9 Ornithology

9.1 Introduction

9.1.1 This chapter assesses the potential effects on ornithology associated with the construction and operation of the Proposed Development. This chapter (and its associated Figures and Appendices) is not intended to be read as a standalone assessment and reference should be made to the introductory chapters of this EIA Report (**Volume 2, Chapters 1-5**).

9.1.2 The assessment has been carried out by Danny Oliver MCIEEM, Principal Ornithologist, Ramboll UK Limited, who has over nine years' experience with Ramboll designing and undertaking ornithological field surveys and undertaking ornithological impact assessments including multiple previous overhead line (OHL) projects similar to the Proposed Development (refer **Technical Appendix 9.1: Ornithology Methodology and Results, EIAR Volume 4**).

9.1.3 This chapter is supported by the following figures and technical appendices:

- Volume 3a: Figures
  - **Figure 9.1: Designated Sites;**
  - **Figure 9.2: Ornithology Survey Locations;**
  - **Figure 9.3a - b: 2018-2019 Survey Results;**
  - **Figure 9.4a - b: 2021-2022 Survey Results;** and
  - **Figure 9.5a - d: Confidential Survey Results**.
- Volume 4: Technical Appendices
  - **Technical Appendix 9.1: Ornithology Methodology;**
  - **Technical Appendix 9.2: Confidential Results and Mitigation;** and
  - **Technical Appendix 9.3: Habitats Regulations Appraisal**.

9.1.4 Figures and Technical Appendices are referenced in the text where relevant.

9.2 Assessment Methodology and Significance Criteria

Scope of the Assessment

9.2.1 This chapter considers effects on:

- Protected sites designated for ornithological species; and
- Bird species and populations in and around the Proposed Development at all times of year.

9.2.2 The chapter also assesses cumulative effects as arising from the addition of the Proposed Development to other cumulative developments. **Figure 15.1: Cumulative Developments, EIAR Volume 3a** illustrates the Proposed Development along with other cumulative developments recorded as constructed, consented (under construction or not yet constructed), those in planning and those within the public domain, deemed reasonably foreseeable, within 15 km of the Proposed Development.

9.2.3 The assessment is based on the Proposed Development as described in **Chapter 2: Description of the Proposed Development (EIAR Volume 2)**. This chapter focusses on the effects of the construction and operation phases of the Proposed Development upon Important Ecological Features (IEF)[1] aligning with

[1] These are any ornithological entity which could be impacted by the Proposed Development, including species, habitats or designated sites.

Ecological Impact Assessment (EcIA) Guidelines from the Chartered Institute of Ecology and Environmental Management[2] (hereafter the 'CIEEM EcIA Guidelines'). This EcIA has been prepared with reference to the applicable legislative framework and national and local planning policy, with these listed below. Specific guidance documents for habitats and species are referenced throughout this chapter and the associated Appendices.

9.2.4 The scope of the assessment has been informed by the consultation responses summarised in **Table 9-1,** and the following guidelines/policies:

Legislation

9.2.5 Relevant legislation has been reviewed and considered as part of this ornithology assessment. Of relevance are:

- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the Conservation of Wild Birds[3];
- EC Directive on the Conservation of Natural Habitats and Wild Flora and Fauna, 92/43/EEC 1992[4];
- Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[5];
- The Conservation of Habitats and Species Regulations 2017[6];
- Conservation (Natural Habitats Etc.) Regulations 1994[7];
- Wildlife and Countryside Act 1981[8];
- Nature Conservation (Scotland) Act 2004[9];
- Wildlife and Natural Environment (Scotland) Act 2011[10];
- UK Post-2010 Biodiversity Framework 2012[11];
- Electricity Act 1989[12];
- The Electricity Works (Environmental Impact Assessment) (Scotland) Act 2017[13]; and
- The Ramsar Convention on Wetlands 1971[14].

Planning Policy

9.2.6 Relevant planning policies reviewed for this biodiversity assessment are:

- Scottish Planning Policy[15] 2014[16];

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[2] CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Available: https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.1.pdf [Accessed June 2020]

[3] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32009L0147

[4] EC Directive on the Conservation of Natural Habitats and Wild Flora and Fauna (1992): http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm [Accessed 17 August 2021]

[5] The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (2019): https://www.legislation.gov.uk/ukdsi/2019/9780111176573#:~:text=%20The%20Conservation%20of%20Habitats%20and%20Species%20(Amendment),of%20capturing%20or%20killing%20fish%20are%E2%80%94%20More [Accessed 17 August 2021]

[6] The Conservation of Habitats and Species Regulations (2017): https://www.legislation.gov.uk/uksi/2017/1012/contents/made [Accessed 17 August 2021]

[7] The Conservation (Natural Habitats Etc.) Regulations (as amended) (1994): http://www.legislation.gov.uk/uksi/1994/2716/contents/made [Accessed 17 August 2021].

[8] The Wildlife and Countryside Act (as amended) (1981): http://www.legislation.gov.uk/ukpga/1981/69 [Accessed 17 August 2021]

[9] Nature Conservation (Scotland) Act (as amended) (2004): http://www.legislation.gov.uk/asp/2004/6/contents [Accessed 17 August 2021]

[10] Wildlife and Natural Environment (Scotland) Act (2011): http://www.legislation.gov.uk/asp/2011/6/enacted [Accessed 17 August 2021]

[11] UK Post-2010 Biodiversity Framework (2012): http://jncc.defra.gov.uk/page-6189 [Accessed 17 August 2021]

[12] Electricity Act (1989): https://www.legislation.gov.uk/ukpga/1989/29/contents [Accessed 17 August 2021]

[13] The Electricity Works (Environmental Impact Assessment) (Scotland) Act (2017): http://www.legislation.gov.uk/ssi/2017/101/contents/made [Accessed 17 August 2021]

[14] Ramsar Convention on Wetlands (1971): http://www.ramsar.org/about-the-ramsar-convention [Accessed 17 August 2021]

[15] No acronym, SPP used for Species Protection Plan.

[16] Scottish Planning Policy (2014): https://www.gov.scot/publications/scottish-planning-policy/pages/2/ [Accessed 17t August 2021]

- UK Biodiversity Action Plan (BAP) 2010[17];
- Scottish Biodiversity List (SBL) 2005[18];
- 2020 Challenge 2013[19];
- Argyll and Bute Local BAP[20]; and
- Argyll and Bute Biodiversity Duty Action Plan[21].

Guidance

9.2.7 Best practice guidance has been implemented when undertaking field surveys as detailed in **Technical Appendix 9.1: Ornithology Methodology (EIAR Volume 4)**.

Extent of the Study Area

9.2.8 The ornithology baseline was established using an Ornithology Desk Study Area and an Ornithology Field Survey Area. The Ornithology Desk Study Area was defined as a 10 km buffer on either side of the Proposed Development, as shown on **Figure 9.2: Ornithology Survey Locations, EIAR Volume 3a**. The Ornithology Field Survey Area extended up to 2 km beyond the Proposed Development, with smaller areas surveyed dependent on the target species of the survey methodologies used. The extent of the limits of deviation[22] (LOD) of the Proposed Development (hereafter "the LOD") (see **Section 2.3, Chapter 2: Proposed Development, EIAR Volume 2**) falls entirely within the field Ornithology Field Survey Area. The Breeding Bird Surveys (BBS) did not cover the full Ornithology Field Survey Area, instead focussing on the LOD.

