

TECHNICAL APPENDIX 9.1: ORNITHOLOGY TECHNICAL REPORT

1.	INTRODUCTION	2
1.1	Terms of Reference	2
1.2	Nature Conservation Legislation and Policy	2
2.	METHODS	4
2.1	Desk Study	4
2.2	Bird Conservation Criteria	4
2.3	Field Surveys	5
3.	RESULTS	9
3.1	Field Surveys	9
3.2	Ornithological Summary	11

Appendices

Appendix 9.1.1: Survey Dates and Times of Vantage Point Surveys

Figures

Figure 9.1.1 - Vantage Point Viewsheds

Figure 9.1.2 – Golden Eagle Flightlines

Figure 9.1.3 - Golden Eagle Flightlines at Collision Risk Height

Figure 9.1.4 – White-tailed Eagle Flightlines

Figure 9.1.5 – Other Schedule 1 Species Flightlines

Figure 9.1.6 – Wader Territories

1. INTRODUCTION

1.1 Terms of Reference

- 1.1.1 This Technical Report details the Ornithological survey work undertaken along the approximately 7 km of new 132 kV overhead line (OHL) to connect the consented Cloiche Wind Farm¹ and the proposed Dell 2 Wind Farm² to the electricity transmission network at Melgarve substation (referred to as the Proposed Development) and appropriate buffers between October 2021 and September 2022. This report also details the findings of these surveys.
- 1.1.2 The aim of the survey work was to provide sufficient information to enable an assessment on the potential impacts of the Proposed Development on ornithology to be made.
- 1.1.3 The objectives of the ornithology surveys were to:
- Identify and quantify the level of flight activity of selected bird species (with a focus on birds of high conservation importance).
 - Record the presence and abundance of selected birds of high conservation importance; and
 - Map the distribution of rare or scarce breeding birds listed on Annex 1 of the EU Birds Directive (2009/147/EEC) on the Conservation of Wild Birds (the “Birds Directive”) and on Schedule 1 on the Wildlife and Countryside Act 1981 (as amended) (WCA).

1.2 Nature Conservation Legislation and Policy

General Nature Conservation Legislation and Policy

- 1.2.1 European and national legislation and policy relevant to the proposed development in terms of nature conservation are listed below. Cognisance has been taken of these instruments in the preparation of this report.
- The Conservation of Natural Habitats and of Wild Flora and Fauna EC Directive (92/43) (the Habitats Directive);
 - National Planning Framework 4 (NPF4)
 - The Conservation of Habitats and Species Regulations 2017; EC Directive (2009/147/EC) (the Birds Directive);
 - The Wildlife and Countryside Act 1981 (as amended) (WCA);
 - The Nature Conservation (Scotland) Act 2004;
 - The Wildlife and Natural Environment (Scotland) Act 2011 (WANE);
 - The British Standard for Biodiversity BS 42020:2013;
 - Scottish Biodiversity Strategy: Scotland’s Biodiversity – It’s In Our Hands (2004) and 2020 Challenge For Scotland’s Biodiversity (2013);and
 - The Scottish Biodiversity List (SBL).

¹ Received consent from the Scottish Government in November 2023.

² It should be noted that in August 2019, an application to build and operate Dell Wind Farm was consented following an appeal to the Scottish Ministers. However, the wind farm has been re-designed at the same location to increase capacity and energy capture with fewer wind turbines. The application for Dell 2 Wind Farm was submitted to the Scottish Government Energy Consents Unit on behalf of the Scottish Ministers on 11th March 2024 and awaits decision. It is this proposed re-designed Dell 2 Wind Farm that this EIA Report refers to throughout, rather than the previously consented design.

