined as species listed on one or more of the following:

- Annex I of the Birds Directive<sup>7</sup>;
- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)<sup>8</sup>;
- UK Birds of Conservation Concern (BoCC) Red or Amber list<sup>9</sup>; and
- Birds listed on the Scottish Biodiversity List (SBL)<sup>10</sup>.

All registrations of species of conservation concern recorded on the field maps were transferred to produce 'species summary maps' from which the number and distribution of likely territories for each species could be determined. The method was based on that described by Bibby (2000)<sup>11</sup>, with an element of professional judgement.

A precautionary approach was followed with a bird deemed to be holding a territory if breeding behaviour (e.g. singing, alarm-calling, adults carrying food) was observed, or if pairs of birds were observed in suitable habitat, during just one of the four Breeding Bird Survey visits. For certain species (e.g. common sandpiper and house sparrow), where a single bird was observed in the same area of suitable breeding habitat during multiple survey visits and it was considered likely that the species would be breeding, these registrations were also considered to represent a breeding territory.

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<sup>6</sup> Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. and Thompson, D. (2013). Raptors: a field guide to survey and monitoring, 3<sup>rd</sup> edition. NatureScot, Inverness

<sup>7</sup> <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:020:0007:0025:EN:PDF>

<sup>8</sup> <http://www.legislation.gov.uk/ukpga/1981/69>

<sup>9</sup> Eaton, M.A., Aebischer, N.J., Brown, A., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A., and Gregory, R.D. (2015). Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds* 108, 708-746.

<sup>10</sup> <https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy/scottish-biodiversity-list>

<sup>11</sup> Bibby, C.J., Burgess, N.D., Hill, D.A. and Mustoe, S.H. (2000) Bird Census Techniques (2<sup>nd</sup> Edition)

## 2.6 Winter Walkover Survey

Walkover surveys within the Site and a 500m buffer of the Site Boundary were carried out twice between December 2019 and January 2020 to record wintering birds. The Survey Area is shown in Figure 2, Appendix 1. Full details of survey dates, times and daily average weather conditions are presented in Table A3.6, Appendix 3.

## 2.7 Survey Limitations

For the Year 2 surveys, the Site Boundary was extended to the north west and south from that used during the Year 1 surveys (as shown on Figure 2, Appendix 1). However, the survey areas (with the exception of the additional VP in the FAS) remained the same for Year 2, allowing for direct comparison of survey results. No significant limitations to the robustness of the baseline data obtained are expected from the Site Boundary change.

The majority of surveys were carried out in optimal weather conditions, with good visibility during diurnal surveys. However, the extensive survey programme meant that it was not always possible to avoid sub-optimal weather, especially when conditions varied from those forecast. This included periods of rain, mist and reduced visibility. It is considered that undertaking surveys in a range of conditions is more likely to capture bird activity that is representative of the Site and surrounding area. As such, weather conditions are not considered to represent a significant limitation to the robustness of the baseline data obtained.

Due to COVID-19 restrictions, there was no access permitted to the Site between 15<sup>th</sup> March and 27<sup>th</sup> April 2020, therefore no surveys could be undertaken during this period. For this reason, some surveys were delayed from commencing until May 2020 when survey effort was increased to make up for the lack of surveys in late March and April. As such, this is not considered to represent a significant limitation to the robustness of the baseline data obtained.

### 3 RESULTS

#### 3.1 Flight Activity Surveys

##### 3.1.1 Target Species Flights

A total of 18 flights by seven identified target species were recorded during the FAS. Details of additional flights by three sensitive species are presented in the Confidential Annex. Of the target species summarised below, merlin was recorded most frequently (five flights (split between both the breeding and non-breeding season)). Pink-footed goose and hen harrier recorded four flights outwith the breeding season. All other species were recorded infrequently. A summary of all target species flights, broken down by species and season, is provided in Table 3. With the exception of sensitive species, full details of each target species flight are presented in Table A4.1, Appendix 4 and flight lines are shown in Figures 4 and 5, Appendix 1.

*Table 3 Summary of Target Species Flights Recorded During the 2019-20 FAS*

Species*	Flights in breeding season (Mar-Aug 2020)	Flights in non-breeding season (Sep 2019 - Feb 2020)	Total no. of flights	No. of birds per flight	Schedule 1/ Annex 1 listings	Conservation listing(s)***	Corresponding figure no.
Greylag Goose	0	1	1	7		Amber	4
Pink-footed Goose	0	4	4	36-180		Amber	4
Marsh Harrier	1	0	1	1	Sch1.1; Ann1	Amber; SBL	5
Hen Harrier	0	4	4	1	Sch1.1 & 1A; Ann1	Red; SBL	5
Curlew	1	0	1	1		Red; SBL	4
Woodcock	1	1	2	1		Red; SBL	4
Merlin	3	2	5	1	Sch1.1; Ann1	Red; SBL	5
Total no. of flights	6	12	18				

##### 3.1.2 Secondary Species Registrations

Five secondary species were recorded during the FAS, with buzzard and raven recorded most frequently. There were also regular registrations of kestrel, sparrowhawk and mallard. Secondary species were generally recorded in low numbers, with the majority of flights comprising single birds, and at most four individuals.

## 3.2 Black Grouse Survey

### 3.2.1 Black Grouse Survey Results

Suitable habitat for lekking black grouse was present within 1.5km of the Site Boundary, including areas of immature coniferous forestry and clearings, moorland and open rough grazing.

During targeted surveys to record lekking males, no black grouse were recorded. As no black grouse were recorded, only two survey visits were necessary in accordance with the method.

Despite the absence of black grouse observations during the targeted surveys, several recent records of black grouse were obtained during the desk study detailed in the Confidential Annex, including a probable breeding record in 2019.

## 3.3 Breeding Raptor Surveys

### 3.3.1 Target Raptor Species

Details of sensitive breeding species are provided in the Confidential Annex. In addition, the following two target raptor species, neither of which was breeding, were recorded during the 2020 Breeding Raptor Survey:

- Marsh Harrier: A single immature female bird was recorded flying to the east of Linfern Loch on 2<sup>nd</sup> June 2020. An immature female was also recorded south of Linfern Loch during FAS on 28<sup>th</sup> May 2020, which was potentially the same bird. No breeding behaviour was observed and there was no suitable breeding habitat for this species within the Raptor Survey Area; and
- Merlin: A single adult female was recorded in the south west of the Raptor Survey Area on 2<sup>nd</sup> June 2020. No evidence of breeding was recorded; however, there was suitable habitat for this species within the Raptor Survey Area.

### 3.3.2 Secondary Species

Three secondary species were observed during the surveys: buzzard, sparrowhawk and kestrel. Registrations of each species are briefly summarised below:

- Buzzard: Recorded during the majority of surveys. Displaying and nesting birds were recorded, and several pairs were considered to be breeding within the Raptor Survey Area;
- Sparrowhawk: there were occasional registrations and the species was considered to be breeding within the Raptor Survey Area; and
- Kestrel: there were regular registrations, and several pairs were considered to be breeding within the Raptor Survey Area.

## 3.4 Breeding Bird Survey

### 3.4.1 Species of Conservation Concern

Of the total 34 species recorded, 24 were of conservation concern, as defined in Section 2.5.1, including 22 species assessed as breeding<sup>12</sup>. Territories of these species are shown in Figures 6 and 7, Appendix 1. There were large numbers of breeding meadow pipits (not counted) and skylark (35 territories), while other species were recorded at low density. Numbers of territories of each of these species are provided in Table 4.

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<sup>12</sup> Defined as all birds that were potentially breeding (identified as described in Section 2.5.1), including birds that were defending or holding a territory (even if this was not subsequently occupied by any nesting birds) and regardless of the outcome (i.e. including birds that may have been unsuccessful in their breeding attempts).

The only non-breeding species of conservation concern which was recorded was swift.

Further information regarding species listed on Schedule 1 is included in the Confidential Annex.

*Table 4: Summary of Species of Conservation Concern Assessed as Breeding During the 2020 BBS*

Species*	Number of territories in BBS Area			Relevant legislation/ conservation listings**	Corresponding Figure no.
	Within Site Boundary	In 500m buffer	Total		
Mallard	0	3	3	Amber	7
Teal	0	1	1	Amber	7
Cuckoo	1	1	2	Red; SBL	7
Oystercatcher	0	1	1	Amber	7
Woodcock	1	0	1	Red; SBL	7
Snipe	0	3	3	Amber	7
Common sandpiper	0	1	1	Amber	7
Skylark	8	27	35	Red; SBL	6
House martin	0	1	1	Amber	7
Willow warbler	14	5	19	Amber	7
Grasshopper warbler	0	1	1	Red; SBL	7
Song thrush	8	1	9	Red; SBL	7
Mistle thrush	9	2	11	Red	7
Spotted flycatcher	1	0	0	Red; SBL	7
Redstart	1	0	1	Amber	7
Dipper	0	3	3	Amber	7
Grey wagtail	0	2	2	Red	7
Meadow pipit	Very common (not counted)			Amber	N/A
Tree pipit	7	2	9	Red; SBL	7
Bullfinch	2	0	2	Amber; SBL	7
Lesser redpoll	11	0	11	Red; SBL	7

Species*	Number of territories in BBS Area			Relevant legislation/ conservation listings**	Corresponding Figure no.
	Within Site Boundary	In 500m buffer	Total		
Reed bunting	0	2	2	Amber; SBL	7

\*Species names and order follow the British List maintained by the BOU<sup>1</sup>.  
 \*\* Sch1.1 = Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)  
 Red = UK Red-listed BoCC<sup>9</sup>; Amber = UK Amber-listed BoCC<sup>9</sup>; SBL = listed on the Scottish Biodiversity List<sup>10</sup>

### 3.4.2 Other Species

The remaining 20 species, which are generally common and widespread<sup>13</sup>, were as follows: Canada goose, tufted duck, pheasant, buzzard, woodpigeon, jackdaw, carrion crow, raven, coal tit, blue tit, sand martin, swallow, whitethroat, goldcrest, wren, robin, stonechat, wheatear, chaffinch and goldfinch. The majority of these species were confirmed or likely to have bred within the Survey Area.

Any common raptor species which are probable breeders within the Raptor Survey Area were discussed in Section 3.3.

### 3.5 Winter Walkover Survey

A total of 42 species were recorded during the Winter Walkover Survey. This included 21 species of conservation concern (as defined in Section 2.5.1). Species recorded were generally in low numbers, with crossbill the most frequently recorded target species. Further information regarding species listed on Schedule 1 is included in the Confidential Annex. Key findings are summarised below:

- one hen harrier flight was recorded in Visit 1, with a single adult male hunting within the north west of the Winter Walkover Survey Area adjacent to the Site Boundary;
- one peregrine flight was recorded in Visit 2, with a single adult male flying in the west of the Winter Walkover Survey Area, outside of the Site Boundary;
- a pair of goldeneye were recorded wintering on Linfern Loch on both visits;
- numerous flocks of crossbill were recorded during both visits, with 15 singing males recorded across the Site in suitable breeding habitat, and
- woodcock were flushed on several occasions, with a maximum count of four in a single day during the first visit.

The remaining 16 species of conservation concern recorded were: mallard, tawny owl, kestrel, skylark, starling, fieldfare, redwing, mistle thrush, dunnock, grey wagtail, meadow pipit, bullfinch, linnets, lesser redpoll, siskin and reed bunting.

The remaining 21 species are common and widespread and considered to be of low conservation interest<sup>13</sup>: woodpigeon, grey heron, sparrowhawk, buzzard, great spotted woodpecker, jay, magpie, jackdaw, carrion crow, raven, coal tit, blue tit, great tit, goldcrest, wren, treecreeper, blackbird, robin, stonechat, chaffinch and goldfinch.

<sup>13</sup> UK BoCC Green-listed species that are not afforded special protection under Annex I of the Birds Directive or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

## 4 SUMMARY OF KEY FINDINGS

### 4.1 Flight Activity by Target Species

A total of 20 flights by eight identified target species were recorded during the FAS (Figures 4 and 5, Appendix 1), with merlin the most frequently recorded species (five flights), followed by hen harrier and pink-footed goose (four flights each). The remaining species had two or fewer flights recorded.

Hen harrier was recorded within the Site Boundary during the non-breeding season, with areas of open ground and forest edge used by individuals for hunting; however, there was no evidence of any winter roosting.

### 4.2 Black Grouse Survey

There were no records of black grouse during targeted surveys for this species. Furthermore, no black grouse were recorded incidentally during FAS, raptor surveys and WWO. There was suitable habitat for this species both within the Site Boundary and within 1.5km of the Site Boundary. Recent records of black grouse were obtained during a desk study, as detailed in the Confidential Annex, which included a potential breeding record from 2019.

### 4.3 Breeding Raptor Surveys

Merlin and marsh harrier were recorded during breeding raptor surveys, however there was no evidence that either species was breeding. In addition, several secondary raptor species were recorded, and are either confirmed or likely to be breeding within the Breeding Raptor Survey Area.

Information relating to additional Schedule 1 species is provided in the Confidential Annex.

### 4.4 Breeding Bird Surveys

The breeding bird community within the Site and surrounding 500 m Buffer Area was typical of the Site location and habitats present. Breeding wader species recorded were snipe (three territories), oystercatcher and common sandpiper (both with a single territory). Other breeding species of conservation concern included high numbers of skylark and meadow pipit and small numbers of a range of other passerine and wildfowl species (Figures 6-7, Appendix 1).