9.2.9 The Routeing Study Area, used as the Study Area for the 2018-19 surveys, is also shown on **Figure 9.2: Ornithology Survey Locations, EIAR Volume 3a**.

Consultation Undertaken to Date

9.2.10 Consultation undertaken to date mainly pertains to the EIA Scoping. Scoping responses received at the time of writing that are relevant to this chapter are captured in **Table 9-1**. Further information can be found in **Appendix 4.3: Consultation Register (EIAR Volume 4).**

Table 9-1: Scoping Responses and Other Consultations of Relevance to Chapter 9

Organisation	Type of Consultation	Response	How response has been considered
NatureScot (NS)	Pre-Survey Consultation, March 2021	Recommend using routes closer to the existing infrastructure, ideally away from areas of high golden eagle *Aquila chrysaetos* activity. Potential to obtain information from Natural Research, Upper Sonachan and Balliemeanoch Wind Farms. Content that the scope of surveys is sufficient.	Proposed Alignment does run close to existing infrastructure at the bottom of Glen Aray, away from areas of high golden eagle activity. Data obtained from Natural Research (discussed in **Technical Appendix 9.3: Habitat Regulations' Appraisal, EIAR Volume 4)**. No action required.

17 UK BAP: http://jncc.defra.gov.uk/default.aspx?page=5155 [Accessed 17 August 2021]
18 The Scottish Biodiversity List (2005): https://www.nature.scot/scottish-biodiversity-list-documents [Accessed 17 August 2021]
19 The 2020 Challenge: http://www.gov.scot/Publications/2013/06/5538 [Accessed 17 August 2021]
20 The Argyll and Bute Local BAP (2010-2015): https://www.argyll-bute.gov.uk/sites/default/files/Unknown/AandB%20BAP%20Draft.pdf [Accessed 28 September 2021]
21 Argyll and Bute Biodiversity Duty Action Plan (2016-2021): https://www.argyll-bute.gov.uk/sites/default/files/argyll_and_bute_council_biodiversity_duty_action_plan_final_version_april_2016_2.pdf [Accessed 28 September 2021]
22 The LOD is defined as 100 m either side of the Proposed Alignment.

Organisation	Type of Consultation	Response	How response has been considered
		Requirement to undertake Habitats Regulations Appraisal (HRA) for Glen Etive and Glen Fyne SPA.	Undertaken in **Technical Appendix 9.3: Habitats Regulations' Appraisal (EIAR Volume 4**).
NS	Scoping Response, April 2022	Desk Study data recommended to include RSPB, Argyll Raptor Study Group and data collected for Blarghour and Ladyfield wind farms. In general agreement with the proposed approach to baseline collection. Glen Etive and Glen Fyne SPA is identified as a sensitive receptor, as is other golden eagle territories, white-tailed eagle, other Schedule 1 raptors and black grouse. Golden Eagle Topography (GET) models have recently become available and are recommended for use and it is not recommended to use statistical Collision Risk Models (CRM), except for circumstances where bespoke models may be appropriate. Potential issue as the Proposed Development crosses the Habitat Management Plan (HMP) area for the Proposed Blarghour Wind Farm.	Review of Desk Study data is provided in **Section 9.3**. Target species are stated in **Technical Appendix 9.1: Ornithology Methodology (EIAR Volume 4**). GET models have been requested and will be used to inform the HRA. CRM process is described in **Technical Appendix 9.1: Ornithology Methodology (EIAR Volume 4).** Interactions with the Blarghour HMP are addressed in the **Chapter 8: Ecology (EIAR Volume 2).**
Royal Society for the Protection of Birds (RSPB)	Scoping Response, April 2022	Impacts on Glen Etive and Glen Fyne SPA should be fully assessed, including a HRA. Golden eagle and goshawk *Accipiter gentilis* are highlighted as key species of concern, as are black grouse *Lyrurus tetrix*, hen harrier *Circus cyaneus*, merlin *Falco columbarius* and white-tailed eagle *Haliaeetus albicilla*. Mitigation for golden eagle and goshawk is suggested. It is ackowledged that impacts on black grouse are unlikely, but measures to enhance habitat for black grouse should be considered. The cumulative impact assessment should consider developments within the Natural Heritage Zone (NHZ 14).	Undertaken in **Technical Appendix 9.3: Habitats Regulations' Appraisal (EIAR Volume 4).** Target species are stated in **Technical Appendix 9.1: Ornithology Methodology (EIAR Volume 4)**. Mitigation for golden eagle and goshawk is not considered to be required. As suggested, mitigation for black grouse is not considered to be required. Compensation planting is discussed in **Chapter 8: Ecology (EIAR Volume 2).** Cumulative impact assessment methodology described in **Section 9.2**. This uses NHZ 14 as the baseline.

Effects Scoped Out

9.2.11 The Proposed Development would not have a fixed operational life as it is assumed to be operational for 50 years or more. Effects associated with the construction phase can be considered to be representative of the worst-case decommissioning effects and therefore decommissioning effects have been scoped out.

Barrier Effects

9.2.12 A barrier effect would be where the vertical configuration of wires and towers creates an actual or perceived barrier which bird species may not cross, or at the very least would need to habituate to cross.

9.2.13 There is the existing 132 kV Inveraray to Taynuilt OHL in proximity to the Proposed Development, running parallel for much of its length. The new Inveraray to Crossaig 275 kV OHL lies immediately to the south of the Proposed Development and was similar to what is proposed for this project: a replacement of a 132 kV OHL with a larger 275 kV OHL. This suggests that birds would habituate/have already habituated to the presence of an OHL and would not treat it as a barrier. In addition, birds are considered likely to avoid the operational structure, which will be highly visible within the surrounding, predominantly open landscape. As evidence for this, greylag geese were observed gaining height to avoid the Inveraray to Crossaig 275 kV OHL and descending after clearing the obstacle during the Vantage Point survey programme[23]. Therefore, barrier effects have been scoped out of further assessment.

Electrocution

9.2.14 Bird electrocution on OHLs is possible either where a bird can touch a conductor while it is perched on an earthed tower, touch a conductor and the earth wire simultaneously, or touch two conductor wires simultaneously. The configuration of the wires and towers of the Proposed Development means that none of these scenarios are possible as the gaps between conductors and perch points would be greater than any bird wingspan.

Habitat Loss (Construction and Operational Phase)

9.2.15 Both permanent and temporary habitat loss and habitat modification due to vegetation management or hydrological change is assessed in **Chapter 8: Ecology, EIAR Volume 2**. The levels of habitat loss and / or modification associated with tower and track construction and operational are low and are not considered to represent a likely significant loss and / or modification of bird habitat.

Disturbance and Displacement (Operational Phase)

9.2.16 When operational, the Proposed Development would require very occasional visits by site personnel both on foot and in vehicles for maintenance activities. While the Proposed Development may also result in disturbance arising from noise and visual effects associated with the wires, the magnitude of these potential impacts is considered too low to result in a significant effect.

Method of Baseline Data Collation

9.2.17 The methods of baseline data collation, including desk and field survey methods, is provided in **Technical Appendix 9.1: Ornithology Methodology (EIAR Volume 4)**.

