

## VOLUME 1: CHAPTER 9: ORNITHOLOGY

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Appendix 9.1: Ornithological Technical Report

*Appendix 9.2: Confidential Annex (Map)<sup>1</sup>*

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<sup>1</sup> Will not be published with the EIA Report due to the potential risk to protected species. However, will be issued to the Scottish Ministers, The Highland Council, Royal Society for the Protection of Birds and NatureScot.

## 9. ORNITHOLOGY

### 9.1 Executive Summary

- 9.1.1 This Chapter considers the potential effects of the Proposed Development on ornithological features and reaches conclusions as to the predicted likely significant effects on ornithology.
- 9.1.2 Methods used to establish the bird species and populations present that may be affected by the Proposed Development as well as to determine their Nature Conservation Importance are detailed within this Chapter. From here, either direct or indirect potential effects by the Proposed Development are detailed and the significance of these effects assessed.
- 9.1.3 Desk-based studies and a suite of field surveys were undertaken along the Proposed Development, as well as established survey buffers to ascertain baseline conditions.
- 9.1.4 As a result of the desk studies and field surveys, it was possible to scope out several species and potential impacts from further assessment, including birds of high Nature Conservation Importance due to low levels of activity, distance from the Proposed Development and the nature and location of noted activity.
- 9.1.5 Collision Risk and electrocution was scoped out from further assessment, due to time spent crossing the Proposed Development at collision risk height for all species was negligible. A Habitats Regulations Screening Assessment concluded no Likely Significant Effect (LSE) on the Loch Knockie and nearby Lochans Special Protection Area (SPA) and Creag Meagaidh SPA. Habitat Loss, disturbance and displacement for Golden Eagle, Peregrine, Merlin, Golden Plover and Dunlin were taken forward for further assessment.
- 9.1.6 Habitat loss arising from the construction of the Proposed Development is unlikely to result in significant adverse effects upon any bird species. Displacement and disturbance impacts are also likely to be negligible.
- 9.1.7 Mitigation in the form of species-specific protection plans detailing working methods and disturbance buffers are proposed.
- 9.1.8 As the Proposed Development, in isolation, would have no adverse effect on the regional populations of bird species, cumulative effects of the Proposed Development with other planned developments in the area are considered to be unlikely to have a significant effect on existing bird populations.
- 9.1.9 Overall, it is considered that the Proposed Development would not have a significant effect on ornithology under the terms of the EIA Regulations.

### 9.2 Introduction

- 9.2.1 This Chapter considers the potential effects, including cumulative effects, of the Proposed Development on ornithology during construction and operation as described in **Chapter 3: The Proposed Development**. It is anticipated that the effects associated with the construction phase could be considered to be representative of worst-case decommissioning effects on ornithology. As such, a separate assessment of potential decommissioning effects is not included in this Chapter. Where likely significant effects are predicted during construction and operation, appropriate mitigation measures are proposed, and the significance of predicted residual effects are assessed.
- 9.2.2 This Chapter should also be read in conjunction with **Technical Appendix 9.1: Ornithological Technical Report** and Confidential **Appendix 9.2: Confidential Annex Map**.<sup>1</sup>
- 9.2.3 **Appendix 8.1: Shadow Habitat Regulations Appraisal** is also relevant to this Chapter and should be referenced.

9.2.4 This assessment has been carried out by EnviroCentre Ltd. A table presenting relevant qualifications and experience of key staff involved in the preparation of this Chapter is included in **Appendix 5.1**, contained within Volume 4 of this EIA Report.

### 9.3 Scope of Assessment

#### *Study Area*

9.3.1 The study area encompasses the area over which all desk-based and field data were gathered to inform the assessment presented in this Chapter. The study area comprises the Proposed Development (plus a 500 m buffer for Vantage Point Surveys), the open moorland habitat that the Proposed Development crosses (plus a 500 m buffer), waterbody searches within 750 m of the Proposed Development and suitable habitat ranging from 1 km to 2 km from the Proposed Development for selected raptor species. **Figure 9.2** shows the 2km study area buffer.

9.3.2 On the basis of the field surveys undertaken, the professional judgement of the chapter authors and experience on similar infrastructure projects, a number of potential impacts have been scoped out of the assessment. Following consideration of the potential for the Proposed Development to give rise to significant effects on relevant ornithological features, it has been considered that significant effects are unlikely. These are detailed below:

- Loch Knockie and nearby Lochans SPA and Creag Meagaidh SPA – The Habitats Regulations Appraisal (HRA) undertaken for the Proposed Development (**Appendix 8.1: Shadow Habitat Regulations Appraisal**) concluded no Likely Significant Effects (LSE) on the qualifying interests of these designated sites.
- Collision risk – all species. Field surveys undertaken recorded only a small number of flightlines at collision risk height within 200m of the Proposed Development. Therefore, the time spent by each species within this risk window is considered negligible.
- Electrocutation – all species.
- Disturbance/displacement – White-tailed Eagle, Hen Harrier, Red Kite, Osprey, Goshawk, Greenshank. The raptor species described were recorded very infrequently or recorded a distance away from the Proposed Development. The reliance of these species on the habitats and airspace present in the vicinity of the Proposed Development is considered to be very low and there would be negligible effects on relevant populations of these species or species groups as a result of the Proposed Development.

The following Important Ornithological Features (IOF) taken forward for assessment are as follows:

- Golden Eagle (disturbance/displacement) – National importance;
- Peregrine (disturbance/displacement) – National importance;
- Merlin (disturbance/displacement) – National importance;
- Golden Plover (disturbance/displacement) – National importance; and
- Dunlin (disturbance/displacement) – National importance.

### 9.4 Consultation

9.4.1 To inform the scope of the assessment for the Proposed Development, consultation was undertaken with statutory and non-statutory bodies. **Table 9.1** summarises the scoping responses relevant to ornithology and provides information on where and/or how points raised have been addressed in this assessment.