### 4.5 Winter Walkover Survey

The wintering bird population was typical of the Site location and habitats present, and included small numbers of target species. No Schedule 1 raptor roosts or foraging wildfowl flocks were identified within the Survey Area (although as noted in Section 4.1, four pink-footed goose flights were recorded during the FAS). Fifteen male crossbills were observed singing during surveys, indicating active breeding territories. Details of breeding crossbill, which is a Schedule 1 species, are presented in the Confidential Annex.



## APPENDIX 1 - FIGURES

Figure 1: Site Boundary

Figure 2: Ornithological Survey Areas

Figure 3: Vantage Point Locations and Viewsheds

Figure 4: Target Species Flights - Waders and Wildfowl

Figure 5: Target Species Flights - Marsh Harrier, Hen Harrier and Merlin

Figure 6: Breeding Bird Territories – Skylark

Figure 7: Breeding Bird Territories – Wildfowl, Waders and Passerines

## APPENDIX 2 - BIRD SPECIES NAMES AND CONSERVATION DESIGNATIONS

Table A2.1 provides English vernacular and scientific names for all bird species named in this report. Taxonomic order and nomenclature is based on the BOU 'British List'<sup>1</sup>.

*Table A2.1 List of English Vernacular and Scientific Names of Bird Species Mentioned in this Report*

Species*		Schedule 1/Annex I listings	Conservation listings**
English (British) vernacular name	Scientific name		
Greylag Goose	<i>Anser anser</i>		Amber
Pink-footed Goose	<i>Anser brachyrhynchus</i>		Amber
Mallard	<i>Anas platyrhynchos</i>		Amber
Teal	<i>Anas crecca</i>		Amber
Goldeneye	<i>Bucephala clangula</i>		Amber
Black Grouse	<i>Lyrurus tetrix</i>		Red; SBL
Grey Heron	<i>Ardea cinerea</i>		
Osprey	<i>Pandion haliaetus</i>	Sch1.1; Ann1	Amber; SBL
Goshawk	<i>Accipiter gentilis</i>	Sch1.1	
Sparrowhawk	<i>Accipiter nisus</i>		
Hen Harrier	<i>Circus cyaneus</i>	Sch1.1 & 1A; Ann1	Red; SBL
Buzzard	<i>Buteo buteo</i>		
Oystercatcher	<i>Haematopus ostralegus</i>		Amber
Woodcock	<i>Scolopax rusticola</i>		Red; SBL
Snipe	<i>Gallinago gallinago</i>		Amber
Common Sandpiper	<i>Actitis hypoleucos</i>		Amber
Cuckoo	<i>Cuculus canorus</i>		Red; SBL
Tawny Owl	<i>Strix aluco</i>		Amber
Nightjar	<i>Caprimulgus europaeus</i>		
Swift	<i>Apus apus</i>		Amber; SBL
Great Spotted Woodpecker	<i>Dendrocopos major</i>		
Woodpigeon	<i>Columba palumbus</i>		
Kestrel	<i>Falco tinnunculus</i>		Amber; SBL

Species*		Schedule 1/Annex I listings	Conservation listings**
English (British) vernacular name	Scientific name		
Merlin	<i>Falco columbarius</i>	Sch1.1; Ann1	Red; SBL
Jay	<i>Garrulus glandarius</i>		
Magpie	<i>Pica pica</i>		
Jackdaw	<i>Coloeus monedula</i>		
Carrion Crow	<i>Corvus corone</i>		
Raven	<i>Corvus corax</i>		
Coal Tit	<i>Periparus ater</i>		
Blue Tit	<i>Cyanistes caeruleus</i>		
Great Tit	<i>Parus major</i>		
Skylark	<i>Alauda arvensis</i>		Red; SBL
House Martin	<i>Delichon urbicum</i>		
Willow Warbler	<i>Phylloscopus trochilus</i>		Amber
Grasshopper Warbler	<i>Locustella naevia</i>		Red; SBL
Goldcrest	<i>Regulus regulus</i>		
Wren	<i>Troglodytes troglodytes</i>		
Treecreeper	<i>Certhia familiaris</i>		Green
Blackbird	<i>Turdus merula</i>		
Fieldfare	<i>Turdus pilaris</i>	Sch1.1	Red
Redwing	<i>Turdus iliacus</i>	Sch1.1	Red; SBL
Song Thrush	<i>Turdus philomelos</i>		Red; SBL
Mistle Thrush	<i>Turdus viscivorus</i>		Red
Spotted Flycatcher	<i>Muscicapa striata</i>		Red; SBL
Redstart	<i>Phoenicurus phoenicurus</i>		Amber
Robin	<i>Erithacus rubecula</i>		
Stonechat	<i>Saxicola rubicola</i>		
Dipper	<i>Cinclus cinclus</i>		Amber
House Sparrow	<i>Passer domesticus</i>		Red; SBL

Species*		Schedule 1/Annex I listings	Conservation listings**
English (British) vernacular name	Scientific name		
Dunnock	<i>Prunella modularis</i>		Amber; SBL
Grey Wagtail	<i>Motacilla cinerea</i>		Red
Meadow Pipit	<i>Anthus pratensis</i>		Amber
Tree Pipit	<i>Anthus trivialis</i>		Red; SBL
Chaffinch	<i>Fringilla coelebs</i>		
Bullfinch	<i>Pyrrhula pyrrhula</i>		Amber; SBL
Linnet	<i>Linaria cannabina</i>		Red; SBL
Lesser Redpoll	<i>Acanthis cabaret</i>		Red; SBL
Crossbill	<i>Loxia curvirostra</i>	Sch1.1	
Goldfinch	<i>Carduelis carduelis</i>		
Siskin	<i>Spinus spinus</i>		SBL
Reed Bunting	<i>Emberiza schoeniclus</i>		Amber; SBL
<p>*Species names and order follow the British List maintained by the BOU<sup>1</sup></p> <p>** Sch1.1 and Sch1A = Schedule 1 and 1A of the Wildlife and Countryside Act 1981 (as amended)<sup>Error! Bookmark not defined.</sup>, Ann1 = Annex I of the Birds Directive<sup>Error! Bookmark not defined.</sup>, Red = UK BoCC Red list; Amber = UK BoCC Amber list, SBL = Scottish Biodiversity List<sup>10</sup></p>			

### APPENDIX 3 - ORNITHOLOGICAL SURVEY TIMES AND WEATHER CONDITIONS

Full details of the 2019-20 Ornithology Surveys, including hourly weather conditions, are presented below in Tables A3.1 to A3.6.

*Table A3.1 Survey Times and Hourly Weather Conditions During the 2019-20 FAS*

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
23/09/2019	VP1	TD	12:45	15:45	1	3	SSE	1	8	2	2	0	0	
23/09/2019	VP1	TD	12:45	15:45	2	3	SSE	0	7	2	2	0	0	
23/09/2019	VP1	TD	12:45	15:45	3	3	SSE	0	7	2	2	0	0	
23/09/2019	VP1	TD	16:15	19:15	1	3	SSE	1	8	2	2	0	0	
23/09/2019	VP1	TD	16:15	19:15	2	3	SSE	1	8	2	2	0	0	
23/09/2019	VP1	TD	16:15	19:15	3	3	SSE	1	8	2	2	0	0	
24/09/2019	VP2	TD	12:45	15:45	1	2	SE	1	8	1	1	0	0	Showers/ mist over hills
24/09/2019	VP2	TD	12:45	15:45	2	2	SE	1	8	1	1	0	0	Showers/ mist over hills
24/09/2019	VP2	TD	12:45	15:45	3	2	SE	1	8	1	1	0	0	Showers/ mist over hills
24/09/2019	VP2	TD	16:15	19:15	1	2	SE	1	8	1	1	0	0	Mist/ drizzle
24/09/2019	VP2	TD	16:15	19:15	2	2	SE	1	7	2	2	0	0	
24/09/2019	VP2	TD	16:15	19:15	3	2	SE	1	5	2	2	0	0	
25/09/2019	VP3	TD	07:10	10:10	1	2	SSW	1	8	0	0	0	0	Mist/ drizzle
25/09/2019	VP3	TD	07:10	10:10	2	2	SSW	1	8	1	1	0	0	Mist/ drizzle
25/09/2019	VP3	TD	07:10	10:10	3	2	SSW	1	8	1	1	0	0	Mist/ drizzle
25/09/2019	VP3	TD	10:40	13:40	1	2	SSW	1	8	1	1	0	0	Mist/ drizzle
25/09/2019	VP3	TD	10:40	13:40	2	2	SSW	1	8	1	1	0	0	Mist/ drizzle
25/09/2019	VP3	TD	10:40	13:40	3	2	SSW	0	7	2	2	0	0	Clearing
26/09/2019	VP4	TD	07:10	10:10	1	3	SW	0	8	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
26/09/2019	VP4	TD	07:10	10:10	2	3	SW	1	8	1	1	0	0	Mist/ drizzle on hills
26/09/2019	VP4	TD	07:10	10:10	3	3	SW	1	8	1	1	0	0	Mist/ drizzle on hills
26/09/2019	VP4	TD	10:40	13:40	1	3	SW	1	8	1	1	0	0	Mist/ drizzle on hills
26/09/2019	VP4	TD	10:40	13:40	2	3	SW	0	8	2	2	0	0	Clear
26/09/2019	VP4	TD	10:40	13:40	3	3	SW	1	8	2	2	0	0	
27/09/2019	VP5	TD	07:10	10:10	1	2	SE	1	6	2	2	0	0	Drizzle
27/09/2019	VP5	TD	07:10	10:10	2	2	S	1	5	2	2	0	0	Drizzle
27/09/2019	VP5	TD	07:10	10:10	3	2	SSW	1	7	2	2	0	0	Drizzle
27/09/2019	VP5	TD	10:40	13:40	1	2	SW	2	6	2	2	0	0	Light showers
27/09/2019	VP5	TD	10:40	13:40	2	2	SW	2	7	2	2	0	0	Light showers
27/09/2019	VP5	TD	10:40	13:40	3	2	SW	1	7	1	1	0	0	Drizzle
28/09/2019	VP6	TD	12:35	15:35	1	2	S	0	3	2	2	0	0	
28/09/2019	VP6	TD	12:35	15:35	2	2	S	0	4	2	2	0	0	
28/09/2019	VP6	TD	12:35	15:35	3	2	S	0	5	2	2	0	0	
28/09/2019	VP6	TD	16:05	19:05	1	2	SSE	2	7	2	2	0	0	Light rain
28/09/2019	VP6	TD	16:05	19:05	2	2	SSE	2	7	2	2	0	0	Light rain
28/09/2019	VP6	TD	16:05	19:05	3	2	S	2	7	2	2	0	0	Light rain
14/10/2019	VP1	TD	07:45	10:45	1	2	SE	0	8	2	2	0	0	
14/10/2019	VP1	TD	07:45	10:45	2	2	SE	0	8	2	2	0	0	
14/10/2019	VP1	TD	07:45	10:45	3	2	SE	0	8	2	2	0	0	
14/10/2019	VP1	TD	11:15	14:15	1	2	SE	0	5	2	2	0	0	
14/10/2019	VP1	TD	11:15	14:15	2	2	SE	0	6	2	2	0	0	
14/10/2019	VP1	TD	11:15	14:15	3	2	SE	0	6	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
15/10/2019	VP2	TD	07:50	10:50	1	1	SE	0	3	1	1	0	0	Mist over hill tips
15/10/2019	VP2	TD	07:50	10:50	2	2	SE	0	4	1	1	0	0	Mist
15/10/2019	VP2	TD	07:50	10:50	3	2	SE	0	4	2	2	0	0	Clear
15/10/2019	VP2	TD	11:20	14:20	1	2	SE	0	3	2	2	0	0	
15/10/2019	VP2	TD	11:20	14:20	2	2	SE	0	4	2	2	0	0	
15/10/2019	VP2	TD	11:20	14:20	3	2	SE	0	3	2	2	0	0	
16/10/2019	VP3	TD	11:50	14:50	1	3	S	2	7	2	2	0	0	Light shower
16/10/2019	VP3	TD	11:50	14:50	2	3	S	0	4	2	2	0	0	
16/10/2019	VP3	TD	11:50	14:50	3	3	S	0	3	2	2	0	0	
16/10/2019	VP3	TD	15:20	18:20	1	3	S	0	3	2	2	0	0	
16/10/2019	VP3	TD	15:20	18:20	2	3	S	0	2	2	2	0	0	
16/10/2019	VP3	TD	15:20	18:20	3	3	S	0	6	2	2	0	0	Low cloud over hill tops.
17/10/2019	VP4	TD	11:50	14:50	1	3	SE	0	6	2	2	0	0	
17/10/2019	VP4	TD	11:50	14:50	2	3	SE	0	7	2	2	0	0	
17/10/2019	VP4	TD	11:50	14:50	3	3	SE	0	7	2	2	0	0	
17/10/2019	VP4	TD	15:20	18:20	1	3	SE	2	6	2	2	0	0	Showers
17/10/2019	VP4	TD	15:20	18:20	2	3	SE	2	7	2	2	0	0	Showers
17/10/2019	VP4	TD	15:20	18:20	3	3	SE	2	7	2	2	0	0	Showers
18/10/2019	VP5	TD	11:45	14:45	1	2	E	0	3	2	2	0	0	
18/10/2019	VP5	TD	11:45	14:45	2	2	E	0	4	2	2	0	0	
18/10/2019	VP5	TD	11:45	14:45	3	2	E	0	4	2	2	0	0	
18/10/2019	VP5	TD	15:15	18:15	1	2	E	0	4	2	2	0	0	
18/10/2019	VP5	TD	15:15	18:15	2	2	E	0	5	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
18/10/2019	VP5	TD	15:15	18:15	3	2	E	0	5	2	2	0	0	
19/10/2019	VP6	TD	06:30	09:30	1	2	N	2	8	1	1	0	0	Light showers/ mist on hill tops
19/10/2019	VP6	TD	06:30	09:30	2	2	N	2	8	1	1	0	0	Light showers/ mist on hill tops
19/10/2019	VP6	TD	06:30	09:30	3	2	N	2	8	2	2	0	0	Light showers - clear
19/10/2019	VP6	TD	10:00	13:00	1	2	N	1	8	2	2	0	0	Drizzle
19/10/2019	VP6	TD	10:00	13:00	2	2	N	0	8	2	2	0	0	
19/10/2019	VP6	TD	10:00	13:00	3	2	N	0	8	2	2	0	0	
18/11/2019	VP1	TD	09:40	12:40	1	1	E	0	1	2	2	2	0	Minus 1.5 °C ground frost
18/11/2019	VP1	TD	09:40	12:40	2	1	E	0	1	2	2	2	0	Minus 1.5 °C ground frost
18/11/2019	VP1	TD	09:40	12:40	3	1	E	0	1	2	2	2	0	Minus 1 °C
18/11/2019	VP1	TD	13:10	16:10	1	1	E	0	1	2	2	2	0	Minus 1 °C
18/11/2019	VP1	TD	13:10	16:10	2	1	E	0	1	2	2	2	0	Minus 1 °C ground frost
18/11/2019	VP1	TD	13:10	16:10	3	1	E	0	1	2	2	2	0	Minus 1 °C ground frost
19/11/2019	VP2	TD	13:10	16:10	1	2	SE	0	7	2	2	2	2	Minus 1 °C ground frost
19/11/2019	VP2	TD	13:10	16:10	2	2	SE	0	7	2	2	2	2	
19/11/2019	VP2	TD	13:10	16:10	3	2	SE	0	6	2	2	2	2	
19/11/2019	VP2	TD	09:40	12:40	1	2	SE	0	5	2	2	2	2	Minus 3 °C
19/11/2019	VP2	TD	09:40	12:40	2	2	SE	0	7	2	2	2	2	
19/11/2019	VP2	TD	09:40	12:40	3	2	SE	0	8	2	2	2	2	
20/11/2019	VP4	TD	08:00	11:00	1	3	SE	0	4	2	2	1	2	Linfern Loch frozen over
20/11/2019	VP4	TD	08:00	11:00	2	3	SE	0	7	2	2	1	2	Linfern Loch frozen over



Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
20/11/2019	VP4	TD	08:00	11:00	3	3	SE	0	8	2	2	1	2	Linn Loch frozen over
20/11/2019	VP4	TD	11:30	14:30	1	3	SE	0	8	2	2	1	2	
20/11/2019	VP4	TD	11:30	14:30	2	3	SE	0	8	2	2	0	2	2-3 °C
20/11/2019	VP4	TD	11:30	14:30	3	3	SE	0	8	2	2	0	2	
21/11/2019	VP3	TD	08:05	11:05	1	2	SE	0	8	1	1	0	0	No frost
21/11/2019	VP3	TD	08:05	11:05	2	2	SE	0	8	2	2	0	0	
21/11/2019	VP3	TD	08:05	11:05	3	2	SE	0	8	2	2	0	0	
21/11/2019	VP3	TD	11:35	14:35	1	2	SE	0	8	2	2	0	0	
21/11/2019	VP3	TD	11:35	14:35	2	2	SE	0	8	2	2	0	0	
21/11/2019	VP3	TD	11:35	14:35	3	2	SE	0	8	2	2	0	0	
22/11/2019	VP5	TD	08:10	11:10	1	2	NE	2	8	2	2	0	0	Light showers
22/11/2019	VP5	TD	08:10	11:10	2	2	NE	2	8	2	2	0	0	Light showers
22/11/2019	VP5	TD	08:10	11:10	3	2	NE	2	8	2	2	0	0	Light showers
22/11/2019	VP5	TD	11:40	14:40	1	2	NE	2	8	2	2	0	0	
22/11/2019	VP5	TD	11:40	14:40	2	2	NE	0	8	2	2	0	0	
22/11/2019	VP5	TD	11:40	14:40	3	2	NE	2	8	2	2	0	0	
23/11/2019	VP6	TD	09:30	12:30	1	3	NE	0	8	2	2	0	0	
23/11/2019	VP6	TD	09:30	12:30	2	3	NE	1	8	1	1	0	0	Cloud on hilltops
23/11/2019	VP6	TD	09:30	12:30	3	3	NE	1	8	1	1	0	0	Cloud on hilltops
23/11/2019	VP6	TD	13:00	16:00	1	3	NE	0	8	1	1	0	0	Low cloud over hill tops.
23/11/2019	VP6	TD	13:00	16:00	2	3	NE	0	8	1	1	0	0	Low cloud over hill tops.
23/11/2019	VP6	TD	13:00	16:00	3	3	NE	1	8	1	1	0	0	Low cloud over hill tops.
16/12/2019	VP1	TD	12:10	15:10	1	3	SW	0	8	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
16/12/2019	VP1	TD	12:10	15:10	2	3	SW	0	8	2	2	0	0	
16/12/2019	VP1	TD	12:10	15:10	3	3	SW	0	8	2	2	0	0	
16/12/2019	VP1	TD	08:40	11:40	1	2	SW	2	8	1	1	0	0	3 °C, showers
16/12/2019	VP1	TD	08:40	11:40	2	3	SW	2	8	2	2	0	0	4 °C, showers
16/12/2019	VP1	TD	08:40	11:40	3	3	SW	0	8	2	2	0	0	Dry
17/12/2019	VP2	TD	12:10	15:10	1	2	SW	0	5	2	2	0	0	
17/12/2019	VP2	TD	12:10	15:10	2	2	SW	0	4	2	2	0	0	
17/12/2019	VP2	TD	12:10	15:10	3	2	SW	0	4	2	2	0	0	
17/12/2019	VP2	TD	08:40	11:40	1	2	SW	2	8	1	1	0	0	3 °C, showers
17/12/2019	VP2	TD	08:40	11:40	2	2	SW	2	8	1	1	0	0	3 °C, showers
17/12/2019	VP2	TD	08:40	11:40	3	2	SW	0	8	2	2	0	0	Dry
18/12/2019	VP3	TD	12:50	15:50	1	4	SE	0	5	2	2	0	0	
18/12/2019	VP3	TD	12:50	15:50	2	5	SE	0	6	2	2	0	0	
18/12/2019	VP3	TD	12:50	15:50	3	5	SE	2	8	1	1	0	0	
18/12/2019	VP3	TD	09:20	12:20	1	2	SE	0	2	2	2	1	0	2 °C, ground frost
18/12/2019	VP3	TD	09:20	12:20	2	3	SE	0	2	2	2	1	0	2 °C, ground frost
18/12/2019	VP3	TD	09:20	12:20	3	4	SE	0	5	2	2	0	0	4 °C
19/12/2019	VP4	TD	09:20	12:20	1	4	SSE	2	8	1	1	0	0	
19/12/2019	VP4	TD	09:20	12:20	2	4	SSE	0	8	2	2	0	0	
19/12/2019	VP4	TD	09:20	12:20	3	4	SSE	0	8	2	2	0	0	
19/12/2019	VP4	TD	12:50	15:50	1	4	SSE	0	7	2	2	0	0	
19/12/2019	VP4	TD	12:50	15:50	2	4	SSE	0	8	2	2	0	0	
19/12/2019	VP4	TD	12:50	15:50	3	4	SSE	0	8	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
20/12/2019	VP5	TD	09:20	12:20	1	3	S	0	8	2	2	0	0	
20/12/2019	VP5	TD	09:20	12:20	2	3	S	0	8	2	2	0	0	
20/12/2019	VP5	TD	09:20	12:20	3	3	S	0	8	2	2	0	0	
20/12/2019	VP5	TD	12:50	15:50	1	3	S	1	8	2	2	0	0	Light rain
20/12/2019	VP5	TD	12:50	15:50	2	3	S	1	8	2	2	0	0	Light rain
20/12/2019	VP5	TD	12:50	15:50	3	3	S	0	8	2	2	0	0	Dry
21/12/2019	VP6	TD	08:45	11:45	1	2	S	1	8	1	1	0	0	Mist over hill tops
21/12/2019	VP6	TD	08:45	11:45	2	2	S	0	4	2	2	0	0	
21/12/2019	VP6	TD	08:45	11:45	3	2	S	0	3	2	2	0	0	
21/12/2019	VP6	TD	12:15	15:15	1	2	S	0	3	2	2	0	0	
21/12/2019	VP6	TD	12:15	15:15	2	2	S	0	4	2	2	0	0	
21/12/2019	VP6	TD	12:15	15:15	3	2	S	0	4	2	2	0	0	
20/01/2020	VP1	TD	13:30	16:30	1	2	SW	0	8	2	2	0	0	
20/01/2020	VP1	TD	13:30	16:30	2	2	SW	0	8	2	2	0	0	
20/01/2020	VP1	TD	13:30	16:30	3	2	SW	0	8	2	1	0	0	
20/01/2020	VP1	TD	10:00	13:00	1	2	SW	0	8	2	2	0	0	5 °C
20/01/2020	VP1	TD	10:00	13:00	2	2	SW	0	8	2	2	0	0	
20/01/2020	VP1	TD	10:00	13:00	3	2	SW	0	8	2	2	0	0	
21/01/2020	VP2	TD	10:00	13:00	1	2	SW	1	8	1	1	0	0	Cloud/mist over hill tops
21/01/2020	VP2	TD	10:00	13:00	2	2	SW	1	8	1	1	0	0	Cloud/mist over hill tops
21/01/2020	VP2	TD	10:00	13:00	3	2	SW	1	8	1	1	0	0	Cloud/mist over hill tops
21/01/2020	VP2	TD	13:30	16:30	1	2	SW	1	8	1	1	0	0	Cloud/mist over hill tops
21/01/2020	VP2	TD	13:30	16:30	2	2	SW	1	8	1	1	0	0	Cloud/mist over hill tops

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
21/01/2020	VP2	TD	13:30	16:30	3	2	SW	1	8	1	1	0	0	Cloud/mist over hill tops
22/01/2020	VP3	TD	08:30	11:30	1	2	W	0	8	2	2	0	0	
22/01/2020	VP3	TD	08:30	11:30	2	2	W	0	8	2	2	0	0	
22/01/2020	VP3	TD	08:30	11:30	3	2	W	0	8	2	2	0	0	
22/01/2020	VP3	TD	12:00	15:00	1	2	W	0	8	2	2	0	0	
22/01/2020	VP3	TD	12:00	15:00	2	2	W	0	8	2	2	0	0	
22/01/2020	VP3	TD	12:00	15:00	3	2	W	0	8	2	2	0	0	
23/01/2020	VP4	TD	08:30	11:30	1	3	WSW	1	8	1	1	0	0	
23/01/2020	VP4	TD	08:30	11:30	2	3	WSW	1	8	1	1	0	0	
23/01/2020	VP4	TD	08:30	11:30	3	3	WSW	0	8	1	1	0	0	
23/01/2020	VP4	TD	12:00	15:00	1	3	WSW	1	8	2	2	0	0	
23/01/2020	VP4	TD	12:00	15:00	2	3	WSW	0	8	2	2	0	0	
23/01/2020	VP4	TD	12:00	15:00	3	3	WSW	0	8	2	2	0	0	
24/01/2020	VP5	TD	11:55	14:55	1	3	SW	0	8	2	2	0	0	
24/01/2020	VP5	TD	11:55	14:55	2	3	SW	0	8	2	2	0	0	
24/01/2020	VP5	TD	11:55	14:55	3	3	SW	0	8	2	2	0	0	
24/01/2020	VP5	TD	08:25	11:25	1	3	SW	1	8	1	1	0	0	Mist over hill tops
24/01/2020	VP5	TD	08:25	11:25	2	3	SW	0	8	2	2	0	0	Clear
24/01/2020	VP5	TD	08:25	11:25	3	3	SW	0	8	2	2	0	0	Clear
25/01/2020	VP6	TD	13:40	16:40	1	4	SW	0	8	2	2	0	0	
25/01/2020	VP6	TD	13:40	16:40	2	4	SW	1	8	1	1	0	0	Mist over hill tops
25/01/2020	VP6	TD	13:40	16:40	3	4	SW	1	8	1	1	0	0	Mist over hill tops
25/01/2020	VP6	TD	09:10	13:10	1	3	SW	0	8	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
25/01/2020	VP6	TD	09:10	13:10	2	3	SW	0	8	2	2	0	0	
25/01/2020	VP6	TD	09:10	13:10	3	4	SW	0	8	2	2	0	0	
17/02/2020	VP4	TD	11:00	14:00	1	6	W	2	8	2	2	0	0	Light rain shower
17/02/2020	VP4	TD	11:00	14:00	2	6	W	0	8	2	2	0	0	
17/02/2020	VP4	TD	11:00	14:00	3	6	W	0	8	2	2	0	0	
17/02/2020	VP4	TD	14:30	17:30	1	6	W	0	8	2	2	0	0	
17/02/2020	VP4	TD	14:30	17:30	2	6	W	2	8	2	2	0	0	
17/02/2020	VP4	TD	14:30	17:30	3	6	W	0	8	2	2	0	0	
18/02/2020	VP1	TD	11:10	14:10	1	5	W	0	8	2	2	0	0	
18/02/2020	VP1	TD	11:10	14:10	2	5	W	2	8	2	2	0	0	Light shower
18/02/2020	VP1	TD	11:10	14:10	3	5	W	2	8	2	2	0	0	Light shower
18/02/2020	VP1	TD	07:40	10:40	1	5	W	0	8	2	2	0	0	
18/02/2020	VP1	TD	07:40	10:40	2	5	W	0	8	2	2	0	0	
18/02/2020	VP1	TD	07:40	10:40	3	5	W	0	8	2	2	0	0	
19/02/2020	VP2	TD	07:40	10:40	1	4	SW	2	8	2	2	0	0	Sleet
19/02/2020	VP2	TD	07:40	10:40	2	4	SW	2	8	2	2	0	0	Sleet
19/02/2020	VP2	TD	07:40	10:40	3	4	SW	2	8	2	2	0	0	Sleet
19/02/2020	VP2	TD	11:10	14:10	1	4	SW	2	8	2	2	0	0	Sleet
19/02/2020	VP2	TD	11:10	14:10	2	4	SW	2	8	2	2	0	0	Sleet
19/02/2020	VP2	TD	11:10	14:10	3	4	SW	2	8	2	2	0	0	Sleet
20/02/2020	VP3	TD	14:35	17:35	1	3	W	0	8	2	2	0	2	
20/02/2020	VP3	TD	14:35	17:35	2	3	W	2	8	2	2	0	2	Sleet
20/02/2020	VP3	TD	14:35	17:35	3	3	W	2	8	2	2	0	2	Sleet