Desk Study

9.2.18 A desk study was undertaken using the NatureScot SiteLink[24] website to identify designated nature conservation sites (10 km for sites of international[25] importance and 2 km for those of national[26] importance). Special Protection Areas (SPAs), which are of international importance and Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs), which are of national importance. Additional information has

[23] Observed by Adam Fitchet during a survey from VP Location 2 in 2021.
[24] https://sitelink.nature.scot/home
[25] i.e., Special Protection Areas (SPAs) and Ramsar sites
[26] i.e., Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs)

been referred to that was collected during surveys for other projects in the surrounding area, namely the proposed Creag Dhubh Substation and the proposed Creag Dhubh to Dalmally 275 kV OHL.

Field Survey

9.2.19 Field surveys were undertaken in two phases, with Vantage Point (VP) surveys undertaken between February 2018 and January 2019 as well as March 2021 to April 2022. The 2018-19 VP surveys were designed to cover a wider survey area to assist with the routeing study phase. These surveys were undertaken from eight VP Locations, shown on **Figure 9.2: Ornithology Survey Locations, EIAR Volume 3a**.

9.2.20 The 2021-22 VP surveys were undertaken from similar VP survey locations to the 2018-19 surveys, with surveys undertaken from VP Locations 2, 3, 4, 7 and 8 (see **Figure 9.2: Ornithology Survey Locations, EIAR Volume 3a**). The VP surveys at VP Locations 1, 5 and 6 were not repeated as by 2021 a route south of Balantyre or through Glen Shira was not under consideration. VP surveys recommenced at VP Locations 7 and 8 but were dropped from the programme after March 2021 when the routeing study had confirmed that a route passing west of Cruach Mhor would not be used.

9.2.21 The VP surveys undertaken in 2018-19 are recognised as being older than data would normally be to inform a baseline assessment but are referenced here for context. The suite of ornithological species within the Ornithology Field Survey Area is mostly well established and significant variation between flights observed in 2018-19 and the current baseline are not predicted. This is particularly true for golden eagles, with regular territories around the Ornithology Field Survey Area occupied each year and flights associated with these territories sticking to the same preferred locations. As such, the spatial and temporal spread of VP surveys is considered sufficient to have successfully identified the flight activity and key locations for potential ornithological features which could be impacted by the Proposed Development.

9.2.22 In addition to VP surveys, surveys for black grouse, breeding raptors and other breeding bird species were undertaken in spring 2021 and updated in 2022 to reflect the alignment moving to the western side of Glen Aray. These surveys were undertaken within the Ornithology Field Survey Area and covered the LOD of the Proposed Development.

9.2.23 All field surveys were undertaken by Ramboll Ornithologists, supported by Lawrence Environmental Consultants (LEC). All surveyors are experienced in undertaking VP surveys in Argyll. All Ramboll survey data were captured electronically using tablets, while LEC data was captured onto paper maps and subsequently digitised.

Limitations and Assumptions

9.2.24 It should be noted that the availability and quality of the data obtained during desk studies is reliant on third party responses and recorders. This varies from region to region and for different species groups. Furthermore, the comprehensiveness of data often depends on the level of coverage, the expertise and experience of the recorder and the submission of records to the local recorder.

9.2.25 Due to the remote nature of the Ornithology Field Survey Area, surveys were not impacted by coronavirus restrictions as local surveyors were able to travel separately to the Ornithology Field Survey Area and maintain social distancing.

Method of Assessment

Sensitivity of Receptor

9.2.26 The criteria for defining importance of features and characterising impacts are provided in **Technical Appendix 9.1: Ornithology Methodology (EIAR Volume 4)**. Ornithological features are given an importance rating based on a geographic scale. The classification of importance assesses ornithological features in

relation to their population size, diversity, rarity, fragility, typicalness, connectivity with surroundings, intrinsic value, recorded history, and potential value.

Magnitude of Impact

9.2.27 Detailed consideration of impact magnitude is a standard component of the EcIA process. It is incorporated to succinctly describe the scale of individual impacts. The magnitude of effects is predicted quantitatively where possible, taking into account the duration and reversibility of effects, and is considered spatially and temporally as described within **Table 9-2**. Effects can be adverse, neutral or beneficial.

Table 9-2: Description of Spatial Impact Magnitudes

Spatial Impact Magnitude	Description
High	Total/near total loss of a bird population due to mortality or displacement or major reduction in the status or productivity of a bird population due to mortality or displacement or disturbance.
Medium	Partial reduction in the status or productivity of a bird population due to mortality or displacement or disturbance.
Low	Small but discernible reduction in the status or productivity of a bird population due to mortality or displacement or disturbance.
Negligible	Very slight reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Reduction barely discernible, approximating to the 'no change' situation.

Cumulative Effects

9.2.28 Cumulative impacts have been assessed following guidance from NatureScot (NS) on assessing cumulative impacts from wind farm developments (NatureScot, 2018)[27]. No guidance specific to OHLs has been produced. Cumulative impacts are assessed by considering the impacts of the Proposed Development at the same time as the impacts arising from another development. This is done additively, i.e., adding the impacts of the two developments together and assessing if the new cumulative impact results in a significant effect. As recommended by RSPB, cumulative effects for ornithology have been assessed within NHZ 14. Further details are provided in **Chapter 5: Methodology (EIAR Volume 2)**.

Significance Criteria

9.2.29 Significant effects are assessed with reference to the geographical importance of the ornithological feature. However, the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important. For example, a significant effect on a species which is protected by national legislation, does not necessarily equate to a significant effect on its national population.

9.2.30 For the purposes of Environmental Impact Assessment (EIA), apart from in exceptional circumstances, a significant effect, as defined by the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017[28] is only considered to be possible where the feature in question is considered to be of regional, national, or international importance. That is not to say that impacts from the Proposed Development cannot result in ornithologically significant effects on features of county or local importance, simply that those effects are not likely to be significant under EIA Regulations, unless the effect is likely to undermine the conservation status or distribution of the species. Whether an effect at local or county

[27] NatureScot (2018) Assessing the Cumulative Impacts of Onshore Wind Farms on Birds. Guidance Series.
[28] http://www.legislation.gov.uk/ssi/2017/101/contents/made

importance is considered to be significant or not significant under the EIA Regulations is made clear in the impact assessment for each ornithological feature.

9.2.31 Mitigation and/or compensation is proposed for all effects considered significant under the EIA Regulations. Where appropriate, as part of additional good practice, mitigation and/or compensation may be proposed for ornithologically significant effects on features of county or local importance.

Table 9-3: Significance Criteria

Level of significance	Description
Major	This is a significant effect (either beneficial or adverse), as the effect is likely to result in a long term significant adverse effect on the integrity of the feature at a particular geographical scale. This includes effects on the integrity of a designated site, the integrity of a population of a species or the integrity of a territory.
Moderate	This is a significant effect (either beneficial or adverse), as the effect is likely to result in a medium term or partially significant adverse effect on the integrity of the feature at a particular geographical scale.
Minor	The effect is likely to adversely affect the feature at an insignificant level by virtue of its limited duration and/or extent, but there will probably be no effect on its integrity. This is not a significant effect.
Negligible	No discernible effect is expected as a result of the Proposed Development.