9.4.2 Further details on the consultation responses and scoping opinion can be reviewed in **Chapter 4: Scope and Consultation**, and associated appendices.

**Table 9.1: Scoping Responses**

Organisation & Date	Summary of Consultation Response	EIA/Design Response to Consultee
<b>NatureScot</b> 21/11/2023	<p>NS have welcomed pre-application discussion with the applicant's consultants on the scope of ornithology survey and assessment and this advice remains valid. We have not yet seen full details of the survey methods, results and assessment, so cannot comment on the likely impacts of the proposal at this stage. Prior to submission of any future application we advise that the applicants ensure survey methods have followed our guidance at: <a href="https://www.nature.scot/recommended-birdsurvey-methods-inform-impact-assessment-onshore-windfarms">https://www.nature.scot/recommended-birdsurvey-methods-inform-impact-assessment-onshore-windfarms</a>, and that the approach to assessment and mitigation also follows the recommendations at: <a href="https://www.nature.scot/doc/guidanceassessment-and-mitigation-impacts-power-lines-and-guyed-meteorological-masts-birds">https://www.nature.scot/doc/guidanceassessment-and-mitigation-impacts-power-lines-and-guyed-meteorological-masts-birds</a>.</p> <p>We recommend survey and assessment also considers the access routes that would be used during construction and relevant buffers around these. This is to allow the potential for disturbance and displacement to be assessed, and any mitigation requirements to be identified (e.g. for Schedule 1 birds).</p>	<p>The full suite of ornithology surveys undertaken (detailed in Appendix 9.1) follows NatureScot guidance.</p> <p>The approach to assessment and mitigation also follows NatureScot guidance.</p> <p>The assessment within this Chapter considers access tracks and other ancillary works.</p>
	<p>We recommend that collision risk to golden eagles and other relevant species is scoped in for assessment, and that the EIAR also considers potential impacts through habitat loss/change, disturbance and/or displacement, for SPA and wider countryside bird populations, both for the proposal on its own and in combination with other projects. We recommend that assessments for wider countryside birds follow our guidance at: <a href="https://www.nature.scot/guidance-assessing-significance-impacts-bird-populationsonshore-wind-farms-do-not-affect-protected">https://www.nature.scot/guidance-assessing-significance-impacts-bird-populationsonshore-wind-farms-do-not-affect-protected</a>. GET (Golden Eagle Topographical) modelling may also help with the assessment of impacts to golden eagles, see: <a href="https://www.nature.scot/doc/naturescot-statement-modelling-support-assessment-forestryand-wind-farm-impacts-golden-eagles">https://www.nature.scot/doc/naturescot-statement-modelling-support-assessment-forestryand-wind-farm-impacts-golden-eagles</a>).</p>	<p>Based on the survey findings and the route alignment, no significant collision risk was predicted and therefore were not taken forward for further assessment (see 9.3.2)</p> <p>Displacement and disturbance for Golden Eagle, Merlin, Peregrine, Golden Plover and Dunlin were taken forward for further assessment.</p>
	<p><b>Creag Meagaigh Special Protection Area (SPA)</b></p> <p>The scoping report states no Dotterel were recorded during survey work. Although this SPA appears unlikely to be affected we would look to the EIA to confirm that there will be no direct or indirect impacts.</p>	<p>A shadow HRA (Appendix 8.1) has been undertaken and concluded no Likely Significant Effect (LSE) on qualifying interests of Creag Meagaigh SPA.</p>
	<p><b>Loch Knockie and nearby Lochs SPA</b></p> <p>We note that no Slavonian grebes were recorded during survey work. We would expect the EIA to confirm there will be no direct or indirect impacts.</p>	<p>A shadow HRA (Appendix 8.1) has been undertaken and concluded no Likely Significant Effect (LSE) on the qualifying interests of Loch Knockie and nearby lochans SPA.</p>
	<p><b>Glendoe Lochans SSSI</b></p> <p>We recommend the EIAR considers the potential for disturbance to common scoters connected to the SSSI</p>	<p>Effects on Common Scoter connected to the SSSI were considered and</p>

Organisation & Date	Summary of Consultation Response	EIA/Design Response to Consultee
	during access for construction work, and includes details of any mitigation requirements.	subsequently scoped out of further assessment.
	<p><b>Creag Meagaigh SSSI, Monadhliath SSSI</b></p> <p>These sites are protected in part for their breeding bird interests. Survey and assessment will allow any potential impacts to be considered.</p>	Potential impacts were considered and scoped out for further assessment.
<p><b>The Highland Council</b></p> <p>29/02/2024</p>	The presence of protected species such as Schedule 1 Birds must be included and considered as part of the application process, not as an issue which can be considered at a later stage. Any consent without due consideration to these species may breach European Directives with the possibility of consequential delays to the project or the project being halted by the EC.	These have been considered as part of this assessment.
	<p><b>Loch Knockie and nearby Lochans SPA</b></p> <p>The site lies approximately 3km east of this SPA. The SPA is protected for breeding Slavonian Grebe. Assessment will be required of collision risk through survey work and desk study of known Slavonian Grebe breeding sites in order that likely flightlines can be established with information available from RSPB.</p>	A shadow HRA (Appendix 8.1) has been undertaken and concluded no Likely Significant Effect (LSE) on the qualifying interests of Loch Knockie and nearby Lochans SPA.
	<p><b>Creag Meagaidh SPA</b></p> <p>This SPA is protected for breeding Dotterel. Should Dotterel be recorded during survey work, connectivity with the proposed development site and the need for a HRA should be considered.</p>	A shadow HRA (Appendix 8.1) has been undertaken and concluded no Likely Significant Effect (LSE) on the qualifying interests of Creag Meagaigh SPA.
	<p><b>Glendoe Lochans SSSI</b></p> <p>The SSSI reinforces the Loch Knockie and nearby Lochans SPA and is protected for breeding Common Scoter and Slavonian Grebe. An assessment of potential impacts through survey and desk study assessment will be required.</p>	Effects on Common Scoter and Slavonian Grebe connected to the SSSI were considered and subsequently scoped out of further assessment.
	Potential impacts to wider countryside birds should be assessed against the relevant Natural Heritage Zone (NHZ) population (NHZ10 Central Highlands for this proposal).	Assessment on species taken forward for further assessment have been assessed against NHZ10 populations (Section 9.8)
<p><b>The Scottish Government Energy Consents Unit (ECU)</b></p> <p>01/03/2024</p>	The ECU coping response reiterates the points raised by NatureScot and the Highland Council which are detailed above.	Responses provided to NatureScot and the Highland Council comments are detailed above.