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
20/02/2020	VP3	TD	11:05	14:05	1	3	W	2	8	2	2	0	2	Sleet
20/02/2020	VP3	TD	11:05	14:05	2	3	W	2	8	2	2	0	2	Sleet
20/02/2020	VP3	TD	11:05	14:05	3	3	W	2	8	2	2	0	2	Sleet
21/02/2020	VP5	TD	11:05	14:05	1	5	W	3	8	2	2	0	2	Heavy showers
21/02/2020	VP5	TD	11:05	14:05	2	5	W	2	8	2	2	0	2	Light showers
21/02/2020	VP5	TD	11:05	14:05	3	5	W	3	8	2	2	0	2	Heavy showers
21/02/2020	VP5	TD	14:35	17:35	1	5	W	3	8	2	2	0	2	Heavy showers
21/02/2020	VP5	TD	14:35	17:35	2	5	W	2	8	2	2	0	2	Light showers
21/02/2020	VP5	TD	14:35	17:35	3	5	W	2	8	2	2	0	2	Light showers
22/02/2020	VP6	TD	07:30	10:30	1	4	WSW	2	8	2	2	0	1	Snow showers - 5cm on ground
22/02/2020	VP6	TD	07:30	10:30	2	4	WSW	2	8	2	2	0	1	Snow showers - 5cm on ground
22/02/2020	VP6	TD	07:30	10:30	3	4	WSW	2	8	2	2	0	1	Snow showers - 5cm on ground
22/02/2020	VP6	TD	11:00	14:00	1	4	WSW	2	8	2	2	0	1	Snow shower
22/02/2020	VP6	TD	11:00	14:00	2	4	WSW	2	8	2	2	0	1	Snow shower
22/02/2020	VP6	TD	11:00	14:00	3	4	WSW	2	8	2	2	0	1	Snow shower
09/03/2020	VP1	TD	11:40	14:40	1	3	SW	0	8	2	2	0	0	
09/03/2020	VP1	TD	11:40	14:40	2	3	SW	0	8	2	2	0	0	
09/03/2020	VP1	TD	11:40	14:40	3	3	SW	1	8	2	2	0	0	Drizzle
09/03/2020	VP1	TD	15:10	18:10	1	3	SW	0	8	2	2	0	0	
09/03/2020	VP1	TD	15:10	18:10	2	3	SW	0	8	2	2	0	0	
09/03/2020	VP1	TD	15:10	18:10	3	3	SW	0	8	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
10/03/2020	VP4	TD	06:45	09:45	1	4	S	0	8	2	2	0	0	
10/03/2020	VP4	TD	06:45	09:45	2	4	S	0	8	2	2	0	0	
10/03/2020	VP4	TD	06:45	09:45	3	4	S	0	8	2	2	0	0	
10/03/2020	VP4	TD	10:15	13:15	1	4	S	2	8	2	2	0	0	Light shower
10/03/2020	VP4	TD	10:15	13:15	2	5	S	2	8	2	2	0	0	Light shower
10/03/2020	VP4	TD	10:15	13:15	3	5	S	2	8	2	2	0	0	Light shower
11/03/2020	VP5	TD	06:40	09:40	1	5	SW	2	8	2	2	0	0	Cold wind
11/03/2020	VP5	TD	06:40	09:40	2	5	SW	2	8	2	1	0	0	Cold wind
11/03/2020	VP5	TD	06:40	09:40	3	5	SW	2	8	2	2	0	0	Cold wind
11/03/2020	VP5	TD	10:10	13:10	1	5	SW	0	6	2	2	0	0	Cold wind
11/03/2020	VP5	TD	10:10	13:10	2	5	SW	0	7	2	2	0	0	Cold wind
11/03/2020	VP5	TD	10:10	13:10	3	5	SWS	0	6	2	2	0	0	
12/03/2020	VP6	TD	15:15	18:15	1	4	W	2	6	2	2	0	1	Snow on ground
12/03/2020	VP6	TD	15:15	18:15	2	4	W	2	5	1	1	0	1	Snow on ground
12/03/2020	VP6	TD	15:15	18:15	3	4	W	2	6	1	1	0	1	Snow on ground
12/03/2020	VP6	TD	11:45	14:45	1	4	W	0	8	2	2	0	1	Snow on ground
12/03/2020	VP6	TD	11:45	14:45	2	4	W	1	8	2	2	0	1	Snow on ground
12/03/2020	VP6	TD	11:45	14:45	3	4	W	1	7	2	2	0	1	
13/03/2020	VP3	TD	10:05	13:05	1	2	ESE	0	3	2	2	1	1	Light frost and snow on ground
13/03/2020	VP3	TD	10:05	13:05	2	2	ESE	0	4	2	2	0	1	Snow on ground
13/03/2020	VP3	TD	10:05	13:05	3	2	ESE	0	4	2	2	0	1	Snow on ground

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
13/03/2020	VP3	TD	06:35	09:35	1	2	E	0	1	2	2	1	1	Light frost and snow on ground
13/03/2020	VP3	TD	06:35	09:35	2	2	E	0	1	2	2	1	1	Light frost and snow on ground
13/03/2020	VP3	TD	06:35	09:35	3	2	E	0	1	2	2	1	1	Light frost and snow on ground
14/03/2020	VP2	TD	11:50	14:50	1	3	S	0	8	2	2	0	2	Snow on ground
14/03/2020	VP2	TD	11:50	14:50	2	3	S	0	8	2	2	0	2	Snow on ground
14/03/2020	VP2	TD	11:50	14:50	3	3	S	0	8	2	2	0	2	Snow on ground
14/03/2020	VP2	TD	15:20	18:20	1	3	S	1	8	2	2	0	2	Drizzle
14/03/2020	VP2	TD	15:20	18:20	2	3	S	1	8	1	1	0	2	Drizzle
14/03/2020	VP2	TD	15:20	18:20	3	3	S	1	8	1	1	0	2	Drizzle
27/04/2020	VP5	TD	17:50	20:50	1	1	W	0	3	2	2	0	0	9 °C
27/04/2020	VP5	TD	17:50	20:50	2	1	W	0	4	2	2	0	0	
27/04/2020	VP5	TD	17:50	20:50	3	1	W	0	3	2	2	0	0	8 °C
27/04/2020	VP5	TD	14:20	17:20	1	1	W	0	3	2	2	0	0	10 °C
27/04/2020	VP5	TD	14:20	17:20	2	1	W	0	3	2	2	0	0	
27/04/2020	VP5	TD	14:20	17:20	3	1	W	0	3	2	2	0	0	10 °C
28/04/2020	VP3	TD	14:25	17:25	1	2	E	0	4	2	2	0	0	11 °C
28/04/2020	VP3	TD	14:25	17:25	2	2	E	0	4	2	2	0	0	
28/04/2020	VP3	TD	14:25	17:25	3	2	E	0	5	2	2	0	0	11 °C
28/04/2020	VP3	TD	17:55	20:55	1	2	E	0	6	2	2	0	0	10 °C
28/04/2020	VP3	TD	17:55	20:55	2	2	E	0	5	2	2	0	0	
28/04/2020	VP3	TD	17:55	20:55	3	2	E	0	5	2	2	0	0	9 °C



Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
29/04/2020	VP2	TD	05:40	08:40	1	2	E	0	5	2	2	0	0	
29/04/2020	VP2	TD	05:40	08:40	2	2	E	0	7	2	2	0	0	
29/04/2020	VP2	TD	05:40	08:40	3	2	E	0	8	2	2	0	0	
29/04/2020	VP2	TD	09:10	12:10	1	3	E	0	7	2	2	0	0	
29/04/2020	VP2	TD	09:10	12:10	2	3	E	0	8	2	2	0	0	
29/04/2020	VP2	TD	09:10	12:10	3	3	E	2	8	2	2	0	0	Light rain
30/04/2020	VP4	TD	05:40	08:40	1	2	NE	0	7	2	2	0	0	
30/04/2020	VP4	TD	05:40	08:40	2	2	NE	2	6	2	2	0	0	
30/04/2020	VP4	TD	05:40	08:40	3	2	NE	2	7	2	2	0	0	
30/04/2020	VP4	TD	09:10	12:10	1	2	NE	2	7	2	2	0	0	Showers
30/04/2020	VP4	TD	09:10	12:10	2	2	NE	2	8	2	2	0	0	Showers
30/04/2020	VP4	TD	09:10	12:10	3	2	NE	2	7	2	2	0	0	Showers
01/05/2020	VP6	TD	05:35	08:35	1	2	W	0	1	2	2	0	0	
01/05/2020	VP6	TD	05:35	08:35	2	2	W	0	1	2	2	0	0	
01/05/2020	VP6	TD	05:35	08:35	3	2	W	0	2	2	2	0	0	
01/05/2020	VP6	TD	09:05	12:05	1	2	W	0	2	2	2	0	0	10 °C
01/05/2020	VP6	TD	09:05	12:05	2	2	W	0	1	2	2	0	0	
01/05/2020	VP6	TD	09:05	12:05	3	2	W	0	2	2	2	0	0	12 °C
02/05/2020	VP1	TD	05:35	08:35	1	2	NW	0	4	2	2	0	0	5 °C
02/05/2020	VP1	TD	05:35	08:35	2	2	NW	0	3	2	2	0	0	
02/05/2020	VP1	TD	05:35	08:35	3	2	NW	0	3	2	2	0	0	7 °C
02/05/2020	VP1	TD	09:05	12:05	1	2	NW	0	2	2	2	0	0	8 °C
02/05/2020	VP1	TD	09:05	12:05	2	2	NW	0	1	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
02/05/2020	VP1	TD	09:05	12:05	3	2	NW	0	1	2	2	0	0	10 °C
25/05/2020	VP1	TD	15:10	18:10	1	3	SSW	0	3	2	2	0	0	17 °C
25/05/2020	VP1	TD	15:10	18:10	2	3	SSW	0	3	2	2	0	0	17 °C
25/05/2020	VP1	TD	15:10	18:10	3	3	SSW	0	3	2	2	0	0	15 °C
25/05/2020	VP1	TD	18:40	21:40	1	3	SSW	0	3	2	2	0	0	14 °C
25/05/2020	VP1	TD	18:40	21:40	2	3	SSW	0	25	2	2	0	0	14 °C
25/05/2020	VP1	TD	18:40	21:40	3	3	SSW	0	2	2	2	0	0	13 °C
26/05/2020	VP2	TD	15:10	18:10	1	3	W	0	4	2	2	0	0	15 °C
26/05/2020	VP2	TD	15:10	18:10	2	3	W	0	5	2	2	0	0	15 °C
26/05/2020	VP2	TD	15:10	18:10	3	3	W	0	4	2	2	0	0	15 °C
26/05/2020	VP2	TD	18:40	21:40	1	3	W	0	2	2	2	0	0	13 °C
26/05/2020	VP2	TD	18:40	21:40	2	3	W	0	2	2	2	0	0	12 °C
26/05/2020	VP2	TD	18:40	21:40	3	3	W	0	2	2	2	0	0	11 °C
27/05/2020	VP3	TD	04:50	07:50	1	1	W	0	7	2	2	0	0	10 °C
27/05/2020	VP3	TD	04:50	07:50	2	1	W	0	8	2	2	0	0	
27/05/2020	VP3	TD	04:50	07:50	3	1	W	0	8	2	2	0	0	12 °C
27/05/2020	VP3	TD	08:20	11:20	1	1	W	0	4	2	2	0	0	14 °C
27/05/2020	VP3	TD	08:20	11:20	2	1	W	0	3	2	2	0	0	
27/05/2020	VP3	TD	08:20	11:20	3	1	W	0	3	2	2	0	0	16 °C
28/05/2020	VP4	TD	15:15	18:15	1	1	SW	0	2	2	2	0	0	21 °C
28/05/2020	VP4	TD	15:15	18:15	2	1	SW	0	1	2	2	0	0	21 °C
28/05/2020	VP4	TD	15:15	18:15	3	1	SW	0	1	2	2	0	0	20 °C
28/05/2020	VP4	TD	18:45	21:45	1	1	SW	0	3	2	2	0	0	19 °C