9.3 Baseline Conditions

Current Baseline

Desk Study

9.3.1 The designated sites within the Ornithology Desk Study Area are shown on **Figure 9.1: Designated Sites, EIAR Volume 3a**. As a result of the information provided by the desk-based study and field surveys, the following ornithological features are considered to be of sufficient sensitivity to warrant inclusion in the EIA:

- Designated sites, where qualifying species have potential connectivity with the Proposed Development and where surveys recorded flights of qualifying species within the Ornithology Field Survey Area, i.e., Glen Etive and Glen Fyne SPA. This area is protected under the European Commission Council Directive 2009/147/EC (Birds Directive), which places importance on the protection of habitats for endangered and migratory species. Designated sites are also protected under Council Directive 92/43/EEC (Habitats Directive). Glen Etive and Glen Fyne SPA is classified for breeding golden eagle and lies within 100 m of the Proposed Development at its closest point.
- The following species are known to be present within the Ornithology Desk Study Area from a review of NS Sitelink and from the EIA Reports of potential cumulative developments:
- Golden eagle, included on Schedule 1 of the Wildlife and Countryside Act 1981;
- Hen harrier, included on Schedule 1 of the Wildlife and Countryside Act 1981 and a red-listed species of bird of conservation concern[29];
- Peregrine *Falco peregrinus*, included on Schedule 1 of the Wildlife and Countryside Act 1981;

[29] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747. Available online at https://britishbirds.co.uk/content/status-our-bird-populations.

- Merlin included on Schedule 1 of the Wildlife and Countryside Act 1981 and a red-listed species of conservation concern;
- Osprey *Pandion haliaetus*, included on Schedule 1 of the Wildlife and Countryside Act 1981 and an amber-listed species of conservation concern;
- White-tailed eagle, included on Schedule 1 of the Wildlife and Countryside Act 1981 and an amber-listed species of conservation concern;
- Wintering wildfowl and waders, susceptible to collision with OHLs, several species which are included on Schedule 1 of the Wildlife and Countryside Act 1981, such as greylag goose *Anser anser*. Several species of which are amber listed species of conservation concern (Greylag goose, mallard *Anas platyrhynchos*, oystercatcher *Haematopus ostralegus*, snipe *Gallinago gallinago*, common sandpiper *Actitis hypoleucos*, great black-backed gull *Larus marinus*) and a red listed species in curlew *Numenius arquata*; and
- Black grouse are a red-listed species of conservation concern.

9.3.2 Further data obtained is described in **Technical Appendix 9.2: Confidential Results (EIAR Volume 4)**. This includes specific golden eagle data, including Predicted Aquila Territory (PAT) Models, Golden Eagle Topography (GET) Models and Satellite Tagging data.

Field Surveys

9.3.3 Field surveys for the Proposed Development, undertaken in 2018/19 and 2021/22, are described below. For this assessment, any flight of a bird between 5 m and 55 m is considered to be at Collision Risk Height (CRH).

2018/19 Vantage Point Survey Results

9.3.4 The results of the 2018/19 Vantage Point surveys are shown on **Figures 9.3a-c: 2018-2019 Survey Results, EIAR Volume 3a** and are summarised in **Table 9-4**.

Table 9-4: 2018/19 Vantage Point Survey Results

Species	Total		In Ornithology Field Survey Area		In FSA at CRH		Crossing Proposed Development at CRH	
	Flights	Individuals	Flights	Individuals	Flights	Individuals	Flights	Individuals
Black-throated diver	2	2	2	2	0	0	0	0
Golden eagle	196	213	94	101	60	68	1	1
Hen harrier	5	5	2	2	1	1	0	0
Merlin	4	4	2	2	2	2	0	0
Osprey	1	1	0	0	0	0	0	0
Peregrine	2	2	0	0	0	0	0	0
Red-throated diver	4	4	0	0	0	0	0	0
White-tailed eagle	18	18	11	11	9	9	1	1
Whooper swan	2	25	0	0	0	0	0	0

Black-throated Diver

9.3.5 Two black-throated divers *Gavia arctica* flights were recorded during the VP surveys in 2018/19. These were both recorded from VP Location 8 and were both recorded on 18 March 2018. Both flights involved single birds flying east to the north of Lochan Dubh, with the second flight doubling back in this direction having originally flown west. These flights could be of the same individual.

Golden Eagle

9.3.6 Golden eagle was the most recorded species during the 2018/19 VP surveys with 196 flights recorded, involving 213 birds. Flights were recorded in every month of the surveys, which is to be expected as the 2018/19 Ornithology Field Survey Area included four golden eagle territories, and golden eagles are present on territories year-round. The majority of flights were recorded at high altitude, so although a large number of flights were recorded at CRH within the Ornithology Field Survey Area, most of these were recorded on higher ground away from the Proposed Development rather than at CRH in areas close to the Proposed Development. A single flight was recorded crossing the Proposed Development at CRH, this was recorded in November 2018 from VP Location 4.

Hen Harrier

9.3.7 Five hen harrier flights were recorded during the 2018/19 VP surveys. Two flights were recorded from VP Location 8 in March 2018, both hunting and flying at a low level around Lochan Romach. A further flight was recorded from VP Location 1 in April 2018, flying low and heading northeast passed Sron Reithe. Another flight was recorded from VP Location 8 in July 2018, flying just above the trees over the woodland south of Lochan Romach. Another flight was recorded from VP Location 1 in August 2018 flying over Sgornach Ruadh, below CRH.

Merlin

9.3.8 Four merlin flights were recorded during the 2018/19 VP surveys. The first flight was recorded in May 2018, hunting over Creag nam Fitheach and Creag Chumhann at CRH. Another flight was recorded from VP Location 5 in June 2018, recorded flying high above Creag Dhubh[30]. Another flight was recorded from VP Location 1 in August 2018, flying high over Lochan Dubh. The fourth flight was recorded from VP Location 1 in August 2018, hunting around Sron Reithe.

Osprey

9.3.9 A single osprey flight was recorded passing southwest in front of VP Location 1 in April 2018. This flight was at CRH for some of its duration.

Peregrine

9.3.10 Two peregrine flights were recorded during the 2018/19 surveys. One flight of a female bird was recorded flying very close of VP Location 5 in September 2018. Another bird was recorded flying very close of VP Location 6 in November 2018.

Red-throated Diver

9.3.11 Four flights of red-throated diver *Gavia stellata* were recorded during the 2018/19 surveys, all from VP Location 1. All flights were associated with Loch Righeachan. These flights were recorded in April, July and two in August 2018 and all involved individual birds flying above CRH.

[30] Not the Creag Dhubh associated with the proposed substation location.

White-tailed Eagle

9.3.12 Eighteen white-tailed eagle flights were recorded during the 2018/19 surveys. Three of these were recorded in May 2018, with the first being recorded from VP Location 4 starting in the woodland by the proposed Creag Dhubh substation and flying south over Mullach nam Maol and Cruach Mhor. The second May flight was recorded flying from Ladyfield plantation to Maol Accurach, also recorded from VP Location 4. The third May flight was recorded from VP Location 7 flying over Garbh Achadh and heading towards An Suidhe Wind Farm. One flight was recorded in June 2018 from VP Location 6 circling and flying east towards Cnoc na Seamaig. Three flights were recorded from VP Location 7 in July 2018 flying over An Creachan, Cruach an Lochain and Allt Blarghour.