Legislation and Policy in Relation to Birds

- 1.2.2 Several of the bird species recorded during the surveys are protected under international and national legislation, and several instruments of national legislation protect all areas of national natural heritage. The relevant legislation is described below:
- 1.2.3 The Wild Birds Directive, or European Directive 2009/147/EC (the codified version of EEC Directive 79/409/EEC as amended), and the Habitats Directive (EEC Directive 92/43/EEC), state that all wild bird populations within the UK are protected under European legislation. Through these Directives, which highlight key species within specifically detailed annexes, came the establishment of a Europe-wide network of designated conservation areas known as Natura 2000 (comprised of Special Protection Areas (SPA) from the Birds Directive and Special Areas of Conservation (SAC) from the Habitats Directive).
- 1.2.4 The Wildlife and Countryside Act 1981 (as amended) is the primary legislation that protects wild birds within the UK. Through a series of Schedules, this Act makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy their nests or eggs. It is also an offence to intentionally or recklessly disturb the nest building, nests that contain eggs or young, or to disturb or take the dependent young of birds on the Schedule 1 list, which are offered the highest level of protection.
- 1.2.5 The Nature Conservation (Scotland) Act 2004 imposes a wide-ranging duty to conserve biodiversity and protect the nation's natural heritage. Implementation is linked to a national biodiversity strategy that is endorsed by the Scottish Government. Part of this strategy is the designation of Sites of Special Scientific Interest (SSSI) - those areas of land and water considered to best represent the diversity of natural heritage across Scotland. It is an offence for any person to intentionally or recklessly damage the protected natural features of an SSSI.
- 1.2.6 On a local level or for particular species, the Scottish Biodiversity Strategy (Scottish Government 2004 and 2013) has the objective of halting the loss of biodiversity and continuing to reverse previous losses through targeted action for species and habitats through improved knowledge, planning, design, practice and management.
- 1.2.7 National Planning Framework 4 (NPF4) states that development proposals for national or major development, or for development that requires an Environmental Impact Assessment will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks so they are in a demonstrably better state than without intervention.

2. METHODS

2.1 Desk Study

2.1.1 A comprehensive desk study of published data was undertaken to inform the bird surveys in 2021 and 2022. The results of the desk study were used to identify if the proposed development could potentially impact upon any European designated site, notable or protected species; to inform the field survey; and to provide information to guide actions and priorities for any ecological mitigation and enhancement.

2.1.2 The 2021 and 2022 desk studies involved a search of the appropriate sources:

- NatureScot Sitelink website³ for statutory designated sites within a 10 km radius (e.g. Special Protection Areas (SPA), Special Areas of Conservation (SAC), Sites Special of Scientific Interest (SSSI), Ramsar Sites, and non-statutory designated sites (e.g. Local Nature Reserves and Sites of Importance for Nature Conservation);
- Royal Society for the Protection of Birds (RSPB)⁴ and British Trust for Ornithology⁵ (BTO) websites.
- Birds Of Scotland⁶;
- Scottish Biodiversity List (SBL)⁷; and
- A review of impact assessments for nearby sites, such as the Stronelairg and Cloiche Wind Farm projects.

2.2 Bird Conservation Criteria

2.2.1 The criteria used to define the current conservation status of UK bird populations are BAPs at national and local levels and the Red, Amber and Green lists of Birds of Conservation Concern (BoCC).

2.2.2 Taking account of the Scottish Biodiversity Strategy, the conservation status of the species recorded at the Proposed Development were evaluated by their inclusion on the Scottish Biodiversity List and by using the RSPB / BTO Conservation Status Criteria from the lists of BoCC, which is a simple 'traffic light' method to gauge conservation importance for those species which are not afforded protection under international or national legislation. The criteria used to evaluate this conservation concern are listed below:

Red Listed Criteria

- Globally threatened;
- Historical population decline in UK during 1800 – 1995;
- Rapid ($\geq 50\%$) decline in UK breeding population over last 25 years; and
- Rapid ($\geq 50\%$) contraction of UK breeding range over last 25 years.

Amber Listed Criteria

- Moderate (25-49%) decline in UK breeding population over last 25 years;
- Moderate (25-49%) contraction of UK breeding range over last 25 years;
- Moderate (25-49%) decline in UK non-breeding population over last 25 years;
- European Red List of Birds Species (ERLOB) that have been categorised as Critically Endangered, Endangered or Vulnerable;
- Five year mean of 1-300 breeding pairs in UK;

³ NatureScot SiteLink website. Available at <https://sitelink.nature.scot/map> (Accessed 2021,2022 & 2023)

⁴ RSPB (2012). <http://www.rspb.org.uk/wildlife/birdguide/name>. (Accessed 2021,2022 & 2023)

⁵ BTO (2012). <http://www.bto.org/about-birds/birdfacts/find-a-species>. (Accessed 2021,2022 & 2023)

⁶ Forrester, R.W., Andrews I.J., McNerny C.J., Murray R.D., McGowan R.Y., Zonfrillo B., Betts M.W., Jardine D.W. & Grundy D.S. (eds). 2012. *The Birds of Scotland. Digital Version*. The Scottish Ornithologists Club, Aberlady.

⁷ Scottish Biodiversity List. Available at: <https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list> (Accessed 2021,2022 & 2023)

- ≥50% of UK breeding population in 10 or fewer sites, but not rare breeders;
- ≥50% of UK non-breeding population in 10 or fewer sites;
- ≥20% of European breeding population in UK; and
- ≥20% of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non-breeding population in UK.