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
28/05/2020	VP4	TD	18:45	21:45	2	1	SW	0	2	2	2	0	0	17 °C
28/05/2020	VP4	TD	18:45	21:45	3	1	SW	0	2	2	2	0	0	14 °C
29/05/2020	VP5	TD	04:50	07:50	1	1	S	0	1	2	2	0	0	12 °C
29/05/2020	VP5	TD	04:50	07:50	2	1	S	0	1	2	2	0	0	12 °C
29/05/2020	VP5	TD	04:50	07:50	3	1	S	0	1	2	2	0	0	13 °C
29/05/2020	VP5	TD	08:20	11:20	1	1	S	0	1	2	2	0	0	15 °C
29/05/2020	VP5	TD	08:20	11:20	2	1	S	0	1	2	2	0	0	17 °C
29/05/2020	VP5	TD	08:20	11:20	3	1	S	0	1	2	2	0	0	19 °C
30/05/2020	VP6	TD	15:15	18:15	1	2	SE	0	2	2	2	0	0	21 °C
30/05/2020	VP6	TD	15:15	18:15	2	2	SE	0	2	2	2	0	0	21 °C
30/05/2020	VP6	TD	15:15	18:15	3	2	SE	0	2	2	2	0	0	20 °C
30/05/2020	VP6	TD	18:45	21:45	1	2	SE	0	1	2	2	0	0	19 °C
30/05/2020	VP6	TD	18:45	21:45	2	2	SE	0	2	2	2	0	0	17 °C
30/05/2020	VP6	TD	18:45	21:45	3	2	SE	0	2	2	2	0	0	16 °C
15/06/2020	VP5	TD	15:30	18:30	1	1	E	3	8	1	1	0	0	Thunder shower
15/06/2020	VP5	TD	15:30	18:30	2	1	E	0	5	2	2	0	0	Dry
15/06/2020	VP5	TD	15:30	18:30	3	1	E	0	4	2	2	0	0	Dry
15/06/2020	VP5	TD	19:00	22:00	1	1	E	3	7	2	2	0	0	Thunder shower
15/06/2020	VP5	TD	19:00	22:00	2	1	E	3	7	1	1	0	0	Thunder shower
15/06/2020	VP5	TD	19:00	22:00	3	1	E	0	4	2	2	0	0	Dry
16/06/2020	VP3	TD	15:30	18:30	1	1	WNW	2	8	2	2	0	0	17 °C
16/06/2020	VP3	TD	15:30	18:30	2	2	WNW	2	8	2	2	0	0	17 °C
16/06/2020	VP3	TD	15:30	18:30	3	2	WNW	2	8	2	2	0	0	16 °C

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
16/06/2020	VP3	TD	19:00	22:00	1	2	WNW	2	8	2	2	0	0	15 °C
16/06/2020	VP3	TD	19:00	22:00	2	2	WNW	2	8	1	1	0	0	15 °C
16/06/2020	VP3	TD	19:00	22:00	3	2	WNW	2	8	1	1	0	0	13 °C
17/06/2020	VP1	TD	04:35	07:35	1	1	W	0	8	2	2	0	0	
17/06/2020	VP1	TD	04:35	07:35	2	1	W	3	8	2	2	0	0	Heavy showers
17/06/2020	VP1	TD	04:35	07:35	3	1	W	3	8	2	1	0	0	Heavy showers
17/06/2020	VP1	TD	08:05	11:05	1	1	W	0	8	2	2	0	0	
17/06/2020	VP1	TD	08:05	11:05	2	2	W	0	7	2	2	0	0	
17/06/2020	VP1	TD	08:05	11:05	3	2	W	1	7	2	2	0	0	
18/06/2020	VP2	TD	04:35	07:35	1	1	W	0	1	2	2	0	0	
18/06/2020	VP2	TD	04:35	07:35	2	1	E	0	1	2	2	0	0	
18/06/2020	VP2	TD	04:35	07:35	3	1	E	0	1	2	2	0	0	
18/06/2020	VP2	TD	08:05	11:05	1	1	E	0	1	2	2	0	0	
18/06/2020	VP2	TD	08:05	11:05	2	1	E	0	1	2	2	0	0	
18/06/2020	VP2	TD	08:05	11:05	3	1	E	0	1	2	2	0	0	
19/06/2020	VP4	TD	15:35	18:35	1	2	SW	0	8	2	2	0	0	
19/06/2020	VP4	TD	15:35	18:35	2	2	SW	0	8	2	2	0	0	
19/06/2020	VP4	TD	15:35	18:35	3	2	SW	0	8	2	2	0	0	
19/06/2020	VP4	TD	19:05	22:05	1	2	SW	2	8	2	2	0	0	
19/06/2020	VP4	TD	19:05	22:05	2	2	SW	2	8	2	2	0	0	
19/06/2020	VP4	TD	19:05	22:05	3	2	SW	2	8	1	1	0	0	
20/06/2020	VP6	TD	08:05	11:05	1	2	S	0	2	2	2	0	0	
20/06/2020	VP6	TD	08:05	11:05	2	2	S	0	1	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
20/06/2020	VP6	TD	08:05	11:05	3	2	S	0	1	2	2	0	0	
20/06/2020	VP6	TD	04:35	07:35	1	1	S	0	3	2	2	0	0	
20/06/2020	VP6	TD	04:35	07:35	2	1	S	0	4	2	2	0	0	
20/06/2020	VP6	TD	04:35	07:35	3	2	S	0	3	2	2	0	0	
20/07/2020	VP4	TD	05:05	08:05	1	3	W	0	7	2	2	0	0	
20/07/2020	VP4	TD	05:05	08:05	2	3	W	0	6	2	2	0	0	
20/07/2020	VP4	TD	05:05	08:05	3	3	W	0	6	2	2	0	0	
20/07/2020	VP4	TD	08:35	11:35	1	3	W	0	6	2	2	0	0	
20/07/2020	VP4	TD	08:35	11:35	2	4	W	0	6	2	2	0	0	
20/07/2020	VP4	TD	08:35	11:35	3	4	W	0	7	2	2	0	0	
21/07/2020	VP5	TD	05:05	08:05	1	2	SW	0	6	2	2	0	0	
21/07/2020	VP5	TD	05:05	08:05	2	2	SW	0	4	2	2	0	0	
21/07/2020	VP5	TD	05:05	08:05	3	2	SW	0	4	2	2	0	0	
21/07/2020	VP5	TD	08:35	11:35	1	2	SW	0	6	2	2	0	0	
21/07/2020	VP5	TD	08:35	11:35	2	3	SW	0	7	2	2	0	0	
21/07/2020	VP5	TD	08:35	11:35	3	3	SW	0	7	2	2	0	0	
22/07/2020	VP6	TD	15:15	18:15	1	3	SW	1	8	1	1	0	0	Drizzle/mist
22/07/2020	VP6	TD	15:15	18:15	2	4	SW	1	8	1	1	0	0	Drizzle/mist
22/07/2020	VP6	TD	15:15	18:15	3	5	SW	1	8	1	1	0	0	Drizzle/mist
22/07/2020	VP6	TD	18:45	21:45	1	3	SSW	2	8	1	1	0	0	Rain/ mist over hills
22/07/2020	VP6	TD	18:45	21:45	2	3	SSW	2	8	1	1	0	0	Rain/ mist over hills
22/07/2020	VP6	TD	18:45	21:45	3	3	SSW	2	8	1	1	0	0	Rain/ mist over hills
23/07/2020	VP1	TD	15:15	18:15	1	2	SW	1	8	2	2	0	0	Light rain

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
23/07/2020	VP1	TD	15:15	18:15	2	2	SW	1	8	2	2	0	0	Light rain
23/07/2020	VP1	TD	15:15	18:15	3	2	SW	1	8	2	2	0	0	Light rain
23/07/2020	VP1	TD	18:45	21:45	1	2	SW	0	8	2	2	0	0	
23/07/2020	VP1	TD	18:45	21:45	2	2	SW	0	8	2	2	0	0	
23/07/2020	VP1	TD	18:45	21:45	3	2	SW	0	8	2	2	0	0	
24/07/2020	VP3	TD	05:15	08:15	1	2	W	0	8	2	2	0	0	
24/07/2020	VP3	TD	05:15	08:15	2	2	W	0	8	2	2	0	0	
24/07/2020	VP3	TD	05:15	08:15	3	2	W	0	8	2	2	0	0	
24/07/2020	VP3	TD	08:45	11:45	1	2	W	0	8	2	2	0	0	13 °C
24/07/2020	VP3	TD	08:45	11:45	2	2	W	0	8	2	2	0	0	
24/07/2020	VP3	TD	08:45	11:45	3	2	W	0	8	2	2	0	0	15 °C
25/07/2020	VP2	TD	15:10	18:10	1	2	SW	1	8	1	1	0	0	Drizzle/mist
25/07/2020	VP2	TD	15:10	18:10	2	2	SW	0	8	2	2	0	0	
25/07/2020	VP2	TD	15:10	18:10	3	2	SW	0	6	2	2	0	0	
25/07/2020	VP2	TD	18:40	21:40	1	2	SW	0	5	2	2	0	0	
25/07/2020	VP2	TD	18:40	21:40	2	2	SW	0	4	2	2	0	0	
25/07/2020	VP2	TD	18:40	21:40	3	2	SW	0	3	2	2	0	0	
10/08/2020	VP1	TD	05:45	08:45	1	1	E	0	8	1	1	0	0	Mist over hill tops
10/08/2020	VP1	TD	05:45	08:45	2	1	E	0	7	2	2	0	0	Clear
10/08/2020	VP1	TD	05:45	08:45	3	1	E	0	7	2	2	0	0	Clear
10/08/2020	VP1	TD	09:15	12:15	1	1	E	0	6	2	2	0	0	15 °C
10/08/2020	VP1	TD	09:15	12:15	2	2	E	0	4	2	2	0	0	
10/08/2020	VP1	TD	09:15	12:15	3	2	E	0	4	2	2	0	0	19 °C

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
11/08/2020	VP2	TD	05:45	08:45	1	1	NW	1	8	1	1	0	0	Mist/ drizzle
11/08/2020	VP2	TD	05:45	08:45	2	1	NW	0	7	2	2	0	0	Clear
11/08/2020	VP2	TD	05:45	08:45	3	1	NW	0	3	2	2	0	0	Clear
11/08/2020	VP2	TD	09:15	12:15	1	1	NW	0	3	2	2	0	0	20 °C
11/08/2020	VP2	TD	09:15	12:15	2	1	NW	0	3	2	2	0	0	
11/08/2020	VP2	TD	09:15	12:15	3	1	NW	0	3	2	2	0	0	21 °C
12/08/2020	VP3	TD	14:30	17:30	1	2	NW	0	5	2	2	0	0	22 °C
12/08/2020	VP3	TD	14:30	17:30	2	2	NW	0	4	2	2	0	0	
12/08/2020	VP3	TD	14:30	17:30	3	2	NW	0	4	2	2	0	0	23 °C
12/08/2020	VP3	TD	18:00	21:00	1	2	NW	0	3	2	2	0	0	22 °C
12/08/2020	VP3	TD	18:00	21:00	2	2	NW	0	3	2	2	0	0	
12/08/2020	VP3	TD	18:00	21:00	3	2	NW	0	3	2	2	0	0	18 °C
13/08/2020	VP4	TD	14:30	17:30	1	2	E	0	3	2	2	0	0	21 °C
13/08/2020	VP4	TD	14:30	17:30	2	2	E	0	2	2	2	0	0	
13/08/2020	VP4	TD	14:30	17:30	3	2	E	0	2	2	2	0	0	21 °C
13/08/2020	VP4	TD	18:00	21:00	1	2	E	0	2	2	2	0	0	20 °C
13/08/2020	VP4	TD	18:00	21:00	2	2	E	0	2	2	2	0	0	
13/08/2020	VP4	TD	18:00	21:00	3	2	E	0	2	2	2	0	0	17 °C
14/08/2020	VP5	TD	14:25	17:25	1	2	W	0	5	2	2	0	0	20 °C
14/08/2020	VP5	TD	14:25	17:25	2	2	W	0	6	2	2	0	0	
14/08/2020	VP5	TD	14:25	17:25	3	2	W	0	4	2	2	0	0	19 °C
14/08/2020	VP5	TD	17:55	20:55	1	2	W	0	1	2	2	0	0	23 °C
14/08/2020	VP5	TD	17:55	20:55	2	2	W	0	1	2	2	0	0	