9.3.13 Eight flights were recorded in August 2018, two from VP Location 1, recorded just south of Garbh Acadh. One was recorded from VP Location 6, circling over the hill behand the survey location. Two flights were recorded from VP Location 4, flying over Bad Beithe. The last three August flights were recorded from VP Location 8 over Cruach na Gearr-choise, before heading west, north of Lochan Breac-liath. The final two flights were recorded over the northern end of Ladyfield plantation from VP Location 4.

Whooper Swan

9.3.14 Two whooper swan *Cygnus cygnus* flights were recorded during the 2018/19. The first flight was recorded in March 2018 from VP Location 1, flying north past Loch Mhic Dhiarmaid and the second was recorded in October 2018 from VP Location 2, flying north away from Dubh Loch in Glen Shira.

2021/22 Vantage Point Survey Results

9.3.15 The results of the 2021/22 VP surveys are shown on **Figures 9.4a-c: 2021-2022 Survey Results, EIAR Volume 3** and are summarised in **Table 9-5**. Fewer flights were recorded overall compared to 2018/19 as the Ornithology Field Survey Area was considerably smaller, focussing on the Proposed Development.

Table 9-5: 2021/22 Vantage Point Survey Results

Species	Total		In Ornithology Field Survey Area		In FSA at CRH		Crossing Proposed Development at CRH	
	Flights	Individuals	Flights	Individuals	Flights	Individuals	Flights	Individuals
Black grouse	5	10	4	5	2	3	0	0
Golden eagle	47	61	22	27	14	17	2	4
Greylag goose	5	15	5	15	3	10	0	0
Golden plover	1	2	0	0	0	0	0	0
Hen harrier	9	12	9	12	7	10	0	0
Merlin	3	3	3	3	1	1	0	0
Greenland white-fronted goose	3	450	3	450	0	0	0	0
Peregrine	2	2	2	2	2	2	0	0

Species	Total		In Ornithology Field Survey Area		In FSA at CRH		Crossing Proposed Development at CRH	
	Flights	Individuals	Flights	Individuals	Flights	Individuals	Flights	Individuals
Pink-footed goose	12	777	5	334	0	0	0	0
White-tailed eagle	10	19	6	12	4	10	1	3
Whooper swan	2	105	2	105	0	0	0	0

Black Grouse

9.3.16 Five black grouse flights were recorded during the VP surveys in 2021/22, involving 10 birds. The first was recorded in February 2021 with two birds recorded from VP Location 3 flying at CRH within the Ornithology Field Survey Area, past Ceann Chreagan, but not crossing the Proposed Development. Another flight was recorded to the south of VP Location 4 in April 2021 of a single bird flying below CRH. Another flight was recorded north of VP Location 4 in September 2021 of a single bird flying at CRH within the Ornithology Field Survey Area, but not crossing the Proposed Development. Another flight was recorded in November 2021 from VP Location 2, above Ceann Chreagan, outside the Ornithology Field Survey Area. The final flight was recorded in December 2021 from VP Location 2. This flight involved five birds flying to the northeast of Stac Scardan, outside of the Ornithology Field Survey Area.

Golden Eagle

9.3.17 Golden eagle was again the most recorded species during the VP surveys in 2021/22 with 47 flights recorded involving 61 individuals. Flights were recorded in every month of the surveys. The majority of flights were recorded at high altitude, so although a large number of flights were recorded at CRH within the Ornithology Field Survey Area, as in 2018/19 most of these were recorded on higher ridges away from the Proposed Development.

9.3.18 Two flights were recorded crossing the Proposed Development at CRH. The first was recorded in June 2021 from VP Location 4, with three birds flying south, down Glen Aray over the existing 132 kV OHL. The second flight was of an individual recorded in November 2021 flying east across the Proposed Development to the west of VP Location 4.

Greylag Goose

9.3.19 Five greylag geese were recorded during the VP surveys in 2021/22, involving 15 individuals. One flight was recorded in February 2021 of a single bird flying south down Glen Aray from VP Location 4. This was the only flight recorded crossing the Proposed Development at CRH. Three flights were recorded in March 2021. These were all recorded from VP Location 2, with flights of four, four and three birds flying north and south along Glen Aray, likely the same birds. These birds crossed the constructed Inveraray to Crossaig 275 kV OHL, adjusting their flight height to avoid collisions. The final flight was recorded in June 2021 with three birds flying south down Glen Aray from VP Location 2.

Golden Plover

9.3.20 One flight of golden plover *Pluvialis apricaria* was recorded during the 2021/22 VP surveys, involving two birds. This flight was recorded in March 2021 from VP Location 8 flying north to the west of Cruach na Gearr-choise. This flight was outside the Ornithology Field Survey Area.

Hen Harrier

9.3.21 Nine flights of hen harrier were recorded during the 2021/22 VP surveys, involving 12 birds. Two flights were recorded in February 2021, both from VP Location 7, one over Cruach Mhor and one over An Creahan. Both flights were recorded at CRH, with one in the Ornithology Field Survey Area.

9.3.22 The remaining seven flights were all recorded from VP Location 4, in the open habitats around this area. Two flights were recorded in April 2021, of three individuals, one was recorded in May 2021, of one individual, four flights were recorded in July 2021, of a total of five individuals, one flight was recorded in March 2022, of 2 birds and one flight was recorded in April 2022, of one bird.

Merlin

9.3.23 Three flights of merlin were recorded during the 2021/22 VP surveys, involving 3 birds. One flight was recorded in April 2021, flying east to the south of VP Location 4 at CRH. Further flights were also recorded from VP Location 4 in May and July, both below CRH.

Greenland White-fronted Goose

9.3.24 Three flights of Greenland white-fronted goose *Anser albifrons flavirostris* were recorded during the 2021/22 VP surveys, involving 450 birds. These flights were all recorded in April 2022 from VP Location 4, all flying north along Glen Aray. Each of these flights, involving 100, 70 and 280 birds respectively, were recorded flying at above CRH.

Peregrine

9.3.25 Two flights of peregrine were recorded during the 2021/22 VP surveys, involving two birds. The first was recorded in May 2021, recorded flying south east past Creag Chreagan at CRH and recorded from VP Location 3. The second was recorded in November 2021 from VP Location 4, with a bird flying at CRH north of Mullach nam Maol.

Pink-footed Goose

9.3.26 Twelve flights of pink-footed geese *Anser brachyrhynchus* were recorded during the 2021/22 VP surveys, involving 777 birds. These flights were all recorded in April 2021, all flying north along Glen Aray and all above CRH. Three flights were recorded from VP Location 2 and the remaining nine were recorded from VP Location 4.

White-tailed Eagle

9.3.27 Ten flights of white-tailed eagle were recorded during the 2021/22 VP surveys, involving 19 birds. Two flights were recorded in February 2021, from VP Location 8. One recorded between Cruach na Gearr-choise and Creag na h-Iolaire and one over Sron Bhreac-liath, both at CRH but only one within the Ornithology Field Survey Area. Both of these flights involved two birds. Another flight was recorded in March 2021 from VP Location 8, at CRH but outside the Ornithology Field Survey Area heading east to the north of Cruach na Gearr -choise. Two flights were recorded to the south of VP Location 4 in September 2021, both flying west above CRH.