Green Listed Criteria

2.2.3 No identified threat to the population's status.

2.3 Field Surveys

2.3.1 In order to fully assess the ornithological effects on site, a suite of surveys were undertaken between October 2021 and September 2022. These surveys are detailed below.

Vantage Point Surveys

2.3.2 Vantage Point (VP) watches are designed to quantify the level of flight activity and its distribution over the survey area. Its primary purpose is to provide input data for Collision Risk Assessment (CRA) which predicts mortalities from collision with turbines or other man-made infrastructure. Data can also be used to provide an overview of bird usage of the site, which may help to inform an overview of potential disturbance and displacement.

2.3.3 As per NatureScot guidance⁸, VP surveys did not take place simultaneously with any other fieldwork on the site that may cause disturbance and invalidate the VP survey results.

2.3.4 VP watches were used to record flight activity and the use of the site, during the breeding and non-breeding season, for pre-selected target species. NatureScot guidance⁸ was followed, which recommends that a minimum of 72 hours per VP is required per year divided between seasons (36 hours breeding and 36 hours non-breeding), as a standard for species where VP survey is required.

2.3.5 There was a break of at least 30 minutes between VP watches (which were undertaken for 3 hours each where possible) to minimise observer fatigue. Watches can be suspended and then resumed to take account of changes in visibility, e.g. fluctuations in the cloud base, passing rain shower or for the observer to rest.

2.3.6 When selecting VP locations, the aim was to cover all of the flight activity survey area within 2km from a VP. The exception was VP3 which afforded greater visibility up the valley to the south of the survey area and as such 3km was viewed from here. It is very important that VPs are chosen to achieve maximum visibility with the minimum number of points. As detection of flight activity will decrease with distance, VPs were located as close to the survey area as possible. Initially, a total of eleven VPs were selected to sufficiently cover the survey area. However, during the course of the winter 2021/2022 period, the preferred route corridor was identified, and the number of VPs was dropped to seven.

2.3.7 Table 2.1 below details the seven VP locations used and their orientation. Figure 9.1.1 in Appendix B shows the VP locations. Note that the numbers refer to the original numbering used when eleven VPs were used.

⁸ <https://www.nature.scot/sites/default/files/2018-06/Guidance%20Note%20-%20Recommended%20bird%20survey%20methods%20to%20inform%20impact%20assessment%20of%20onshore%20windfarms.pdf>

Table 2.1: Vantage Point Locations and Orientation

Vantage Point Number	Grid Reference	Orientation
3	250542 796704	ENE
5	248020 800773	NE
6	251500 806263	W
7	250400 801463	SW
8	251878 802150	WNW
9	247816 803463	E
10	248525 806263	SE

- 2.3.8 From these VPs, the visible area within a 180° arc was scanned for target species. For overhead lines (OHL), flights of target species were recorded within two height bands: E.g. below 50m (below the height of the OHL towers); and above 50m (above the height of the OHL towers). There is a certain amount of error on the part of the fieldworker in estimating heights of birds from a distance, and birds vary their flight height all the time, but it is usually easy to place bird heights within two bands: high flights were usually well above the cut-off height, and any borderline records were placed within the lower height band.
- 2.3.9 NatureScot recommends that VPs should be tailored to the ecology of the target species involved. This should provide a spread over the full daylight period available (from official local sunrise to sunset times) which will vary depending on the time of year. VPs were spread across all calendar months when the species is present or likely to be so. The watches were stratified according to the ecology of the target species present to give a representative sample of site use.
- 2.3.10 Watches were taken under conditions of good ground visibility (>2km) and can be undertaken on showery days providing showers are not too frequent or prolonged. Surveys were undertaken in a variety of cloud base levels (but never lower than 250m) and a range of wind conditions which is important in the case of soaring birds when wind direction and strength is likely to have an effect on ranging behaviour.
- 2.3.11 Appendix A provides the dates and times of the VP watches during the period of October 2021 to September 2022.

Moorland Breeding Walkover Surveys

- 2.3.12 This consisted of a Brown and Shepherd breeding bird survey, which is the standard survey technique for moorland/upland breeding birds. It is based on a constant search method involving spending 20 - 25 minutes in each 500 m x 500 m quadrat, both within the survey area and a pre-determined 500 m buffer zone. This equates to spending 100 minutes in every square kilometre. Each quadrat was walked to ensure that all parts are approached to within 100 metres. At regular intervals, the surveyor scanned the area for species and also listened out for calls and songs. These surveys were undertaken four times during the period mid-April to end June 2022. This method is specifically designed to survey upland wader species (e.g. Golden Plover (*Pluvialis apricaria*) and Dunlin (*Calidris alpina schinzii*)).
- 2.3.13 Table 2-2 below details the dates, times and weather conditions of the Moorland Breeding Bird Surveys undertaken.