Date	VP	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow	Notes
14/08/2020	VP5	TD	17:55	20:55	3	2	W	0	1	2	2	0	0	19 °C
15/08/2020	VP6	TD	05:55	08:55	1	2	NE	0	3	2	2	0	0	14 °C
15/08/2020	VP6	TD	05:55	08:55	2	2	NE	0	3	2	2	0	0	
15/08/2020	VP6	TD	05:55	08:55	3	3	NE	0	2	2	2	0	0	16 °C
15/08/2020	VP6	TD	09:25	12:25	1	3	NE	0	2	2	2	0	0	16 °C
15/08/2020	VP6	TD	09:25	12:25	2	3	NE	0	2	2	2	0	0	
15/08/2020	VP6	TD	09:25	12:25	3	3	NE	0	2	2	2	0	0	19 °C

Key:

- Observer: TD = Tim Drew
- Wind speed: according to Beaufort Scale
- Wind direction: according to 16-point compass
- Rain: 0 = None; 1 = Drizzle/Mist; 2 = Light showers; 3 = Heavy showers; 4 = Light rain; 5 = Heavy rain
- Cloud cover: in eighths of sky (oktas)
- Cloud height: 0 = <150 m; 1 = 150-500 m; 2 = >500 m
- Visibility: 0 = Poor (<1km); 1 = Moderate (1-2km); 2 = Good (>2km)
- Frost: 0 = None; 1 = Ground frost; 2 = All day frost
- Snow: 0 = None; 1 = On site; 2 = On high ground



*Table A3.2 Survey Times and Hourly Weather Conditions During the 2020 Black Grouse Surveys*

Date	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow
01/05/2020	CN & IC	05:00	07:30	1	3	SW	0	8	2	2	0	0
				2	2	SW	0	8	2	2	0	0
				3	2	SW	0	8	2	2	0	0
03/05/2020	CN & IC	04:30	06:30	1	2	SW	0	8	2	2	0	0
				2	2	SW	0	7	2	2	0	0
07/05/2020	CN & IC	05:00	07:30	1	2	NW	0	5	2	2	0	0
				2	3	NW	0	6	2	2	0	0
				3	2	NW	0	6	2	2	0	0
09/05/2020	CN & IC	05:00	07:30	1	3	W	0	7	2	2	0	0
				2	4	WSW	1	8	2	2	0	0
				3	3	WSW	0	6	2	2	0	0

*Table A3.3 Survey times and hourly weather conditions during the 2020 Nightjar Surveys*

Date	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow
16/06/2020	CN & IC	22:00	23:30	1	2	SE	0	5	2	2	0	0
				2	2	SE	0	6	2	2	0	0
23/07/2020	CN & IC	21:45	23:15	1	3	SW	0	8	2	2	0	0
				2	3	SW	2	8	2	2	0	0

Table A3.4 Survey times and hourly weather conditions during the 2020 Breeding Raptor Surveys

Date	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow
01/05/2020	CN & IC	08:30	14:00	1	2	SW	0	8	2	2	0	0
				2	2	SW	0	8	2	2	0	0
				3	2	SW	0	8	2	2	0	0
				4	2	SW	0	8	2	2	0	0
				5	2	SW	0	8	2	2	0	0
				6	2	SW	0	8	2	2	0	0
03/05/2020	CN & IC	08:30	14:00	1	2	SW	0	8	2	2	0	0
				2	2	SW	0	7	2	2	0	0
				3	3	SW	0	8	2	2	0	0
				4	3	SW	0	6	2	2	0	0
				5	3	SW	0	5	2	2	0	0
				6	3	SW	0	7	2	2	0	0
08/05/2020	CN & IC	13:00	18:00	1	3	NW	0	6	2	2	0	0
				2	2	NW	0	6	2	2	0	0
				3	2	NW	0	6	2	2	0	0
				4	1	W	0	7	2	2	0	0
				5	2	NW	0	7	2	2	0	0
25/05/2020	CN & IC	13:30	18:30	1	3	SW	0	6	2	2	0	0
				2	2	SW	0	5	2	2	0	0
				3	3	SW	0	4	2	2	0	0
				4	4	SW	1	7	2	2	0	0
				5	3	SW	0	6	2	2	0	0

Date	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow
02/06/2020	CN & IC	10:30	16:30	1	2	SW	0	6	2	2	0	0
				2	2	SE	0	7	2	2	0	0
				3	2	S	0	5	2	2	0	0
				4	2	S	0	5	2	2	0	0
				5	2	SE	0	5	2	2	0	0
				6	2	SE	0	5	2	2	0	0
18/06/2020	CN & IC	13:00	19:00	1	2	S	0	3	2	2	0	0
				2	2	S	0	2	2	2	0	0
				3	2	S	0	2	2	2	0	0
				4	2	S	0	3	2	2	0	0
				5	2	S	0	3	2	2	0	0
				6	2	S	0	3	2	2	0	0
03/07/2020	CN & IC	12:45	17:45	1	3	SW	1	8	2	2	0	0
				2	4	SW	0	8	2	2	0	0
				3	4	SW	0	8	2	2	0	0
				4	3	SW	0	8	2	2	0	0
				5	3	SW	1	8	2	1	0	0
23/07/2020	CN & IC	14:00	20:00	1	2	W	0	8	2	2	0	0
				2	3	W	1	8	2	2	0	0
				3	2	W	0	8	2	2	0	0
				4	2	SW	1	8	2	2	0	0
				5	3	SW	2	8	2	2	0	0
				6	2	SW	0	8	2	2	0	0

Table A3.5 Survey times and hourly weather conditions during the 2020 BBS

Date	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow
07/05/2020	CN & IC	08:30	13:30	1	3	NW	0	8	2	2	0	0
				2	3	NW	0	7	2	2	0	0
				3	3	NW	0	7	2	2	0	0
				4	3	NW	0	6	2	2	0	0
				5	3	NW	0	6	2	2	0	0
				6	3	NW	0	6	2	2	0	0
08/05/2020	CN & IC	08:30	12:30	1	2	NW	0	6	2	2	0	0
				2	3	NW	0	7	2	2	0	0
				3	3	NW	0	6	2	2	0	0
				4	3	NW	0	7	2	2	0	0
				5	2	NW	0	7	2	2	0	0
09/05/2020	CN & IC	08:30	13:00	1	3	SW	0	7	2	2	0	0
				2	3	SW	0	5	2	2	0	0
				3	3	SW	0	5	2	2	0	0
				4	3	SW	0	6	2	2	0	0
				5	3	SW	0	6	2	2	0	0
25/05/2020	CN & IC	08:30	12:30	1	2	SW	0	6	2	2	0	0
				2	2	SW	0	6	2	2	0	0
				3	2	SW	0	6	2	2	0	0
				4	2	SW	0	6	2	2	0	0
				5	2	SW	0	6	2	2	0	0

Date	Observer	Survey start time	Survey end time	Hour	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow
17/06/2020	CN & IC	10:00	14:00	1	2	SE	0	3	2	2	0	0
				2	3	SE	1	5	2	2	0	0
				3	2	SE	0	4	2	2	0	0
				4	2	SE	0	3	2	2	0	0
18/06/2020	CN & IC	08:30	12:30	1	2	S	0	3	2	2	0	0
				2	2	S	0	4	2	2	0	0
				3	2	S	0	3	2	2	0	0
				4	2	S	0	3	2	2	0	0
03/07/2020	CN & IC	08:30	12:15	1	3	SW	2	8	2	2	0	0
				2	3	SW	2	8	2	1	0	0
				3	3	SW	2	8	2	1	0	0
				4	3	SW	1	8	2	2	0	0
17/07/2020	CN & IC	09:00	14:00	1	2	SE	0	6	2	2	0	0
				2	2	SE	0	5	2	2	0	0
				3	2	SE	0	4	2	2	0	0
				4	2	SE	1	7	2	2	0	0
				5	2	SE	0	6	2	2	0	0

*Table A3.6 Survey Times of the 2019-20 Winter Walkover Survey*

Date	Observer	Survey start time	Survey end time	Wind speed	Wind direction	Rain	Cloud cover	Cloud height	Visibility	Frost	Snow
11/12/2019	TD	08:20	16:45	4	SW	1	8	2	2	0	0
12/12/2019	TD	08:15	16:30	3/4	SE	1	8	2	2	0	0
13/12/2019	TD	08:15	16:40	2	SE	0	4	2	2	0	0
30/01/2020	TD	07:45	17:50	3/4	SW	1	8	2	2	0	0
31/01/2020	TD	07:40	17:55	¾	SW	1	8	2	2	0	0

#### APPENDIX 4 - DETAILS OF TARGET SPECIES FLIGHTS

With the exception of sensitive species, details of each target species flight recorded during the 2019-20 FAS are presented below in Table A4.1; any flights recorded of sensitive species are detailed in the Confidential Annex.

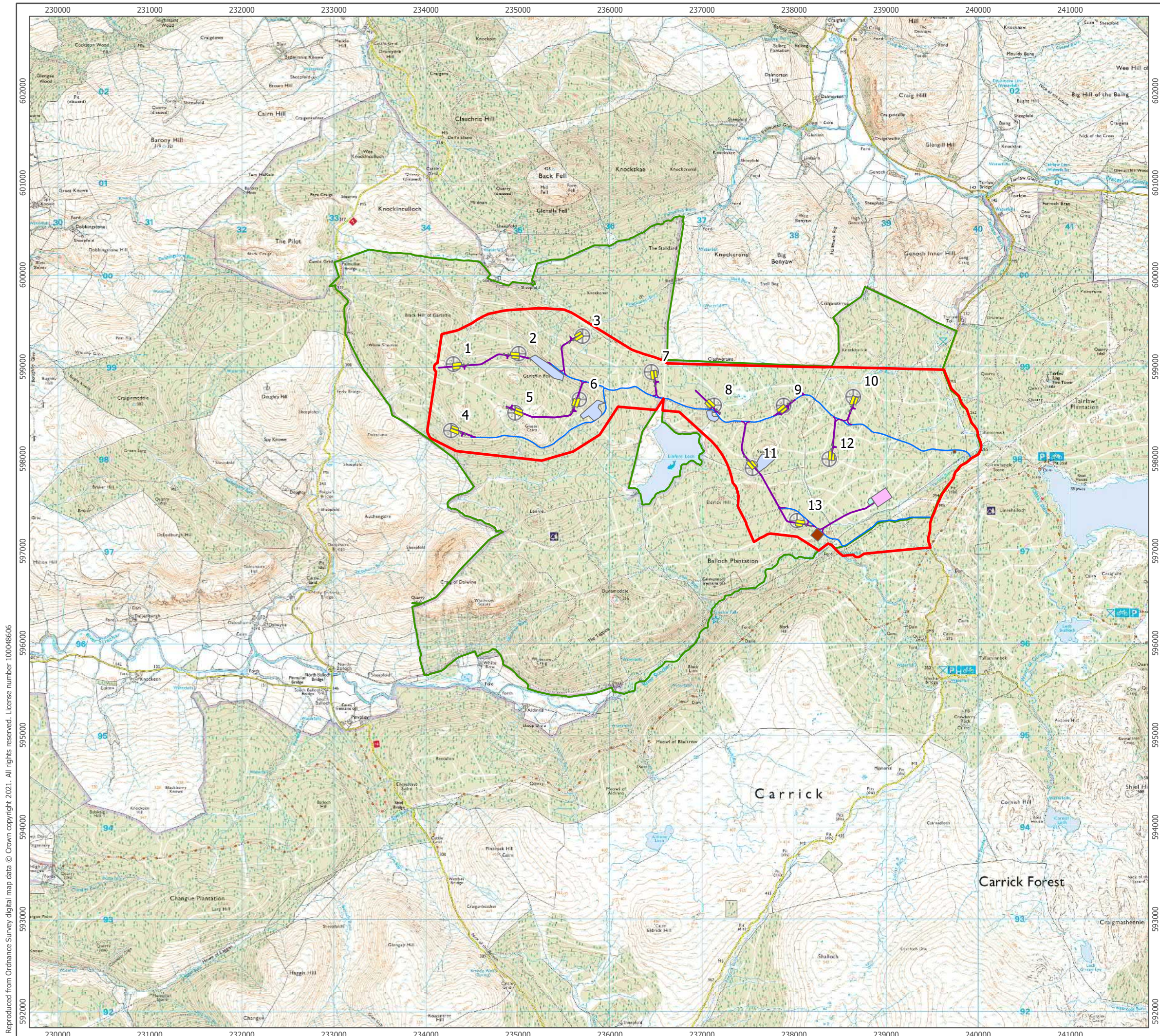
*Table A4.1 Details of Each Target Species Flight Recorded During the 2019-20 Flight Activity Surveys, Listed by Species*

Species*	VP	Observer**	Date	Flight start time	Flight duration (s)	Minimum no. of birds	Notes
Greylag Goose	VP4	TD	23/01/2020	09:02	159	7	Heading north
Pink-footed Goose	VP4	TD	26/09/2019	12:28	190	36	Heading high south
	VP6	TD	28/09/2019	14:09	188	52	High heading south west
	VP6	TD	19/10/2019	11:29	206	180	Heading south over Knockinculloch
	VP3	TD	20/02/2020	11:27	140	45	Flying high and east
Marsh Harrier	VP4	TD	28/05/2020	15:15	129	1	Immature female, mobbed by osprey
Hen Harrier	VP2	TD	15/10/2019	10:09	231	1	Ringtail hunting below VP hill.
	VP5	TD	18/10/2019	16:40	218	1	Ringtail low and hunting flying towards Garleffin Fell.
	VP2	TD	19/11/2019	15:48	259	1	Ringtail
	VP3	TD	21/11/2019	09:11	220	1	Adult male hunting low towards Craiganstirrup
Curlew	VP6	TD	01/05/2020	11:40	55	1	Flew behind VP viewshed
Woodcock	VP4	TD	19/12/2019	15:45	40	1	Flying low, landed in forestry
	VP3	TD	27/05/2020	04:52	23	1	Flying low into plantation
Merlin	VP6	TD	28/09/2019	17:58	23	1	Adult female flying low
	VP4	TD	17/10/2019	13:08	79	1	Female low and fast hunting meadow pipits near Eldrick Hill
	VP5	TD	11/03/2020	06:57	46	1	Adult male fast and low below VP towards Glenalla farm
	VP2	TD	29/04/2020	12:00	7	1	Adult female fast and low near VP