## 9.5 Legislation, Policy and Guidance

9.5.1 The following legislation policy and guidance has been used to undertake this assessment:

- European Union Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna ('The Habitats Directive');
- Conservation of Habitats and Species Regulations 2017 (as amended) (The Habitats Regulations)

- EC Directive (2009/147/EC) (the Birds Directive);
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations)
- Environmental Impact Assessment Directive 85/337/EEC, as amended (“EIA Directive”) (as subsequently codified by Directive 2011/92/EU, as amended by Directive 2014/52/EU);
- Wildlife and Countryside Act 1981 (as amended) (WCA);
- Wildlife and Natural Environment (Scotland) Act 2011 (WANE);
- Nature Conservation (Scotland) Act 2004 (as amended); and
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal.

## 9.6 Methodology

### *Desk Study*

9.6.1 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 notable or protected species; to inform the field survey; and to provide information to guide actions and priorities for any ecological mitigation and enhancement.

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

- NatureScot Sitelink website<sup>2</sup> 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. Ancient Woodland, Local Nature Reserves and Sites of Importance for Nature Conservation);
- Royal Society for the Protection of Birds (RSPB)<sup>3</sup> and British Trust for Ornithology<sup>4</sup> (BTO) websites;
- RSPB data request;
- Birds Of Scotland<sup>5</sup>;
- Scottish Biodiversity List (SBL)<sup>6</sup>; and
- A review of impact assessments for nearby sites, such as the Stronelairg and Cloiche Wind Farm projects.

### *Field Survey*

9.6.3 In order to fully assess the ornithological effects on site, a suite of surveys was undertaken between October 2021 and September 2022, undertaken in accordance with NatureScot guidance. These surveys are detailed below and described further in **Appendix 9.1**.

- Vantage Point Surveys –undertaken between 22<sup>nd</sup> October 2021 and 30<sup>th</sup> September 2022. Originally, a total of eleven vantage points were used to sufficiently cover the study area. However, during the winter 2021/2022 period, the number of vantage points was dropped to seven as the route options stage evolved. A total of seventy-two hours were collected from each vantage point during the year

<sup>2</sup> NatureScot SiteLink website. Available at <https://sitelink.nature.scot/map> (Accessed 2021 & 2022)

<sup>3</sup> RSPB (2012). <http://www.rspb.org.uk/wildlife/birdguide/name>. (Accessed 2021 & 2022)

<sup>4</sup> BTO (2012). <http://www.bto.org/about-birds/birdfacts/find-a-species>. (Accessed 2021 & 2022)

<sup>5</sup> Forrester, R.W., Andrews I.J., McInerny 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.

<sup>6</sup> Scottish Biodiversity List. Available at: <https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list> (Accessed 2021 & 2022)

long survey period, thirty-six hours between October 2021 and 31<sup>st</sup> March 2022 and thirty-six hours between April and end of September 2022; Vantage Point locations can be found in **Figure 9.1**;

- Moorland Breeding Bird Surveys – were undertaken across the open moorland habitats along the study area. Four surveys were undertaken between April and end of June 2022;
- Waterbody searches – Waterbodies within 750m of the Proposed Development were searched between end of April and end of June 2022 to specifically search for diver species, Slavonian Grebe and Common Scoter; and
- Raptor Nest Searches – suitable habitat was searched for nesting raptors. Distances from the Proposed Development ranged from 1 km to 2 km for selected raptor species.

#### *Assessment of Effects*

9.6.4 The assessment of effect describes how the baseline conditions would change as a result of the project and its associated activities and from other developments. The term 'effect' is commonly used at the conclusion of the EIA process and is usually defined as the consequences for the receptor of an impact after mitigation measures have been taken into account. The EIA Regulations specifically require all likely significant effects to be considered. Therefore, impacts and effects are described separately and the effects for the important ornithological features (IOFs) are assessed as being either significant or not according to the importance and sensitivity of the IOF.

9.6.5 Significant cumulative effects can result from the individually insignificant but collectively significant effects of actions taking place over a period of time or concentrated in a location, for example:

- additive / incremental; and
- associated / connected.

#### *Geographic Importance*

9.6.6 The importance of each species is determined through consideration of three factors. Firstly, its legal protection; secondly, its conservation status; and finally, the population size at the site as a percentage of the European and national population sizes.

9.6.7 These three factors are described in more detail below.

#### Legal Protection of Bird Species

9.6.8 Wild birds within the UK are protected under both European and national legislation. On a European scale, the Birds Directive (Directive 79/409/EEC) which was amended in 2009 (2009/147EC), relates to the conservation of all species of naturally occurring birds in the wild state. It covers the protection, management and control of these species and applies to birds, their eggs, nests and habitats.

9.6.9 It requires measures to be taken to address the factors that may affect the numbers of birds, namely, the repercussions of man's activities and, in particular, the destruction and pollution of their habitats, in order to maintain populations at a level that corresponds to ecological, scientific and cultural requirements. The Directive requires, in particular, that species mentioned in Annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. Those species that are the subject of special conservation measures under the Directive are referred to as Annex 1 species.

9.6.10 Part I of Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) lists those birds that are protected by special penalties at all times and provides the highest level of protection in the UK. Part II lists birds that are

protected by special penalties during the close season. Those species that are protected by special penalties under the Act are referred to as Part I of Schedule 1, or Part II of Schedule 1 species.