Table 2-2: Survey Dates for Moorland Breeding Bird Survey Walkovers

Date	Start Time	End Time	Observer
20/04/2022	08.45	16.30	MS
20/04/2022	08.45	16.30	DP
28/04/2022	0900	1600	DP
16/05/2022	09:00	17.00	DP
17/05/2022	08.30	16.40	MC
17/05/2022	08.30	16.40	DP
23/06/2022	08.30	16.00	MS
23/06/2022	08.30	16.00	HA
23/06/2022	09.10	16.30	DP
29/06/2022	06.30 16.00	12.45 17.30	MS
29/06/2022	09.30	17.30	DP
30/06/2022	09.20	17.00	DP

Observer, MS=Matt Sullivan, DP = Dave Pullan, HA=Hugh Addelese

Moorland Winter Walkover Surveys

2.3.14 The upland winter walkover survey closely follows the adapted B&S moorland breeding bird survey method, with surveys undertaken three times during the period October 2021 to March 2022.

Waterbody Searches

2.3.15 Observations of waterbodies within 750 m of the Proposed Development were made for dives species, Slavonian Grebe (*Gavia arctica*) and Common Scoter (*Melanitta nigra*) to ascertain presence and breeding.

Four visits were undertaken between April and July 2022. The survey days were as follows:

- 20th April 2022;
- 17th May 2022;
- 23rd June 2022;
- 29th June 2022

Raptor Nest Searches

Searches for scarce breeding raptor species (Golden Eagle, Hen Harrier, White-tailed Eagle, Osprey, Red Kite and Peregrine) were undertaken following the methods set out in Hardey et al (2013)⁹. Searches were made up to 2 km from the Proposed Development. Specific surveys were undertaken on the following dates:

- 20th April 2022;

⁹ Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). Raptors, a field guide to survey and monitoring. The Stationary Office, Edinburgh.

- 17th May 2022;
- 23rd June 2022;
- 29th June 2022; and
- 7th July 2022.

3. RESULTS

3.1 Field Surveys

Vantage Point Watches

- 3.1.1 A total of 15 species were recorded from the Vantage Point Surveys. These species (or species groups) are detailed below:
- 3.1.2 Golden Eagle (*Aquila chrysaetos*) – Over the course of 504 hours of Vantage Point Surveys (October 2021 through to September 2022), fifty-four flightlines were recorded within the Proposed Development Survey Area, totalling 12,812 seconds of flight time. This equates to 0.7% of watch time. The majority of flightlines were observed around Creag Mhor, Carn Dearg and Garbeinn Cairn to the south and west of the Proposed Development, around Leathad Gaothach to Meall na h-Aisre and the ridgeline running north to the east of the Proposed Development and around Carn Easgann Bana to the north and west of the Proposed Development. Of the 54 flightlines, 27 flights were recorded where elements of their flightpaths were at collision risk height (<50m), totalling 4381 seconds. This equates 0.2% of watch time. Only four flightlines crossed the Proposed Development (OHL section) at collision risk height, totalling 20 seconds. This equates to 0.001% of watch time.
- 3.1.3 White-tailed Eagle (*Haliaeetus albicilla*) – Over the course of 504 hours of Vantage Point Surveys (October 2021 through to September 2022), ten flightlines were recorded within the Proposed Development Survey Area, totalling 2461 seconds of flight time. This equates to 0.1% of watch time. The majority of flightlines were observed around Carn Easgann Bana and Coire Odhar in the north of the survey area. Of the ten flightlines, five flights were recorded where elements of their flightpaths were at collision risk height (<50m), totalling 738 seconds. This equates 0.04% of watch time. Only four flightlines crossed the Proposed Development (OHL section) at collision risk height, totalling 15 seconds. This equates to 0.001% of watch time.
- 3.1.4 Hen Harrier (*Circus cyaneus*) – Over the course of 504 hours of Vantage Point Surveys (October 2021 through to September 2022), a total of four flightlines were recorded within the Proposed Development Survey Area, totalling 196 seconds of flight time. This equates to 0.01% of watch time. All flights were at collision risk height (<50m). Only one flight bisected the Proposed Development (OHL section) for a total of 10 seconds. This equates to 0.001% of watch time.
- 3.1.5 Red Kite (*Milvus milvus*) – Over the course of 504 hours of Vantage Point Surveys (October 2021 through to September 2022), a total of four flightlines were recorded within the Proposed Development Survey Area, totalling 737 seconds of flight time. This equates to 0.04% of watch time. Only one flight bisected the Proposed Development (OHL section) but above collision risk height (>50m).
- 3.1.6 Osprey (*Pandion haliaetus*) - Over the course of 504 hours of Vantage Point Surveys (October 2021 through to September 2022), only one flightline was recorded within the Proposed Development Survey Area, totalling 94 seconds. This equates to 0.005% of watch time. No flights bisected the Proposed Development (OHL section).
- 3.1.7 Peregrine (*Falco peregrinus*) - Over the course of 504 hours of Vantage Point Surveys (October 2021 through to September 2022), only three flightlines were recorded within the Proposed Development Survey Area, totalling 149 seconds. This equates to 0.008% of watch time. No flights bisected the Proposed Development (OHL section).
- 3.1.8 Merlin (*Falco columbarius*) - Over the course of 504 hours of Vantage Point Surveys (October 2021 through to September 2022), only three flightlines were recorded within the Proposed Development Survey Area, totalling 149 seconds. This equates to 0.008% of watch time. No flights bisected the Proposed Development (OHL section).