Species*	VP	Observer**	Date	Flight start time	Flight duration (s)	Minimum no. of birds	Notes
	VP3	TD	12/08/2020	19:25	148	1	Chasing a skylark below VP





- Site Boundary
- Site Boundary at time of surveys
- ⊕ Wind Turbines
- Cranepad
- Hardstanding
- SPEN Compound
- Temporary Construction Compound
- Substation Compound
- Borrow Pit Search Areas
- Access Track New
- Access Track Upgrade

1:40,000 Scale @ A3

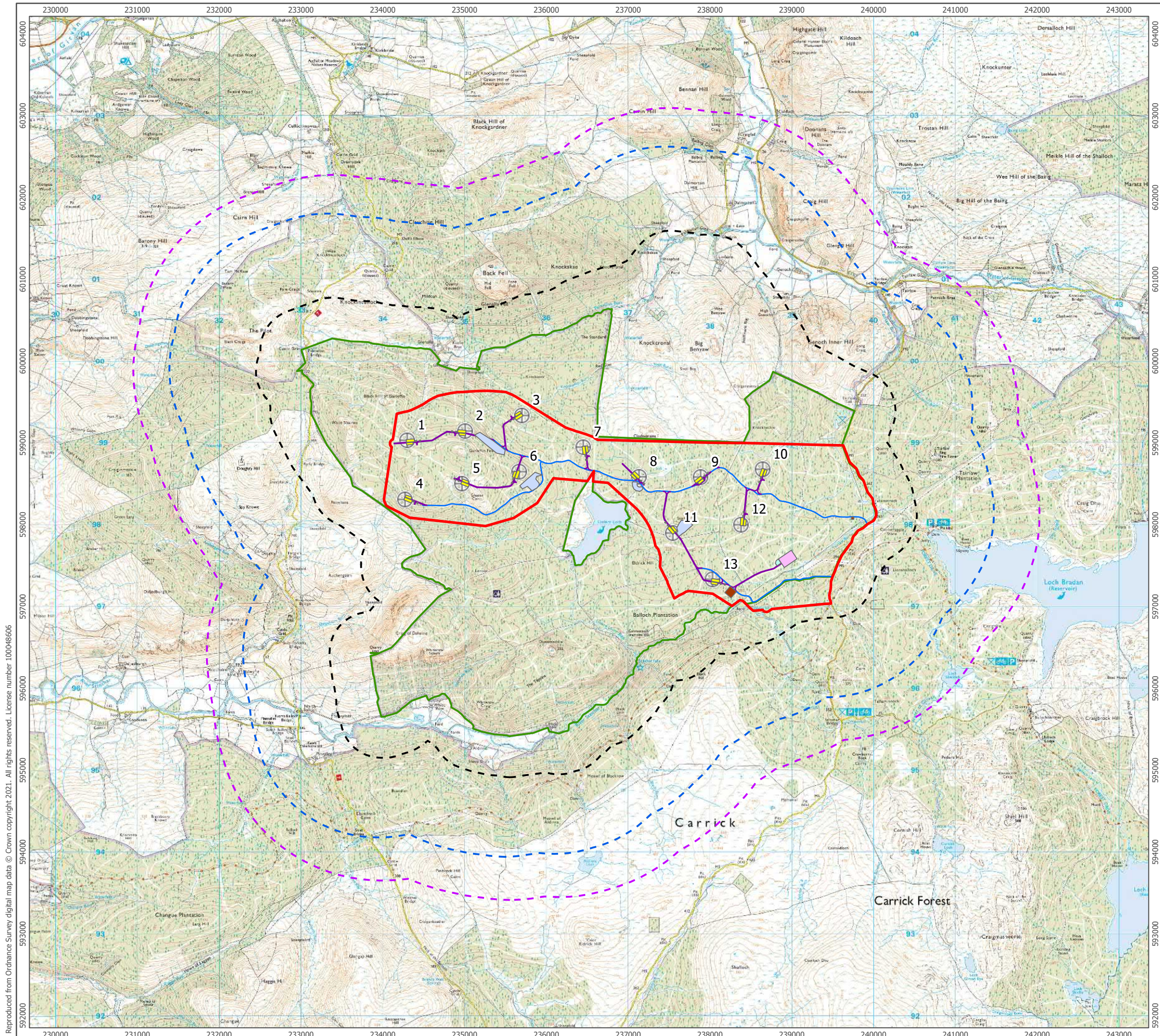



Produced By: MR	Ref: 3012-REP-016
Checked By: SC	Date: 14/12/2021

**Site Boundary**  
Figure 1, Appendix 8.3

**Carrick Windfarm, Year 2  
Baseline Ornithology Report**





- Site Boundary
- Site Boundary at time of surveys
- 500 m Buffer - Breeding Bird Survey, Nightjar Survey and Winter Walkover Survey
- 1500 m Buffer - Black Grouse Survey
- 2000 m Buffer - Breeding Raptor Survey
- ⊕ Wind Turbines
- Cranepad
- Hardstanding
- SPEN Compound
- Temporary Construction Compound
- Substation Compound
- Borrow Pit Search Areas
- Access Track New
- Access Track Upgrade

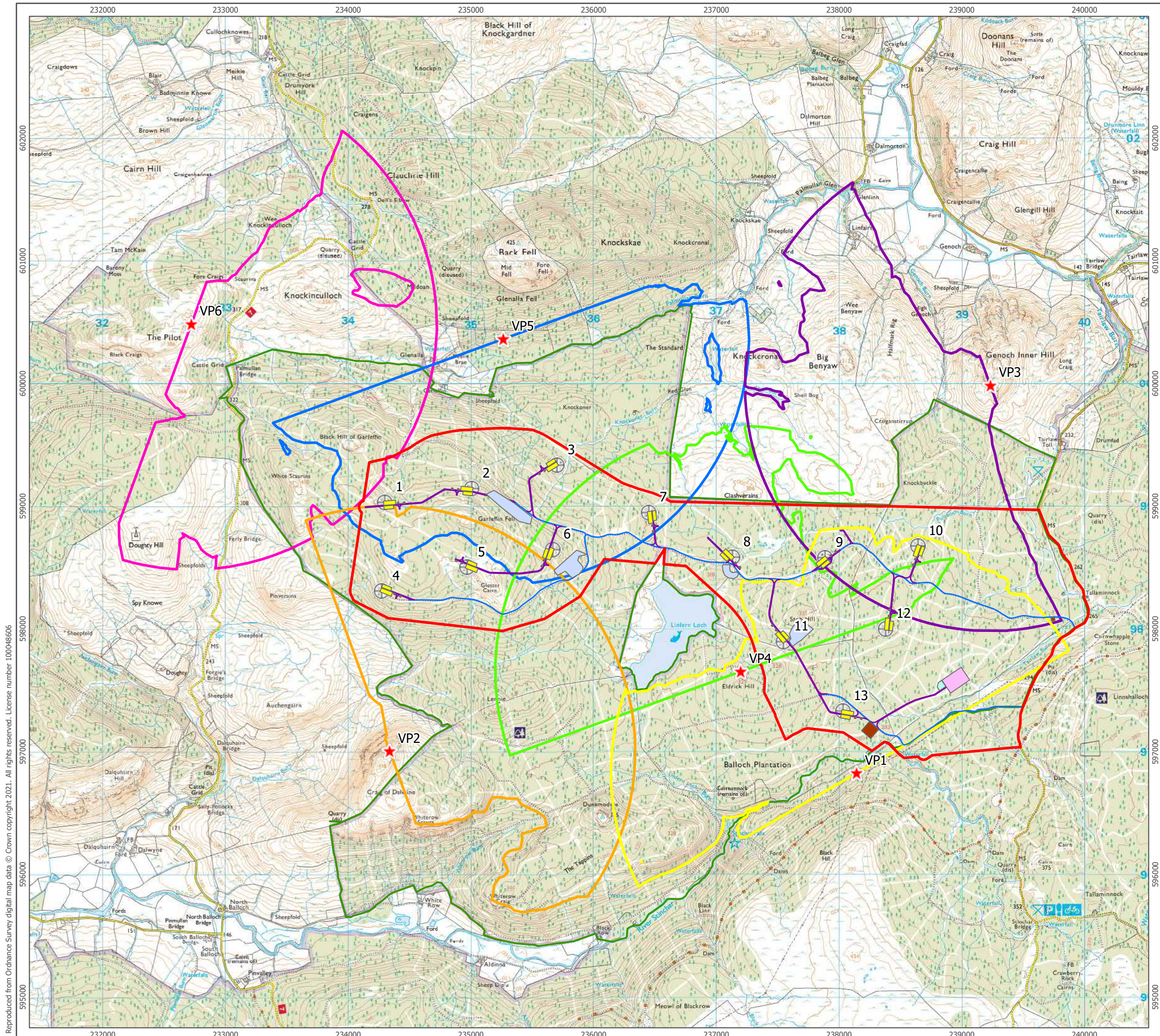
1:45,000 Scale @ A3

Produced By: MR	Ref: 3012-REP-017
Checked By: SC	Date: 14/12/2021

**Ornithological Survey Areas**  
Figure 2, Appendix 8.3

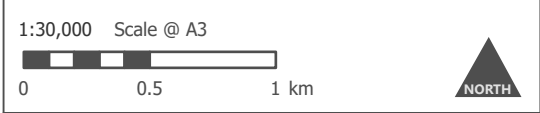
**Carrick Windfarm, Year 2  
Baseline Ornithology Report**





- Site Boundary
- Site Boundary at time of surveys
- ⊕ Wind Turbines
- Access Track Upgrade
- Access Track New
- Substation Compound
- Temporary Construction Compound
- SPEN Compound
- Hardstanding
- Cranepad
- Borrow Pit Search Areas
- ★ Vantage Points
- VP1 Viewshed
- VP2 Viewshed
- VP3 Viewshed
- VP4 Viewshed
- VP5 Viewshed
- VP6 Viewshed

Viewsheds have been calculated assuming a lowest rotor swept height of 30m.

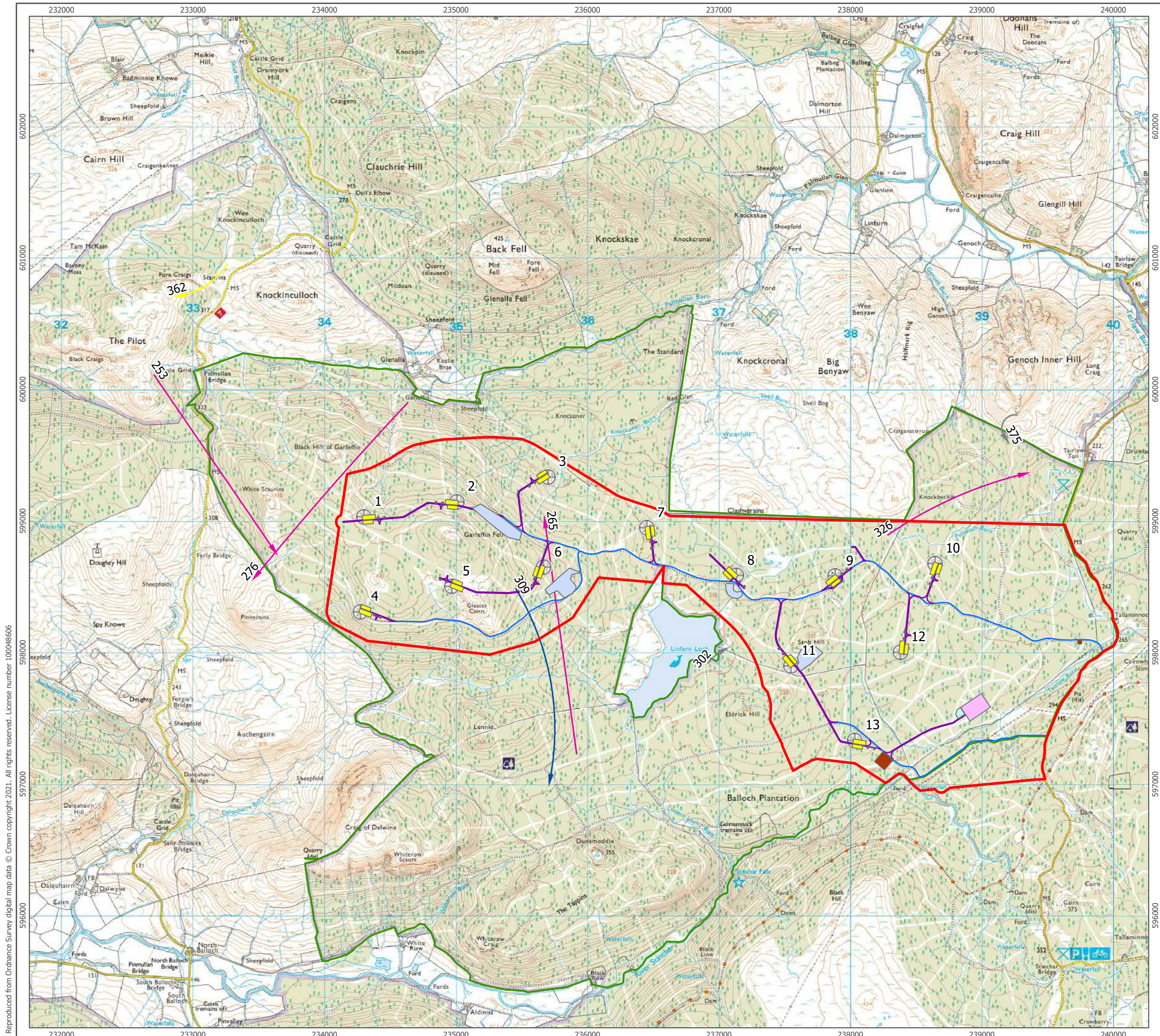


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**Vantage Point Locations and Viewsheds**  
Figure 3, Appendix 8.3

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- Site Boundary
  - Site Boundary at time of surveys
  - ⊕ Wind Turbines
  - Access Track Upgrade
  - Access Track New
  - Substation Compound
  - Temporary Construction Compound
  - SPEN Compound
  - Hardstanding
  - Cranepad
  - Borrow Pit Search Areas
- Flightlines**
- Curlew
  - Greylag Goose
  - Pink-footed Goose
  - Woodcock

Numbers shown are key numbers, which are unique to each flight and allow identification of individual flights.