#### Conservation Status of Bird Species

- 9.6.11 Wild birds may be listed as Priority Species in Biodiversity Action Plans at national (UK BAP) and local (LBAP) levels. These plans are non-statutory but aim to describe the biological diversity of the UK, and to set out detailed measures for their conservation, in order to contribute to fulfilling the UK's international and national obligations.
- 9.6.12 The global conservation status of birds is defined in the IUCN Red List Categories and Criteria. The general aim of this system is to provide an explicit, objective framework for the classification of species according to their extinction risk. This is the world's most comprehensive inventory of the global conservation status of species and those categorised as Threatened may be further categorised on a decreasing scale as Critically Endangered, Endangered or Vulnerable.
- 9.6.13 Those species not considered as Threatened may be categorised as Near Threatened when close to qualifying, or if likely to qualify in the future. A species at the lowest level of threat is categorised as Least Concern, and widespread and abundant species are included in this category. When there is inadequate information to make an assessment, a species may be categorised as Data Deficient.
- 9.6.14 The European conservation status of birds is determined by Birdlife International in their European Red List of Birds, which identifies priority species in order that conservation action can be taken to improve their status taken from the IUCN Red List assessment of regional extinction risk. Such birds are described as European Red List of Birds Species (ERLOB).
- 9.6.15 The national conservation status of birds is determined by their listing on the Red, Amber and Green lists of Birds of Conservation Concern (BoCC), as defined by Eaton et al. The criteria used to assign a species to one of these lists reflect each species' global, European and UK status and measure the importance of the UK populations in international terms.
- 9.6.16 BoCC Red List species are either globally threatened using IUCN criteria; have suffered a severe decline since 1800 without substantial recent recovery; have suffered a severe decline in breeding or non-breeding population of more than 50 % over 25 years; or suffered a severe decline in breeding range of more than 50 %, measured by birds present in 10 km squares, over 25 years.
- 9.6.17 BoCC Amber List species must have been identified as an ERLOB; or have been Red listed for historical decline in a previous review, but with a substantial recent recovery; or have a moderate (25 %-50 %) decline in breeding or non-breeding populations or breeding range over the past 25 years; or have a UK breeding population of fewer than 300 pairs, non-breeding population of fewer than 900 individuals; or have at least 50 % of the UK breeding or non-breeding population found in 10 or fewer sites; or be species of international importance with at least 20 % of the European breeding or non-breeding population found in the UK.
- 9.6.18 BoCC Green List species comprise all regularly occurring species that do not qualify under any of the Red or Amber criteria. The Green list also includes those species listed as recovering from historical decline in the last review that have continued to recover and do not qualify under any of the other criteria.

#### Population Size at the Site

- 9.6.19 To establish the importance of the population size at the site, the size of the European and national populations needs to be estimated. In determining the size of the UK population, reference is made to the websites of three organisations: the RSPB<sup>2</sup>, the British Trust for Ornithology (BTO)<sup>3</sup> and the Joint Nature Conservation



Committee (JNCC)<sup>7</sup>. Scottish populations are determined using The Birds of Scotland. Where there is variation between the estimates provided by these organisations, the range of estimates is provided.

9.6.20 **Table 9.2** shows a procedure for determining the geographical level of importance of bird species. Where a feature is important at more than one level in the table, its overriding importance is that of the highest level. Usually only the highest level of legal protection is listed.

**Table 9.2: Geographical Level of Importance of Bird Species**

Level of Importance	Legal Protection	Conservation Status	Population Size
<b>International</b>	Any species within Annex 1 of the EU Birds Directive	Any species which is listed as Critically Endangered or Endangered on the IUCN Red List	Supporting greater than 1% of the EC population
<b>National (UK)</b>	Any species within Schedule 1 of the Wildlife and Countryside Act	Any species that is listed as a Priority Species in the UKBAP; any species on the BoCC Red List	Supporting greater than 1% of the UK population
<b>National (Scotland)</b>	N/A	Any species on the Scottish Biodiversity List	Supporting greater than 5% of the Scottish population
<b>Regional</b>	N/A	Any species on the BoCC Amber List	Supporting greater than 0.5% of the UK population
<b>County</b>	N/A	Any species that is listed as a Priority Species in the LBAP	Supporting greater than 0.05% of the UK population
<b>Local</b>	N/A	BoCC Green List; or species with no conservation concern; common and widespread throughout the UK	Supporting less than 0.05% of the UK population

#### *Magnitude of Effect*

9.6.21 The CIEEM guidance states that when describing changes/activities and positive or negative impacts on ecosystem structure and function, reference should be made to the following parameters:

- magnitude;
- extent;
- duration;
- reversibility; and
- timing and frequency.

9.6.22 **Magnitude:** refers to the size, amount, intensity and volume of an impact, determined on a quantitative basis if possible, but typically expressed in terms of relative severity, such as major, moderate, low, or negligible. Extent, duration, reversibility, timing, and frequency of the impact can be assessed separately but they tie in to determine the overall magnitude.

<sup>7</sup> <https://jncc.gov.uk/>

- 9.6.23 **Extent:** the area of which the impact occurs. When the important feature is the habitat itself, magnitude and extent may be synonymous.
- 9.6.24 **Duration:** the time for which the impact is expected to last prior to recovery or replacement of the IOF. This is defined in relation to ornithological characteristics, rather than human timeframes. The duration of an activity may differ from the duration of the resulting impact caused by the activity and this is taken into account.
- 9.6.25 **Reversibility:** an irreversible (permanent) impact is one from which recovery is not possible within a reasonable timescale or for which there is no reasonable chance of action being taken to reverse it. A reversible (temporary) impact is one from which spontaneous recovery is possible or for which effective mitigation is possible and an enforceable commitment has been made.
- 9.6.26 **Timing and frequency:** the number of times an activity occurs will influence the resulting impact. The timing of an activity or change may cause an impact if it happens to coincide with critical life-stages or seasons.
- 9.6.27 Criteria for describing the magnitude of an impact are presented in **Table 9.3** below:

**Table 9.3: Magnitude Criteria**

Magnitude	Description
<b>Major</b>	Total or major loss or alteration to the IOF, such that it will be fundamentally changed and may be lost from the site altogether; and/or loss of a very high or high proportion of the known population or range of the IOF.
<b>Moderate</b>	Loss or alteration to the IOF, such that it will be partially changed; and/or loss of a moderate proportion of the known population or range of the IOF.
<b>Low</b>	Minor shift away from the existing or predicted future baseline conditions. Change arising from the loss or alteration will be discernible but the condition of the IOF will be similar to the pre-development conditions; and/or having a minor impact on the known population or range of the IOF.
<b>Negligible</b>	Very slight change from the existing or predicted future baseline conditions. Change barely discernible, approximating to the 'no change' situation; and/or having a negligible impact on the known population or range of the IOF.

*Significance of Effect*

- 9.6.28 Significance is a concept related to the weight that is attached to effects when decisions are made. For the purposes of EclA, a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for IOFs. In broad terms, significant effects encompass effects on the structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance, and distribution).
- 9.6.29 Significant effects are quantified with reference to an appropriate geographic scale (see Table 9.2 above). The CIEEM guidance has one 'level of importance' and a geographical 'scale of significance'. This is to deal with the fact that the geographical scale at which the effect is significant is not necessarily the same as the geographic level of importance of the IOF.
- 9.6.30 A sensitivity scale is used to determine the significance of effects, as shown in **Table 9.4**:

**Table 9.4: Sensitivity Scale**

Term	Definition
<b>High</b>	Tolerance: The IOF has a very limited tolerance of the effect. Adaptability: The IOF is unable to adapt to the effect. Recoverability: The IOF is unable to recover, resulting in permanent or long-term (>10 years) change.
<b>Medium</b>	Tolerance: The IOF has limited tolerance of the effect. Adaptability: The IOF has limited ability to adapt to the effect. Recoverability: The IOF is able to recover to an acceptable status over the medium term (5-10 years).
<b>Low</b>	Tolerance: The IOF has some tolerance of the effect. Adaptability: The IOF has some ability to adapt to the effect. Recoverability: The IOF is able to recover to an acceptable status over the short-term (1-5 years).
<b>Negligible</b>	Tolerance: The IOF is generally tolerant of the effect. Adaptability: The IOF can completely adapt to the effect with no detectable changes. Recoverability: The IOF is able to recover to an acceptable status near instantaneously (<1 year).

9.6.31 Each effect is evaluated and classified as either significant (major or moderate) or not significant (minor or negligible). If changes to the conservation status of regional population of IOFs are evaluated during the assessment process, these are considered significant in terms of EIA (i.e. major or moderate significance). No significant effects include all those which are likely to result in minor (small to barely detectable) or negligible (non-detectable) changes in the conservation status of regional (and therefore national) populations. **Table 9.5** below details the significance criteria.

**Table 9.5: Significance Criteria**

Magnitude	Definition
<b>Major</b>	Detectable changes in the regional population of IOF, with a severe impact on conservation status.
<b>Moderate</b>	Detectable changes in the regional population of IOF, with an impact on conservation status.
<b>Low</b>	Small or barely detectable change in regional population of IOF that will be unlikely to have an impact on conservation status.
<b>Negligible</b>	No detectable change in conservation status of regional population of IOF.

#### *Assessment Criteria - Confidence in Predictions*

9.6.32 CIEEM does not cover levels of confidence in predictions adequately, therefore an approach has been adopted whereby a simple, qualitative index based on professional judgement is assigned to each predicted effect as follows:

- A: high confidence.
- B: intermediate confidence.
- C: low confidence.

9.6.33 Factors influencing confidence include:

- the frequency and effort of field sampling;
- constraints to the field survey;
- the completeness of the data (field and desk);
- the age of the data (although recent data are not necessarily always more reliable than old data);
- the state of scientific knowledge relating to the predicted effects of development activities on the IOF (the accuracy of the magnitude assessment); and
- the accuracy of the assessment of significance.

#### *Assessment Criteria – Success of Mitigation*

9.6.34 Mitigation can be used to encompass measures intended to avoid, minimise, restore and offset (this is the 'mitigation hierarchy').

9.6.35 Mitigation and compensation measures often carry a degree of uncertainty. Uncertainty associated with a design will vary according to a number of factors, such as:

- the technical feasibility of what is proposed;
- the overall quantity of what is proposed;
- the overall quality of what is proposed;
- the level of commitment provided to achieve what is proposed;
- the provision of long-term management; and
- the timescale for predicted benefits.

9.6.36 The following objective scale is used for the success of mitigation:

- certain/near certain: probability estimated at 95 % chance or higher.
- probable: probability estimated above 50 % but below 95 %.
- unlikely: probability estimated above 5 % but less than 50 %.
- extremely unlikely: probability estimated at less than 5 %.

#### *Assessment Limitations*

9.6.37 The available information on bird populations at the Natural Heritage Zone (NHZ) and regional level is limited. Although baseline data for existing and proposed developments in the vicinity of the Proposed Development

(the existing Stronelairg, the consented Cloiche and the proposed Dell 2 wind farms), information on the results of monitoring, mitigation and enhancement work at other existing and proposed developments is sparse. Therefore, as is standard with these assessments, use is necessarily made of the available literature and professional judgement to inform the assessment.