- 3.1.9 Goshawk (*Accipiter gentilis*) - Over the course of 504 hours of Vantage Point Surveys (October 2021 through to September 2022), only one flightline was recorded within the Proposed Development Survey Area, totalling 33 seconds. This equates to 0.001% of watch time. No flights bisected the Proposed Development (OHL section).
- 3.1.10 The flightlines of these raptor species can be found in Figures 9.1.2 - 9.1.5 in Appendix C of this report.
- 3.1.11 Other Raptors species – Buzzard (*Buteo buteo*) was frequently recorded during the VP surveys, particularly along the Stronelairg access track and in the southern section of the site. One Sparrowhawk (*Accipiter nisus*) flights and five Kestrel (*Falco tinnunculus*) flight were also recorded.
- 3.1.12 Waders – Four Golden Plover (*Pluvialis apricaria*) flightlines were recorded, all over 1km from the Proposed Development, around Meall na h-Aisre.
- 3.1.13 Wildfowl – Four Pink-footed Geese (*Anser brachyrynchus*) flights were recorded (comprising flocks of 62, 28, 21 and 52 birds), all on the same day (15th September 2022) migrating south over Crag Mhor in the southern section of the site. All flights were above 50m. A single Greylag Goose (*Anser anser*) flight, totalling 21 birds was recorded flying south over Stronelairg Wind Farm on 10th November 2021.
- 3.1.14 Corvids – Both Raven (*Corvus corax*) and Hooded Crow (*Corvus cornix*) were both regularly recorded during the VP surveys, across the entirety of the route.

Moorland Breeding Walkover Surveys

Waders

- 3.1.15 A total of eleven Golden Plover territories were recorded during the surveys. No territories are located within 200m of the proposed OHL. Three territories lie within 200m of the proposed underground cable route section.
- 3.1.16 A total of five Dunlin (*Calidris alpina*) territories were recorded during the surveys. No territories are located within 200m of the proposed OHL. Two territories lie within 200m of the proposed underground cable route section.
- 3.1.17 One Greenshank (*Tringa nebularia*) was recorded on a small lochan approximately 600m from the Proposed Development.
- 3.1.18 One pair of Ringed Plover (*Charadrius hiaticula*) was present adjacent to the Stronelairg access track approximately 190m from the Proposed Development (underground cable route section).
- 3.1.19 No Common Sandpiper (*Actitis hypoleucos*) were recorded within the survey area. However, at least three pairs were present around the reservoir to the west of the Proposed Development.
- 3.1.20 The locations of these species can be found in Figure 9.1.6 in Appendix C of this report.

Passerines

- 3.1.21 Meadow Pipit (*Anthus pratensis*) was the most common passerine species recorded during the Moorland Breeding Bird Walkover Surveys. Skylark (*Alauda arvensis*) was also prevalent. Several pairs of Wheatear (*Oenanthe oenanthe*) and Pied Wagtail (*Motacilla alba yarelli*) were also recorded. A pair of Dipper (*Cinclus cinclus*) nested underneath a bridge in the eastern half of Stronelairg Wind Farm.
- 3.1.22 Although not breeding within the Moorland Breeding Bird Survey area, the forestry blocks at the southern end of the Proposed Development around Melgarve held Lesser Redpoll (*Acanthis cabaret*) and Crossbill (*Loxia*

curvirostra) regularly. Song Thrush (*Turdus philomelos*), Willow Warbler (*Phylloscopus trochilus*), and Chiffchaff (*Phylloscopus collybita*) were also commonly heard singing.