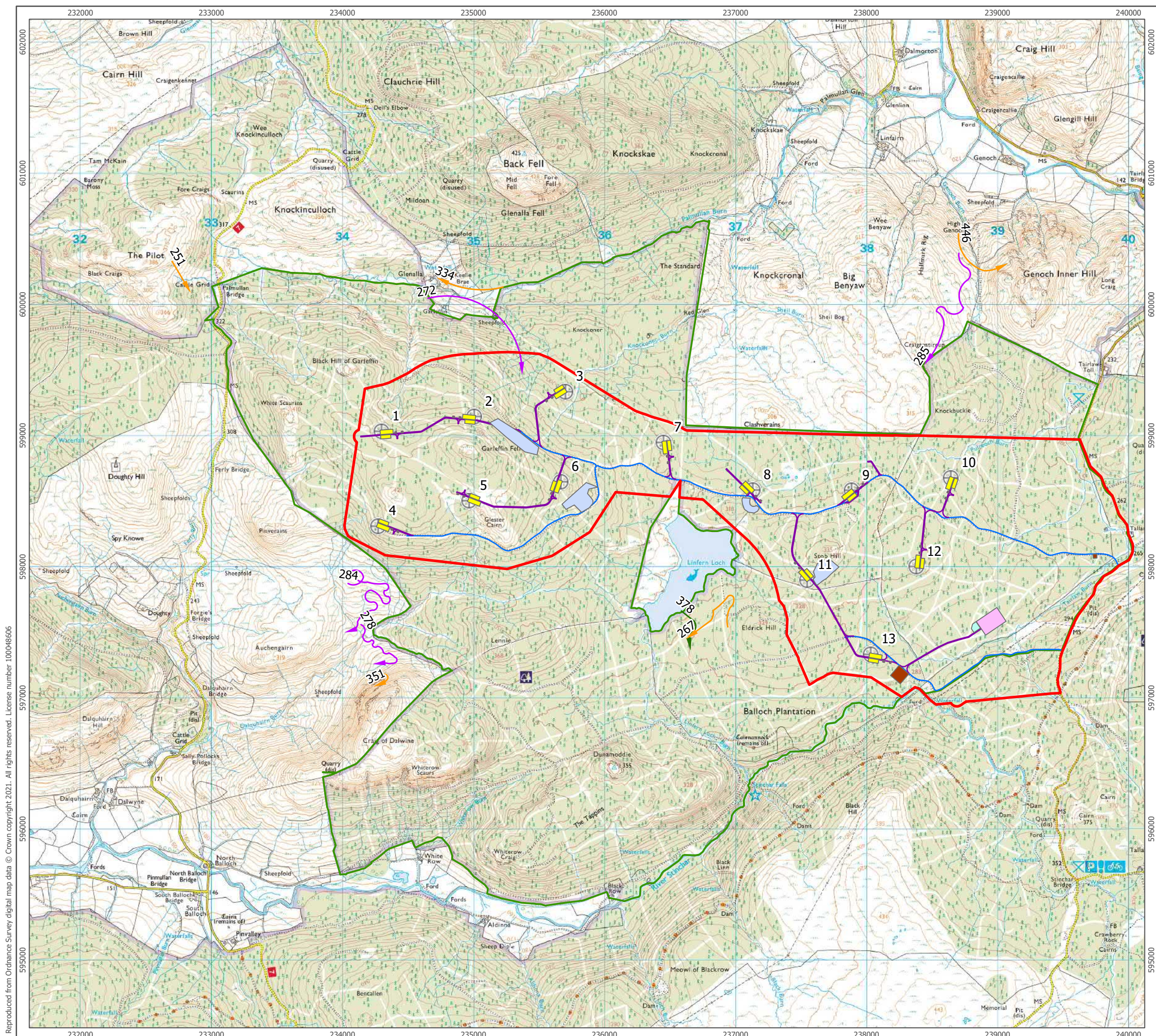


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Checked By: SC	Date: 14/12/2021

**Target Species Flights;  
Waders and Wildfowl**  
Figure 4, Appendix 8.3

**Carrick Windfarm, Year 2  
Baseline Ornithology Report**





- Site Boundary
  - Site Boundary at time of surveys
  - ⊕ Wind Turbines
  - Substation Compound
  - Temporary Construction Compound
  - SPEN Compound
  - Hardstanding
  - Cranepad
  - Borrow Pit Search Areas
  - Access Track Upgrade
  - Access Track New
- Flightlines**
- Hen Harrier
  - Marsh Harrier
  - Merlin

Numbers shown are key numbers, which are unique to each flight and allow identification of individual flights.



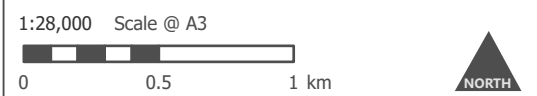
Produced By: ST	Ref: 3012-REP-020
Checked By: SC	Date: 14/12/2021

**Target Species Flights;**  
**Marsh Harrier, Hen Harrier and Merlin**  
 Figure 5, Appendix 8.3

**Carrick Windfarm, Year 2**  
**Baseline Ornithology Report**



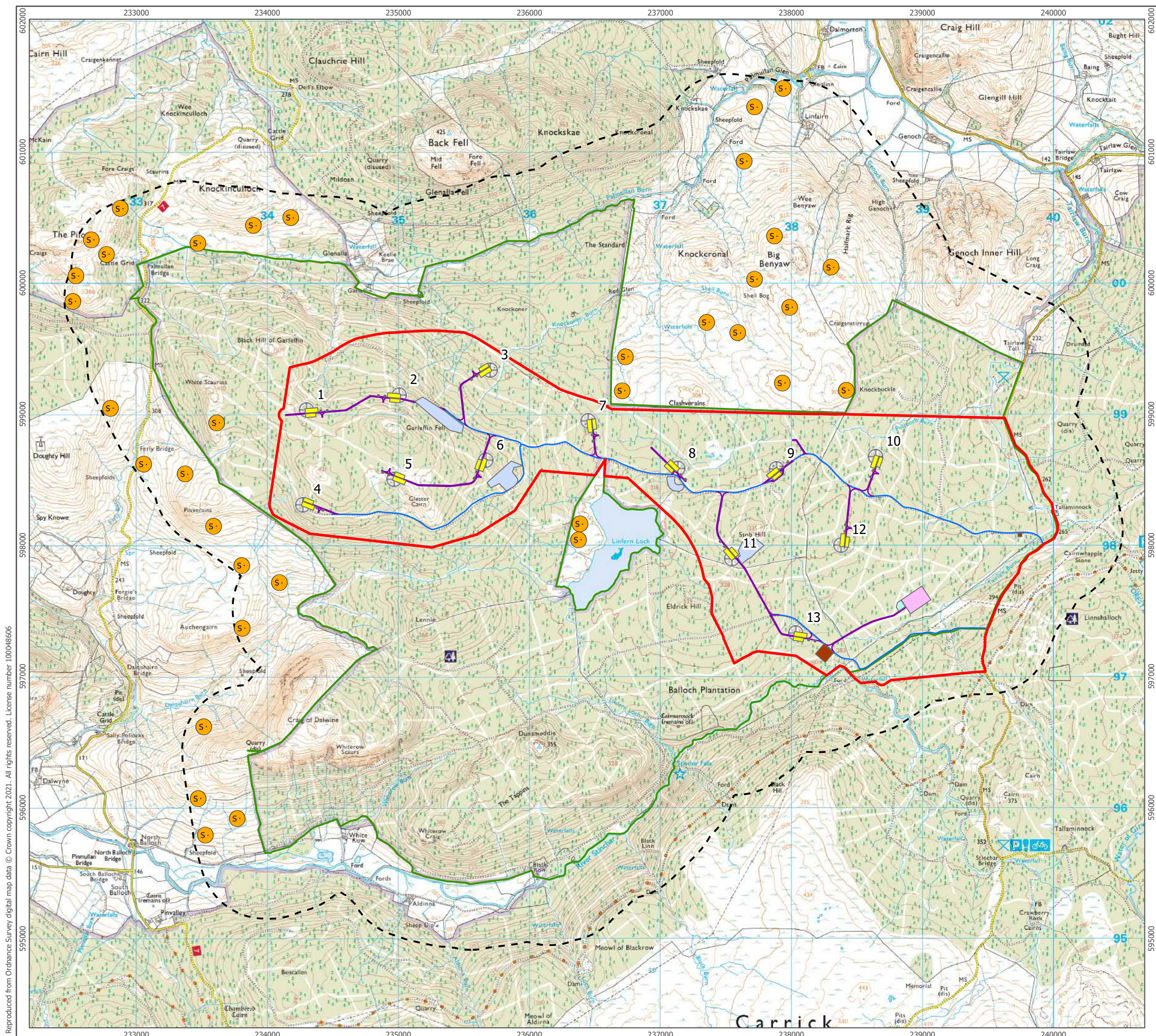
- Site Boundary
- Site Boundary at time of surveys
- Breeding Bird Survey Area
- ⊕ Wind Turbines
- Access Track Upgrade
- Access Track New
- Substation Compound
- Temporary Construction Compound
- SPEN Compound
- Hardstanding
- Cranepad
- Borrow Pit Search Areas
- Breeding Birds**
- S Skylark



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**Breeding Bird Territories;  
Skylark**  
Figure 6, Appendix 8.3

**Carrick Windfarm, Year 2  
Baseline Ornithology Report**

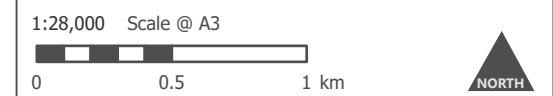


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- Site Boundary
- Site Boundary at time of surveys
- Breeding Bird Survey Area
- ⊕ Wind Turbines
- Access Track Upgrade
- Access Track New
- Substation Compound
- Temporary Construction Compound
- SPEN Compound
- Hardstanding
- Cranepad
- Borrow Pit Search Areas

- Breeding Birds**
- |   |  |
|---|--|
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #c0c0c0; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> BF Bullfinch               | <span style="display: inline-block; width: 10px; height: 10px; background-color: #800080; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> PF Spotted Flycatcher |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> CS Common Sandpiper        | <span style="display: inline-block; width: 10px; height: 10px; background-color: #ff0000; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> LR Lesser Redpoll     |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #808080; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> CK Cuckoo                  | <span style="display: inline-block; width: 10px; height: 10px; background-color: #ff0000; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> RT Redstart           |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #ffa500; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> DI Dipper                  | <span style="display: inline-block; width: 10px; height: 10px; background-color: #800080; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> RB Reed Bunting       |
| <span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; text-align: center; vertical-align: middle; margin-right: 5px;">D·</span> Dunnock | <span style="display: inline-block; width: 10px; height: 10px; background-color: #008080; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> SN Snipe              |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> GH Grasshopper Warbler     | <span style="display: inline-block; width: 10px; height: 10px; background-color: #0000ff; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> ST Song Thrush        |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #c0c0c0; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> GL Grey Wagtail            | <span style="display: inline-block; width: 10px; height: 10px; background-color: #ff00ff; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> T· Teal               |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #ffa500; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> HM House Martin            | <span style="display: inline-block; width: 10px; height: 10px; background-color: #800080; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> TP Tree Pipit         |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #ffff00; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> MA Mallard                 | <span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> WW Willow Warbler     |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #ffa500; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> M· Mistle Thrush           | <span style="display: inline-block; width: 10px; height: 10px; background-color: #0000ff; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> WK Woodcock           |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #800080; border-radius: 50%; border: 1px solid black; margin-right: 5px;"></span> OC Oystercatcher           |  |



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**Breeding Bird Territories - Waders, Wildfowl and Passerines**  
Figure 7, Appendix 8.3

**Carrick Windfarm  
Year 2 Baseline Ornithology Report**

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