## 9.7 Baseline Conditions

### *Existing Baseline*

#### Designated Sites

- 9.7.1 Creag Meagaidh is located approximately 1.2 km south of the Proposed Development.
- 9.7.2 Creag Meagaidh SPA is a large mountain massif which lies north of Loch Laggan in the central Highlands. It is an outstanding upland site with a range of characteristic plant communities and some notable montane plants. The boundary of the site generally follows the 750m contour within the Creag Meagaidh SSSI. The 750m contour is the lower limit of the habitat used by breeding Dotterel (*Charadrius morinellus*) on this site.
- 9.7.3 The site is of special nature conservation and scientific importance because it supports a nationally important population of breeding Dotterel. Britain holds one of the most important populations of Dotterel in the EC and, because of its rarity, this species is listed as requiring special conservation measures under Article 4.1 of The Birds Directive. From 1987 to 1994, an average of 23 pairs of Dotterel bred within the Creag Meagaidh SPA, representing 3% of the British breeding population. Dotterel on Creag Meagaidh breed at around five times the average density of Dotterel on montane areas of Great Britain. The British breeding population of 860 pairs of Dotterel breed mainly in Scotland with only a few pairs found in England. Creag Meagaidh is an important spring staging area for Dotterel that breed in Scotland and in Scandinavia.
- 9.7.4 Loch Knockie and nearby Lochans SPA is located approximately 4km west of the Proposed Development. Loch Knockie and Nearby Lochs SPA comprises a group of lochs at the south-east end of the Great Glen in Highland region. The undisturbed aquatic plant communities on the SPA include extensive sedge beds. The lochs are surrounded by mire, heath, mixed woodland and agricultural land.
- 9.7.5 Loch Knockie and Nearby Lochs SPA qualifies under Article 4.1 by regularly supporting a population of European importance of the Annex 1 species: Slavonian Grebe (*Podiceps auratus*) (1992 to 1995, up to 6 pairs, up to 10% of the GB population).
- 9.7.6 **Figure 9.2** details the sites designated for bird features within 5km of the Proposed Development.

#### Bird Species

- 9.7.7 A total of fifty-two bird species recorded during the suite of surveys undertaken within the study area, plus ad-hoc sightings.
- 9.7.8 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.

9.7.9 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

9.7.10 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); and
- Ptarmigan, Common Scoter, Dunlin, Skylark, Lesser Redpoll and Fieldfare have all suffered severe breeding population declines over 25 years/ longer term. Fieldfare is also a rare breeding bird in the UK.

9.7.11 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 and Eurasian Teal have both suffered moderate non-breeding population declines, and the UK non-breeding population of both species are also of international importance; and
- The UK non-breeding population of Pink-footed Goose is of international importance.

*Sensitive Bird Species Summaries*Golden Eagle

9.7.12 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 Study 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 to 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. Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

9.7.13 No Golden Eagle nest sites were recorded within 2 km of the Proposed Development.

White-tailed Eagle

9.7.14 Over the course of 504 hours of Vantage Point Surveys (October 2021 through to September 2022), ten flightlines were recorded within the Proposed Development Study 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 to 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. Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

9.7.15 No White-tailed Eagle nest sites were recorded within 2 km of the Proposed Development.

Hen Harrier

9.7.16 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 Study 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. Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

9.7.17 No Hen Harrier nest sites were recorded within 2 km of the Proposed Development.

Red Kite

9.7.18 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 Study 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). Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

9.7.19 No Red Kite nest sites were recorded within 2 km of the Proposed Development.

Osprey

9.7.20 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 Study Area, totalling 94 seconds. This equates to

0.005% of watch time. No flights bisected the Proposed Development (OHL section). Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

9.7.21 No Osprey nest sites were recorded within 2 km of the Proposed Development.

Peregrine

9.7.22 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 Study Area, totalling 149 seconds. This equates to 0.008% of watch time. No flights bisected the Proposed Development (OHL section). Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

9.7.23 No Peregrine nest sites were recorded within 1 km of the Proposed Development. A pair successfully bred >1.2km from the Proposed Development. Please refer to **Appendix 9.2: Confidential Annex.**<sup>1</sup>

Merlin

9.7.24 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 Study Area, totalling 139 seconds. This equates to 0.008% of watch time. No flights bisected the Proposed Development (OHL section). Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

9.7.25 A pair successfully bred ~750m from the Proposed Development. Please refer to **Appendix 9.2: Confidential Annex.**<sup>1</sup>

Goshawk

9.7.26 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 Study Area, totalling 33 seconds. This equates to 0.001% of watch time. No flights bisected the Proposed Development (OHL section). Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

No nesting Goshawk was recorded within 2km of the Proposed Development.

Common Scoter

9.7.27 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 Ghals on 28<sup>th</sup> 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, part of the Loch Knockie and nearby Lochans SPA.

Golden Plover

9.7.28 A total of eleven Golden Plover territories were recorded during the surveys. No territories are located within 200 m of the proposed OHL. Three territories lie within 200 m of the proposed underground cable route section. Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

Dunlin

9.7.29 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. Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.



### Greenshank

9.7.30 One Greenshank (*Tringa nebularia*) was recorded on a small lochan approximately 600m from the Proposed Development. Please refer to **Appendix 9.1: Ornithology Technical Report** and the flightlines and territories figures it contains.

### *Future Baseline*

9.7.31 Provided the existing land-management of the area continues as at present, changes in the bird population during the medium to long-term are likely to be typical of those associated with areas of commercial plantation forest, open moorland, and waterbodies.

### Climate Change

9.7.32 It is now generally agreed that Climate Change projections suggests that Scotland will experience hotter and drier summer months (June to August), along with warmer and wetter winter conditions (December to February).

9.7.33 Changes to climate may have the following implications:

- More rainfall in spring/early summer could result in reduced invertebrates and increased energy expenditure for birds finding food.
- More rainfall could result in ground nesting birds being subjected to egg chilling; and
- Warmer summer weather could improve the nesting conditions for a variety of species.

## **9.8 Potential Effects**

9.8.1 This section considers the potential impacts and associated effect significance of the construction of the Proposed 132kV OHL and operation of the Proposed Development based on the typical activities described in **Chapter 3: The Proposed Development**.