Moorland Winter Walkover Surveys

- 3.1.23 During winter, the only birds recorded on walkover surveys were small flocks of Snow Bunting (*Plectrophenax nivalis*) with up to 30 birds present, and both Red Grouse (*Lagopus lagopus*) and Ptarmigan (*Lagopus muta*). Ptarmigan were restricted to the higher tops around Meall na h-Aisre. Various passerine species were present in the forestry blocks at the south of the Proposed Development, including Crossbill.

Waterbody Searches

- 3.1.24 No divers or Slavonian Grebe were recorded on any lochan within 750m of the Proposed Development.
- 3.1.25 No Common Scoter were recorded within 750m of the Proposed Development. However, two ad hoc sightings were noted during travel into and out from the site. Two pairs were present on Lochan a'Choire Ghalsi on 28th April 2022 and subsequently seen on the reservoir the following week. No further sightings were seen and it is assumed these birds went to known breeding lochs associated with Glendoe Lochans SSSI, which is not part of the Loch Knockie and nearby Lochans SPA.
- 3.1.26 Breeding Teal (*Anas crecca*) were recorded on several waterbodies within the survey area.

Raptor Nest Searches

- 3.1.27 No Golden Eagle nest sites were recorded within 2 km of the Proposed Development, although three known breeding territories fall within the area around Stronelairg.
- 3.1.28 No Hen Harrier nest sites were recorded within 2 km of the Proposed Development.
- 3.1.29 No Red Kite nest sites were recorded within 2 km of the Proposed Development.
- 3.1.30 No Osprey nest sites were recorded within 2 km of the Proposed Development.
- 3.1.31 No Peregrine nest sites were recorded within 1 km of the Proposed Development. A pair successfully bred ~1.2km from the Proposed Development. This can be found in Technical Appendix 9.2 (Confidential Annex).
- 3.1.32 One Merlin nest was recorded within 750m of the Proposed Development. This can be found in Technical Appendix 9.2 (Confidential Annex).

3.2 Ornithological Summary

- 3.2.1 A total of fifty-two bird species recorded during the suite of surveys undertaken within the study area, plus ad-hoc sightings.
- 3.2.2 Twelve of the species recorded are either Annex 1 of the Birds Directive or within Schedule 1 Part 1 of the Wildlife and Countryside Act 1981, and thus are afforded maximum protection under either European or national legislation:
- Osprey, Peregrine and Merlin are included in both Annex 1 and Schedule 1;
 - Golden Plover and Whooper Swan are included in Annex 1;
 - Goshawk, Common Crossbill and Greenshank are included on Schedule 1; and

- Golden Eagle, White-tailed Eagle, Hen Harrier and Red Kite are included in both Annex 1 and Schedule 1 and are three of the four species found within the UK which are afforded further protection at all times of year through their inclusion on Schedule 1A and/ or Schedule A1.

3.2.3 A total of eighteen species appear on the Scottish Biodiversity List:

- Golden Eagle,
- White-tailed Eagle;
- Red Kite;
- Hen Harrier;
- Osprey;
- Peregrine;
- Merlin;
- Kestrel;
- Golden Plover;
- Dunlin;
- Whooper Swan;
- Common Scoter;
- Red Grouse;
- Skylark;
- Hooded Crow;
- Lesser Redpoll;
- Redwing;
- Snow Bunting

3.2.4 Eight of the species recorded have been placed on the Red List of the BoCC:

- Hen Harrier and Merlin have suffered historical declines. Merlin is also an ERLOB (European red list species);
- Ptarmigan, Common Scoter, Dunlin, Skylark, Lesser Redpoll, Fieldfare have all suffered severe breeding population declines over 25 years/ longer term. Fieldfare is also a rare breeding bird in the UK.

3.2.5 Sixteen of the species recorded have been placed on the Amber List of the BoCC:

- Common Snipe is threatened in Europe and has also suffered moderate breeding range and non-breeding population declines;
- Osprey is recovering from historical declines and is a breeding rarity;
- Greenshank and Redwing Snow Bunting and Whooper Swan are breeding rarities. The UK non-breeding population of Whooper Swan is of international importance;
- Common Sandpiper, Song Thrush, Kestrel, Sparrowhawk, Willow Warbler, Wheatear, Meadow Pipit have all suffered moderate breeding population declines (Song Thrush has recently been downgraded from Red listing, but Sparrowhawk has been upgraded from Green);
- Greylag Goose Eurasian Teal have both suffered moderate non-breeding population declines, and the UK non-breeding population of both species are also of international importance;
- The UK non-breeding population of Pink-footed Goose is of international importance.

3.2.6 The remaining species are not considered to have any national conservation concern. Therefore, they are included on the BoCC Green List.