9.3.28 Five flights were recorded in March 2021. Three flights, each involving two birds, were recorded from VP Location 2, flying high above Three Bridges plantation, but with some of the flight at CRH in the Ornithology Field Survey Area. The fourth flight was recorded flying over VP Location 3, spiralling and heading north. This flight involved three individuals and did cross the Proposed Development at CRH. The final flight was recorded above Ceann Chreagan flying at CRH, recorded from VP Location 2.

Whooper Swan

9.3.29 Two flights of whooper swans were recorded during the 2021/22 VP surveys, involving 105 birds. These flights were both recorded in March 2021, with a flight of 64 birds circling and heading south down Glen Aray recorded from VP Location 2 and a flight of 41 birds flying north up Glen Aray and recorded from VP Location 4. Both flights were recorded above CRH.

Black Grouse Survey Results

9.3.30 The black grouse surveys identified one black grouse lek within the Ornithology Field Survey Area. This lek was recorded approximately 1.7 km from the Proposed Development, outside of potential disturbance distance[31]. More information on this lek is provided in **Technical Appendix 9.2: Confidential Records (EIAR Volume 4)**.

Breeding Bird Survey Results

9.3.31 The suite of bird species recorded within the LOD during the Breeding Bird Surveys, undertaken in spring/summer 2022, is summarised in **Table 9-6**. These survey results are shown on **Figures 9.4c: 2021-2022 Survey Results, EIAR Volume 3.**

Table 9-6: Breeding Bird Survey Results (Colour depicts listing on Birds of Conservation Concern (BoCC) 5[32])

Species Code	Species	Number of Records
B.	Blackbird Turdus merula	1
BC	Blackcap Sylvia atricapilla	2
BF	Bullfinch Pyrrhula pyrrhula	1
BO	Barn Owl *Tyto alba*	1
BZ	Buzzard Buteo buteo	1
CH	Chaffinch Fringilla coelebs	24
CK	Cuckoo Cuculus canorus	2
CR	Common Crossbill *Loxia curvirostra*	1
CT	Coal Tit Periparus ater	4
D.	Dunnock Prunella modularis	3
GC	Goldcrest Regulus regulus	6
GL	Grey Wagtail Motacilla cinerea	4
GS	Great-spotted Woodpecker *Dendrocopos major*	1
HC	Hooded Crow Corvus cornix	2
J.	Jay Garrulus glandarius	1
LR	Lesser Redpoll Acanthis cabaret	7
M.	Mistle Thrush Turdus viscivorus	2
MP	Meadow Pipit Anthus pratensis	6

[31] Ruddock, M. and Whitfield, D.P. (2007) A Review of Disturbance Distances in Selected Bird Species. Natural Research (Projects) Ltd. for SNH.

[32] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747.

Species Code	Species	Number of Records
PW	Pied Wagtail Motacilla alba	2
R.	Robin Erithacus rubecula	18
RN	Raven Corvus corax	1
RS	Redstart Phoenicurus phoenicurus	1
S.	Skylark Alauda arvensis	2
SF	Spotted Flycatcher *Muscicapa striata*	2
SK	Siskin Carduelis spinus	7
SN	Snipe Gallinago gallinago	2
ST	Song Thrush Turdus philomelos	3
TC	Treecreeper Certhia familiaris	1
TP	Tree Pipit Anthus trivialis	7
WC	Whinchat Saxicola rubetra	8
WR	Wren Troglodytes troglodytes	29
WT	Whitethroat Curruca communis	2
WW	Willow Warbler Phylloscopus trochilus	43

9.3.32 The commonest species recorded during the Breeding Bird Surveys were willow warbler, robin, wren and chaffinch. Of the species recorded, common crossbill and barn owl are both listed on Schedule 1 of the Wildlife and Countryside Act, as amended (1981), giving them additional protections compared with other species not listed on Schedule 1. Ten species listed as amber on BoCC 5 were recorded during the Breeding Bird Surveys within the LOD, these were:

- Bullfinch;
- Dunnock;
- Grey wagtail;
- Meadow pipit;
- Redstart;
- Snipe;
- Song thrush;
- Wren;
- Whitethroat; and
- Willow warbler.

9.3.33 Seven species listed as red on BoCC5 were recorded during the Breeding Bird Surveys within the LOD, these were:

- Cuckoo;
- Lesser redpoll;
- Mistle thrush;
- Skylark;
- Spotted flycatcher;
- Tree pipit; and

- Whinchat.

Breeding Raptor Records

9.3.34 The following breeding raptor records were identified, with more detail provided in **Technical Appendix 9.2: Confidential Records (EIAR Volume 4)**:

- A common buzzard nest 210 m from the Proposed Development;
- A hen harrier nest 1.4 km from the Proposed Development;
- A historical hen harrier nest not used in 2022, approximately 140 m east of the Proposed Development;
- A merlin nest 3.4 km from the Proposed Development;
- A barn owl record 90 m east of the Proposed Development;
- A barn owl record 650 m east of the Proposed Development;
- A potential goshawk nest approximately 645 m from the Proposed Development; and
- A white-tailed eagle nest 4.5 km from the Proposed Development.

Future Baseline

9.3.35 In the absence of the Proposed Development, the habitats identified within the Ornithology Field Survey Area are likely to continue to be present and maintained due to well established land management regimes. Given that scenario, there is no reason to believe that the suite of birds present would alter greatly. The most likely change would be an increase in some forest nesting raptors such as goshawk, the range of which is greatly expanding into Argyll and down the Kintyre peninsula in recent years due to decreased persecution.

Sensitive Receptors

9.3.36 **Table 9-7** summarises the important ornithological features scoped into the assessment.

Table 9-7: Nature Conservation Value of Important Ornithological Features Scoped-In

Feature	Nature Conservation Value	Justification
Golden eagles (including potential impacts on Glen Etive and Glen Fyne SPA)	International	The SPA is classified for breeding golden eagle, with 19 active territories in 2003, more than 4.2% of the British population. The SPA is split into a northern (Glen Etive) and southern (Glen Fyne) Section, either side of the A85. The Proposed Development lies 45 m to the west of the SPA at its closest point, just south of Tower T8, across the A819. Per NS Connectivity Guidance[33] there is considered to be potential connectivity between this designated site and the Proposed Development. The Proposed Development runs between three golden eagle territories, one with an active nest location approximately 1.3 km to the west, one with an active territory approximately 3 km to the south west and another with an active nest location approximately 5.5 km to the east (the only of the three territories which lies within the SPA). All three of these territories have potential connectivity with the Proposed Development, although disturbance impacts on each territory are not predicted.

[33] NatureScot (2016) Assessing Connectivity with Special Protection Areas (SPAs). Guidance.