9.8.2 Potential effects on the ornithological features to be assessed associated with the construction and/or operation of the Proposed Development are:

- loss of habitat and habitat modification – The loss of critical habitats due to land take for infrastructure and habitat modification changes due to changes in land management may occur. Changes may be temporary or long-term. The Proposed Development is predicted to result in the permanent direct loss of 1.52 ha and a temporary direct loss of 33.6 ha of land through the development of the towers, cable sealing end compounds, underground cable (UGC) and temporary and permanent access tracks.
- disturbance/displacement – Disturbance of breeding birds, roosting birds (particularly during winter) and displacement of feeding/foraging birds in suitable habitats may occur, primarily during construction works. Temporary disturbance of breeding birds is likely to result from activities associated with people and machines in the vicinity of the Proposed Development.

### Golden Eagle

9.8.3 The UK breeding population is currently restricted to Scotland. Based on the results of a national survey completed in 2015, the Scottish population was estimated at 508 pairs. Although the breeding population has experienced increases in recent years, in regions such as the Western Isles and the west Highlands, this masks long-term declines and failure to reoccupy former breeding territories in other regions such as the central and eastern Highlands. The primary reason for this is the impact of illegal persecution of golden eagles.

- 9.8.4 The Golden Eagles recorded in the area of the Proposed Development fall within the Central Highlands Natural Heritage Zone (NHZ). The current known population of birds (as of 2018) within this NHZ is 21 pairs, with 28 available home ranges. The population is considered to be in favourable condition.
- 9.8.5 The results of the field surveys undertaken for the Proposed Development show that the Golden Eagles here favour the ridgelines away from the Proposed Development. A Golden Eagle Topographical (GET) model was run for the Cloiche Wind Farm application which showed that the Proposed Development (OHL) route falls outwith favoured areas for Golden Eagle.
- 9.8.6 Golden Eagle will be protected from disturbance through the provision of species-specific protection plans (see **Appendix 3.4: General Environmental Management Plans (GEMPs)** and **Appendix 3.5 Species Protection Plans (SPPs)**). These will detail accepted disturbance exclusions zones and timing of works to prevent disturbance. This will be overseen by the ECoW.
- 9.8.7 The average height of the Proposed OHL route will be approximately 30 m. The majority of flightlines recorded were above 50m. Only four flightlines crossed the Proposed Development (OHL section) at collision risk height, totalling 20 seconds. This equates to 0.001% of watch time (504 hours). Therefore, the OHL would not produce barrier effects and Golden Eagles would be able to successfully cross the Proposed Development without the need for additional energy expenditure. The permanent loss of 1.52 ha and temporary loss of 33.61 ha of habitat comprises a very small percentage of a Golden Eagle home range (approximately 0.5%).
- 9.8.8 Therefore, it is concluded that likely effects of the Proposed Development on Golden Eagle through the construction and operational period are **negligible** and **not significant** under the terms of the EIA Regulations. The confidence of the assessment is **A: High**
- Peregrine
- 9.8.9 The UK Peregrine population was the subject of national surveys in 2002 and 2014. The population in the in the UK, Isle of Man and Channel Islands was estimated at 1769 pairs in 2014, a 22% increase on the 2002 estimate. However, most of this increase was associated with populations in lowland England, with some upland populations declining during that period. The Scottish breeding population was estimated at 523 occupied territories which was a decrease on the 2002 estimate. The decrease in the population estimates for Scotland between 2002 and 2014 appears to be largely due to losses from upland and inland sites. Based on the 2014 national survey data the NHZs populations have been estimated. The most recent estimated number of breeding pairs was seven (3-14 range) for the Central Highlands NHZ.
- 9.8.10 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 Study Area, totalling 149 seconds. This equates to 0.008% of watch time. No flights bisected the Proposed Development (OHL section). Therefore, there is no collision risk for this species.
- 9.8.11 The results of the field surveys located one successful breeding pair ~1.2 km from the Proposed Development. This is outwith the recommended disturbance buffer of 500-750m for this species.
- 9.8.12 Peregrine will be protected from disturbance through the provision of species-specific protection plans (see **Appendix 3.4: GEMPs** and **Appendix 3.5 SPPs**). These will detail accepted disturbance exclusions zones and timing of works to prevent disturbance. This will be overseen by the EcoW.
- 9.8.13 Therefore, it is concluded that likely effects of the Proposed Development on Peregrine through the construction and operational period are **negligible** and **not significant** under the terms of the EIA Regulations. The confidence of the assessment is **A: High**.

### Merlin

- 9.8.14 The 2008 national survey resulted in an estimated breeding population for GB of approximately 1,159 pairs with the Scottish population estimated at 733 pairs. However, there was some doubt cast over the accuracy of these figures. Walker et al. (2015) did not use the national survey results in their estimates of the NHZ populations. They used merlin counts from NHZs where this species was intensively studied and a high proportion of merlin pairs were likely to have been found, arriving at an estimate of 434 pairs for Scotland. The Central Highlands NHZ was estimated to hold 13 pairs (ranging from 7-21).
- 9.8.15 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 Study Area, totalling 139 seconds. This equates to 0.008% of watch time. No flights bisected the Proposed Development (OHL section). Therefore, there is no collision risk.
- 9.8.16 The results of the field surveys located one successful breeding pair ~750m from the Proposed Development. This is outwith the recommended disturbance buffer of 300 – 500m for this species.
- 9.8.17 Merlin will be protected from disturbance through the provision of species-specific protection plans (see **Appendix 3.4: GEMPs** and **Appendix 3.5 SPPs**). These will detail accepted disturbance exclusions zones and timing of works to prevent disturbance. This will be overseen by the EcoW.
- 9.8.18 Therefore, it is concluded that likely effects of the Proposed Development on Merlin through the construction and operational period are **negligible** and **not significant** under the terms of the EIA Regulations. The confidence of the assessment is **A: High**