APPENDIX 9.1.1: SURVEY DATES AND TIMES FOR VANTAGE POINT SURVEYS

Table 3.1: Dates and Times for Vantage Point Surveys

Date	Start time	End time	Stoppage time (min)	Surveyor	VP
18/10/2021	11:45	14:45		MS	9
19/10/2021	10:30	13:30		MS	8
26/10/2021	09:50	11:50		MC	10
26/10/2021	10:05	11:45		SW	8
27/10/2021	09:20	11:50		HA	9
27/10/2021	12:45	15:45		HA	5
27/10/2021	10:05	13:05		MC	10
27/10/2021	10:15	11:30		SW	7
27/10/2021	12:00	15:00		SW	8
28/10/2021	10:20	13:20		MC/MW	3
28/10/2021	10:25	13:25		MS	6
28/10/2021	14:00	15:30		MS	7
29/10/2021	10:10	10:55		HA	6
29/10/2021	12:10	13:10		HA	7
29/10/2021	09:50	12:50		SW	5
02/11/2021	12:15	15:15		HA	8
03/11/2021	11:55	13:25		HA	10
04/11/2021	12:00	14:00		DP	5
04/11/2021	10:45	11:45		HA	7
04/11/2021	12:15	15:15		HA	6
08/11/2021	10:20	13:20		SW	10
09/11/2021	10:50	13:50		SW	10
09/11/2021	10:15	13:15		JP	8
09/11/2021	13:45	14:15		JP	7
10/11/2021	11:35	14:35		HA	8
10/11/2021	10:00	13:00		JP	7
10/11/2021	09:20	12:32	12	SW	9
10/11/2021	13:45	14:45		SW	5
11/11/2021	10:05	11:20		HA	9
12/11/2021	11:00	14:00		JP	3
16/11/2021	09:40	12:40		MC	7
16/11/2021	09:40	12:40		MW	9
19/11/2021	10:30	13:30		MW	3
22/11/2021	10:30	13:30		JP	7
23/11/2021	12:15	14:15		IF	5
23/11/2021	11:45	14:45		SW	9
23/11/2021	10:55	11:40		PR	6
23/11/2021	12:00	14:15		PR	7
17/01/2022	09:15	12:15		MS	9
18/01/2022	09:50	12:50		MS	6
18/01/2022	13:10	13:20		MS	7

Date	Start time	End time	Stoppage time (min)	Surveyor	VP
20/01/2022	09:25	11:25		MS	7
20/01/2022	11:50	14:50		MS	6
20/01/2022	09:30	12:30		SW	8
20/01/2022	13:00	15:30		SW	9
20/01/2022	11:00	14:00		MW	3
21/01/2022	09:10	10:40		SW	9
21/01/2022	11:20	13:50		SW	8
21/01/2022	10:00	13:00		SP	5
26/01/2022	08:50	11:50		MC	7
26/01/2022	08:50	11:50		JP	8
26/01/2022	08:55	11:55		MS	9
27/01/2022	09:10	12:10		MS	10
27/01/2022	09:30	12:30		SP	3
28/01/2022	08:55	11:55		MS	5
02/03/2022	09:30	14:30	30	DP	3
03/03/2022	10:00	15:00	30	JP	3
03/03/2022	12:00	14:00		SW	9
03/03/2022	11:50	14:20		MS	8
04/03/2022	09:00	14:00	30	SW	9
08/03/2022	08:30	13:30	30	JP	3
10/03/2022	09:15	13:00		MS	9
10/03/2022	13:30	14:50		MS	8
11/03/2022	13:25	15:25		MS	10
11/03/2022	09:10	12:35	25	MS	8
12/03/2022	07:35	10:35		MS	10
12/03/2022	11:15	13:15		MS	8
13/03/2022	08:50	10:50		MS	8
13/03/2022	11:45	14:45		MS	10
14/03/2022	09:00	13:30	30	MS	10
14/03/2022	08:30	13:20	30	SW	7
15/03/2022	08:00	13:30	30	MS	7
15/03/2022	09:45	14:45	30	SW	3
16/03/2022	11:25	16:25	30	MS	10
16/03/2022	12:05	15:05		SW	3
19/03/2022	07:40	12:10	30	MS	10
20/03/2022	10:35	16:00	25	MS	7
21/03/2022	09:25	13:55		MS/JP	5
24/03/2022	09:00	15:30	30	MS	5
25/03/2022	09:40	15:10	30	MS	6
25/03/2022	09:20	13:20	30	DP	5
26/03/2022	08:00	13:00	30	MS	6
27/03/2022	08:15	11:15		MS	6
29/03/2022	09:40	15:45	35	HA	6
29/03/2022	09:30	15:15	45	SW	5