Feature	Nature Conservation Value	Justification
		The level of golden eagle flight activity recorded during the two VP survey programmes within the Ornithology Field Survey Area is considered to be low. While many flights were recorded at higher altitudes and at CRH in locations away from the Proposed Development, the number of flights recorded crossing the Proposed Development at CRH (three flights, totalling five individuals over two years' of survey) is considered low. The 2020 Scottish Raptor Monitoring Scheme (SRMS) Report[34] confirms that 51 golden eagle territories were identified in Argyll[35] in 2020.
White-tailed eagle	Regional	A white-tailed eagle territory was identified 4.5 km from the Proposed Development. This has the potential to be impacted by the Proposed Development. The level of white-tailed eagle flight activity recorded during the two VP survey programmes within the Ornithology Field Survey Area is considered to be low. While many flights were recorded at higher altitudes, the number of flights recorded crossing the Proposed Development at CRH (two flights of four individuals over two years' of survey) is considered low. The 2020 SRMS Report[36] confirms that 34 white-tailed eagle territories were identified in Argyll in 2020.
Black grouse	Regional	One black grouse lek was identified during surveys for the Proposed Development, approximately 1.7 km from Tower T7. There is not considered to be potential for this lek to be disturbed by the Proposed Development. The level of black grouse flight activity recorded during the two VP survey programmes within the Ornithology Field Survey Area is considered to be low.
Hen harrier	Regional	One hen harrier territory was identified in the Ornithology Field Survey Area 1.4 km from the Proposed Development. This territory is not considered to have potential to be impacted by the Proposed Development. Another historical territory was potentially identified approximately 140 m from the Proposed Development, although this was not in use in 2022. The level of hen harrier flight activity recorded during the two VP survey programmes within the Ornithology Field Survey Area is considered to be low. The 2020 SRMS Report[37] confirms that 29 hen harrier territories were identified in Argyll in 2020.
Goshawk	Regional	A potential goshawk territory was identified 645 m from the Proposed Development. This territory is not considered to have potential to be impacted by the Proposed Development. No goshawk flights were recorded during the VP surveys, so goshawk flight activity is considered low.

[34] Challis, A., Wilson, M.W., Eaton, M.A., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N.I. (2022). Scottish Raptor Monitoring Scheme Report 2020. BTO Scotland, Stirling.
[35] Argyll Raptor Monitoring Area is very similar in boundary to Natural Heritage Zone 14 area, but differ in the former includes Mull, Coll and Tiree and the latter includes Arran.
[36] Challis, A., Wilson, M.W., Eaton, M.A., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N.I. (2022). Scottish Raptor Monitoring Scheme Report 2020. BTO Scotland, Stirling.
[37] Challis, A., Wilson, M.W., Eaton, M.A., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N.I. (2022). Scottish Raptor Monitoring Scheme Report 2020. BTO Scotland, Stirling.

Feature	Nature Conservation Value	Justification
		The 2020 SRMS Report[38] confirms that no goshawk territories were identified in Argyll in 2020, suggesting they are in the process of colonising the region. As a secretive bird, goshawk presence can be under recorded.
Barn owl	Regional	Two potential barn owl territories were identified during field surveys, one 650 m from the Proposed Development and one 90 m. The closest territory is close enough to be impacts by the Proposed Development. No barn owl flights were recorded during the VP surveys, so barn owl flight activity is considered low. The 2020 SRMS Report[39] confirms that 96 territories were identified in Argyll in 2020.
Merlin	Regional	A merlin territory was identified 3.4 km from the Proposed Development. This territory is not considered to have potential to be impacted by the Proposed Development. The level of merlin flight activity recorded during the two VP survey programmes within the Ornithology Field Survey Area is considered to be low. The 2020 SRMS Report[40] confirms that no merlin territories were identified in Argyll in 2020.
Common buzzard	Local	A common buzzard territory was identified 210 m from the Proposed Development. This territory has potential to be impacted by the Proposed Development. Common buzzard flights were not recorded during the two VP survey programmes as the species is not considered to be of more than local importance. The 2020 SRMS Report[41] confirms that 69 common buzzard territories were identified in Argyll in 2020.
Other Breeding Bird Species	Local	All bird nests are legally protected under UK law meaning that a significant effect is possible if any are destroyed due the construction or operation of the Proposed Development. Additionally common crossbills are listed on Scheulde 1 of the Wildlife and Countryside Act 1981, affording them additional protections from disturbance at their nesting sites.

9.4 Assessment of Effects

Mitigation by Design

9.4.1 The Routeing and Alignment Selection process that the project went through is described in **Chapter 3: Consideration of Alternatives (Volume 1)**. This process was undertaken with a knowledge of baseline of

[38] Challis, A., Wilson, M.W., Eaton, M.A., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N.I. (2022). Scottish Raptor Monitoring Scheme Report 2020. BTO Scotland, Stirling.
[39] Challis, A., Wilson, M.W., Eaton, M.A., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N.I. (2022). Scottish Raptor Monitoring Scheme Report 2020. BTO Scotland, Stirling.
[40] Challis, A., Wilson, M.W., Eaton, M.A., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N.I. (2022). Scottish Raptor Monitoring Scheme Report 2020. BTO Scotland, Stirling.
[41] Challis, A., Wilson, M.W., Eaton, M.A., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N.I. (2022). Scottish Raptor Monitoring Scheme Report 2020. BTO Scotland, Stirling.

ornithological sensitivities, including designated sites and golden eagle territories. The Routeing and Alignment Selection process was therefore able to avoid these features as much as possible.

9.4.2 Embedded mitigation relevant to this chapter includes tried and tested measures documented within **Technical Appendix 2.3: SSEN Transmission General Environmental Management Plans (GEMP) (EIAR Volume 4)** and **Technical Appendix 2.4: SSEN Transmission Species Protection Plans (SPP) (EIAR Volume 4)**.

9.4.3 It is reasonable to assume protocols detailed within the SSEN Transmission GEMPs and SPPs will be implemented successfully.

9.4.4 All additional mitigation will be captured and delivered through the Construction Environmental Management Plan (CEMP).

Potential Effects

Potential Construction Effects

9.4.5 The assessment of likely effects associated with construction is based on the typical activities described in **Chapter 2: Description of the Proposed Development (EIAR Volume 2).**

Destruction or Disturbance of Species' Nests or Black Grouse Leks

Design Solutions and Assumptions

9.4.6 The mitigation hierarchy set out in the Bird SPP will be adhered to. This establishes that all identified nests (and leks) will be retained/avoided in the first instance. The SPP also sets out that works will maintain a species-specific buffer around nests (stated in the SPP and enforced by an Ecological Clerk of Works (ECoW)) to avoid/reduce potential disturbance impacts. Where this exclusion zone cannot be maintained, or a feature must unavoidably be destroyed as a last resort, the SPPs stipulate that a licence will be sought from NS.

9.4.7 Works shall be timed to minimise potential disturbance to black grouse, with no works being undertaken at lekking times within disturbance distance of the identified leks.

Designated Sites/SPA Bird Species

9.4.8 Potential disturbance of golden eagle territories within the Glen Etive and Glen Fyne SPA is assessed in more detail in **Technical Appendix 9.3: Habitats Regulations' Appraisal (EIAR Volume 4)**. Given the distance to the closest nest and the extremely low level of activity by the species, this impact is considered to be very unlikely therefore a Minor Adverse effect (not significant) is predicted. This is reflected in the HRA concluding that Likely Significant Effects (LSE) are not possible on Glen Etive and Glen Fyne SPA following the Stage 1 Screening.