### Golden Plover

- 9.8.19 The Scottish breeding population has been estimated at 37,480 pairs and the population estimate for the Central Highlands NHZ, based on an analysis of 2009 breeding distribution data, is 2,702 pairs.
- 9.8.20 The results of the field surveys found three territories within 200m of the proposed UGC route. The potential loss of these territories equates to 0.1% of the NHZ population.
- 9.8.21 Golden Plover will be protected from disturbance through the provision of species-specific protection plans (see **Appendix 3.4: GEMPs** and **Appendix 3.5 SPPs**). These will detail accepted disturbance exclusions zones and timing of works to prevent disturbance. This will be overseen by the EcoW.
- 9.8.22 Therefore, it is concluded that likely effects of the Proposed Development on Golden Plover through the construction and operational period are **negligible** and **not significant** under the terms of the EIA Regulations. The confidence of the assessment is **A: High**

### Dunlin

- 9.8.23 The Scottish breeding population has been estimated at 13,313 pairs but this is based on a wide range 5,904–28,939 (95% confidence limits). The NHZ 10 population was estimated to be 105 (range 33-266) pairs, which was considered likely to be in unfavourable conservation status due to declines in the national population.
- 9.8.24 The results of the field surveys found two territories within 200m of the proposed UGC route. The potential loss of these territories equates to 1.9% of the NHZ population, which is considered a negligible loss.
- 9.8.25 Dunlin will be protected from disturbance through the provision of species-specific protection plans (see **Appendix 3.4: GEMPs** and **Appendix 3.5 SPPs**). These will detail accepted disturbance exclusions zones and timing of works to prevent disturbance. This will be overseen by the EcoW.

9.8.26 Therefore, it is concluded that likely effects of the Proposed Development on Dunlin through the construction and operational period are **negligible** and **not significant** under the terms of the EIA Regulations. The confidence of the assessment is **A: High**

## 9.9 Cumulative Effects

9.9.1 The purpose of the assessment of cumulative effects is to identify situations where effects on habitats or species populations that may be non-significant from individual developments, are judged to be significant when combined with nearby existing or proposed projects. In the interests of focusing on the potential for similar significant effects, this assessment considers the potential for cumulative effects with other infrastructure developments, including those that are operational, under construction, consented or at application stage.

9.9.2 Two proposed EIA projects / developments were identified in proximity to the Proposed Development:

- The consented Cloiche Wind Farm (consented); and
- The proposed Dell 2 Wind Farm (submitted to the Scottish Government Energy Consents Unit on behalf of the Scottish Ministers on 11th March 2024 and awaits decision).

9.9.3 Given there are no predicted adverse residual effects during the construction and operational phases of the Proposed Development in isolation, where all effects are assessed as **negligible**, it is considered highly unlikely that the Proposed Development would contribute cumulatively to adverse effects on the conservation status of regional populations of any bird species. Therefore, there is no requirement for a cumulative assessment.

## 9.10 Mitigation

### *Embedded Mitigation/Mitigation by Design*

9.10.1 The assessment has been undertaken in the knowledge that a Bird Protection Plan (BPP), devised in consultation with NatureScot, would be in place prior to the onset of construction and dismantling activities (see **Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**), which includes the Applicant's bird SPP. The overall BPP and the species-specific plans in place for certain species would describe the survey methods for the identification of sites used by protected birds and details protocols for the prevention, or minimisation, of disturbance to birds as a result of activities associated with the Proposed Development. The BPP would be overseen by the Ecological Clerk of Works (ECoW).

9.10.2 The BPP would also describe the surveys to locate the nests or other key sites (e.g. roosts) of birds listed in Schedules 1 and 1A of the Wildlife and Countryside Act 1981, in advance of construction and dismantling works progressing. In the event that an active nest or roost of a Schedule 1 or Schedule 1A species is discovered within distances given by Ruddock & Whitfield (2007) (or within a 500 m radius of the nest for Schedule 1 species not listed), a disturbance risk assessment would be prepared under the BPP and any measures considered necessary to safeguard the breeding attempt or roost (e.g., exclusion zones or restrictions on timing of works), would be submitted to NatureScot for agreement before recommencing work.

### *Mitigation During Construction and operation*

9.10.3 Other than the Embedded Mitigation Measures described in Section 9.10, no further mitigation measures are proposed during the construction phase.

9.10.4 The success of mitigation is considered **certain/near certain**.

## 9.11 Residual Effects

9.11.1 This section considers the potential residual effects and associated effect significance of the construction and operation of the Proposed Development, following the implementation of the mitigation measures proposed in Section 9.11. The residual effects during construction of the Proposed Development are considered to be **not significant**. No further mitigation, other than the Embedded Mitigation Measures (Section 9.10) would be implemented by the Applicant is proposed.

### *Cumulative Residual Effects*

9.11.2 As described in paragraph 9.11.1 given there are no predicted adverse residual effects during the construction and operational phases of the Proposed Development in isolation, where all effects are assessed as negligible, it is considered highly unlikely that the Proposed Development would contribute cumulatively to adverse effects on the conservation status of regional populations of any bird species. Therefore, there is no residual cumulative effects.

## 9.12 Summary and Conclusions

9.12.1 This Chapter has considered the potential effects of the Proposed Development on ornithology. It details the methods used to establish the bird species and populations present, together with the process used to determine their Nature Conservation Importance. The ways in which birds could be affected (directly or indirectly) by the construction, operation and dismantling phases of the Proposed Development are explained.

9.12.2 An assessment is made with regards to the significance of these effects for the Proposed Development. The assessment is structured around the consideration of potential effects that could result from the construction and operation of the Proposed Development, upon those ornithological receptors identified during survey work. The likely effects of the Proposed Development were evaluated in accordance with the methods and the significance of each potential effect. An assessment was also made on the potential cumulative effects of the Proposed Development in conjunction with other nearby proposed and consented developments.

9.12.3 Embedded Mitigation Measures described in Section 9.10 (see **Appendix 3.4: GEMPs and Appendix 3.5: SPPs**) would significantly reduce the potential effects of construction and operational works on Golden Eagle, Peregrine, and Merlin.

9.12.4 It is concluded that the likely effects of the Proposed Development, on all bird species are **not significant** under the terms of the EIA Regulations.

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