Date	Start time	End time	Stoppage time (min)	Surveyor	VP
30/03/2022	08:50	13:50	30	HA	6
12/04/2022	07:40	10:40		MS	9
12/04/2022	11:30	14:30		MS	10
13/04/2022	08:50	11:50		DP	3
14/04/2022	08:50	11:50		MS	7
14/04/2022	12:40	15:40		MS	5
22/04/2022	14:00	17:00		MS	8
22/04/2022	13:45	16:45		DP	6
25/04/2022	14:30	17:30		MS	5
25/04/2022	14:15	17:15		DP	7
26/04/2022	13:00	16:00		MS	10
26/04/2022	13:25	16:25		DP	5
27/04/2022	08:40	11:40		MS	6
27/04/2022	12:15	15:15		MS	7
27/04/2022	10:35	13:35		DP	3
28/04/2022	08:40	11:40		MS	8
28/04/2022	12:20	15:20		MS	9
03/05/2022	09:30	12:30		MS	10
03/05/2022	13:05	16:05		MS	8
03/05/2022	09:15	12:15		DP	9
03/05/2022	13:10	16:10		DP	7
05/05/2022	11:00	12:30		DP	7
05/05/2022	10:50	12:20		MS	8
13/05/2022	13:45	16:45		DP	3
24/05/2022	08:50	11:50		DP	6
24/05/2022	12:40	15:40		DP	8
24/05/2022	08:15	11:15		MS	9
24/05/2022	12:05	15:05		MS	10
25/05/2022	06:55	09:55		MS	7
25/05/2022	10:40	13:40		MS	5
25/05/2022	07:00	13:30	30	DP	6
01/06/2022	14:30	17:30		DP	3
09/06/2022	10:05	13:05		MS	10
09/06/2022	13:30	16:30		MS	9
22/06/2022	11:30	16:30	30	MS	5
23/06/2022	07:20	10:20		DP	3
27/06/2022	13:45	17:30	15	MS	9
28/06/2022	11:00	14:00		MS	7
28/06/2022	14:40	17:40		MS	5
29/06/2022	13:00	16:00		MS	6
29/06/2022	06:20	09:20		DP	3
04/07/2022	07:00	10:00		DP	5
04/07/2022	12:30	15:30		DP	7

Date	Start time	End time	Stoppage time (min)	Surveyor	VP
04/07/2022	12:15	15:15		MS	10
05/07/2022	08:40	11:40		MS	9
05/07/2022	12:20	15:20		MS	8
05/07/2022	09:10	12:10		DP	5
05/07/2022	12:50	15:50		DP	7
07/07/2022	10:45	13:45		MS	6
07/07/2022	14:30	17:30		MS	8
07/07/2022	15:10	18:10		DP	3
21/07/2022	10:20	13:20		MS	7
21/07/2022	14:15	17:15		MS	6
29/07/2022	08:10	11:10		MS	10
29/07/2022	12:00	15:00		MS	9
02/08/2022	09:30	12:30		DP	3
03/08/2022	09:00	12:00		MS	5
03/08/2022	12:45	15:45		MS	7
10/08/2022	09:20	14:20	30	DP	6
10/08/2022	15:25	16:55		DP	8
10/08/2022	08:50	11:50		MS	10
10/08/2022	12:35	15:35		MS	9
11/08/2022	08:50	11:50		DP	5
11/08/2022	12:40	14:10		DP	7
11/08/2022	08:15	11:15		MS	8
11/08/2022	11:50	14:50		MS	10
16/08/2022	11:30	18:00	30	DP	3
06/09/2022	08:50	13:50	30	MS	6
06/09/2022	08:45	13:45	30	MS	5
07/09/2022	09:20	12:20		MS	8
07/09/2022	12:50	15:50		MS	7
07/09/2022	09:10	12:10		DP	9
07/09/2022	12:55	15:55		DP	10
08/09/2022	09:00	14:00	30	DP	8
08/09/2022	08:40	11:40		MS	10
08/09/2022	12:15	15:15		MS	9
09/09/2022	10:50	13:50		DP	3
15/09/2022	08:15	11:15		MC	3
16/09/2022	08:00	10:30		MS	9
16/09/2022	11:55	14:55		MS	10
16/09/2022	08:15	11:15		MC	6
16/09/2022	12:10	17:10	30	MC	8

Observer, MS=Matt Sullivan, MC =Mike Coleman, SW=Sarah West, HA=Hugh Addelee, DP=Dave Pullan, JP=John Picton,