Non-SPA Bird Species

9.4.9 There is potential for active birds' nests to be damaged or destroyed where works are required around nests, including tree felling. The tree felling works are due to take six months (May 2024 to October 2024), as set out in **Table 2.2, Chapter 2: Description of the Proposed Development**. Installation of permanent and temporary tracks to allow access to towers may also result in damage or disturbance to nests if access occurs in the breeding season (March-August inclusive). However, the total area involved in those works is anticipated to be small; land take area is discussed in **Chapter 2: Description of the Proposed Development**.

9.4.10 There is also potential for breeding birds to be disturbed by construction works and felling activities conducted near their nest sites. This could result in the abandonment and failure of the nest in the year of the works. This effect would be greatest in areas where woodland felling or temporary access track installation is required. For species of the passerine dominated general breeding bird assemblage, typically

those not afforded specific additional protection under Schedule 1 of the Wildlife and Countryside Act1981, the number of nest sites which could potentially be affected is likely to be small and the impact is unlikely to result in a discernible effect on the local populations of the species concerned. Any such effects on general breeding birds are therefore considered to be Negligible and not significant.

9.4.11 Since all birds' and their nests are legally protected, their damage and/or destruction could constitute an offence. Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 are also protected from disturbance, including their dependent young. Consequently, standard mitigation measures are presented below in order to prevent such instances occurring as a result of the construction works.

9.4.12 There is also the possibility that the works could impact on the nests of rare and vulnerable breeding raptors (i.e., specially protected species listed on Schedule 1). The damage, destruction or disturbance of such species' nests is likely to result in the loss of any nesting attempt or production of young in the year of the works, unless the birds initiate a second nesting attempt elsewhere. Although the number of nests which might be affected is likely to be very small, the lower abundance and higher (National and Regional) conservation value of such species means that the effects of such impacts could be as high as Major Adverse significance. Potential for impact on each territory identified during surveys is assessed in **Table 9-8**.

Table 9-8: Assessment of Potential Disturbance Impacts on Protected Ornithological Features

Species	Feature Information	Potential Impact Significance
Golden eagle	The closest potential golden eagle territory is located 1.3 km from the Proposed Development. The prescribed disturbance distance[42],[43] for golden eagle is 750–1,000 m, therefore disturbance impacts on the closest golden eagle territory, a feature of international importance, are considered to be unlikely. More specific information on the location of this confidential feature is provided in **Technical Appendix 9.2: Confidential Results (EIAR Volume 4).**	N/A
White-tailed eagle	A confirmed white-tailed eagle nest was identified approximately 4.5 km from the Proposed Development. Disturbance distances for white-tailed eagles vary dependent on the individuals, with some being more sensitive than others. Generally, a 500 m to 750 m disturbance distance is recommended, although this may be decreased to 300 m if birds become habituated[44]. There is not considered to be potential for a significant disturbance impact on this feature of Regional importance. More specific information on the location of this confidential feature is provided in **Technical Appendix 9.2: Confidential Results (EIAR Volume 4).**	N/A
Hen harrier	A hen harrier territory was identified 1.4 km from the Proposed Development. The recommended disturbance distance for hen harrier is between 500 and 750 m. Another potential territory has been identified 140 m from the Proposed Development. As the closest potential territory is within the limit of the disturbance distance, disturbance impacts on this territory are considered possible and significant effects for this feature of Regional importance could occur. These effects would be caused by impacts that are adverse, medium magnitude, short term and reversible. However, as hen harriers are listed on Scheudle 1 and are legally protected from disturbance, impacts are considered to be significant and a Major Adverse impact significance is predicted. More specific information on the location of this	Major Adverse

[42] The maximum distance at which disturbance impacts can be expected on a species nest.

[43] Ruddock, M. and Whitfield, D.P. (2007) A Review of Disturbance Distances in Selected Bird Species. Natural Research (Projects) Ltd. for SNH.

[44] Ruddock, M. and Whitfield, D.P. (2007) A Review of Disturbance Distances in Selected Bird Species. Natural Research (Projects) Ltd. for SNH.

Species	Feature Information	Potential Impact Significance
	confidential feature is provided in **Technical Appendix 9.2: Confidential Results (EIAR Volume 4).**	
Goshawk	A potential goshawk territory is present approximately 645 m from the Proposed Development, although the exact nest location is unknown. The prescribed disturbance distance for goshawk is between 300 and 500 m[45]. Therefore disturbance impacts on this territory are considered unlikely and significant effects on this feature of Regional importance are not predicted. More specific information on the location of this confidential feature is provided in **Technical Appendix 9.2: Confidential Results (EIAR Volume 4).**	N/A
Barn owl	Two potential barn owl territories were identified 90 m and 650 m from the Proposed development, respectively. The prescribed disturbance distance for barn owl is between 50 and 100 m[46]. Disturbance impacts are not predicted on the territory 650 m from the Proposed Development, but could potentially occur on the territory 90 m from the Proposed Development, although this is at the higher end of the disturbance distance. Therefore disturbance impacts on this territory are considered possible and significant impacts on this feature of Regional importance could occur. These effects would be caused by impacts that are adverse, medium magnitude, short term and reversible. However, as hen harriers are listed on Scheudle 1 and are legally protected from disturbance, impacts are considered to be significant and a Major Adverse impact significance is predicted. More specific information on the location of this confidential feature is provided in **Technical Appendix 9.2: Confidential Results (EIAR Volume 4).**	Major Adverse
Merlin	A merlin territory was identified 3.4 km from the Proposed Development. The prescribed disturbance distance for merlin is 300 – 500 m, so there is not considered to be potential for a significant disturbance effect on this feature of Regional importance. More specific information on the location of this confidential feature is provided in **Technical Appendix 9.2: Confidential Results (EIAR Volume 4).**	N/A
Common buzzard	A common buzzard nest was identified 210 m from the Proposed Development. There is no prescribed disturbance distance for common buzzard but, using the precautionary principle, it is assumed that impacts have the potential to occur. The buzzard nest is located on the otherside of a busy road from the Proposed Development however, suggesting the buzzards using the nest will be habituated to a level of disturbance already, and the construction of the Proposed Development is unlikely to increase the disturbance experienced. No significant disturbance effects are predicted on this feature of local importance. More specific information on the location of this confidential feature is provided in **Technical Appendix 9.2: Confidential Results (EIAR Volume 4).**	N/A
Black grouse leks	A black grouse lek was identified 1.4 km from the Proposed Development. Prescribed disturbance distances for black grouse leks are between 300 and 500 m, so disturbance impacts are not considered possible from the Proposed Development on the lek identified during surveys. Impacts on this lek are not considered possible and no significant disturbance effects are predicted on this feature of Regional importance. More specific information on the location of this	N/A

[45] Ruddock, M. and Whitfield, D.P. (2007) A Review of Disturbance Distances in Selected Bird Species. Natural Research (Projects) Ltd. for SNH.
[46] *Ibid*

Species	Feature Information	Potential Impact Significance
	confidential feature is provided in **Technical Appendix 9.2: Confidential Results (EIAR Volume 4).**	

Potential Operational Effects

Collision Risk

9.4.13 Once the Proposed Development is constructed and operational it would provide a potential collision risk for birds. Birds are known to collide with OHLs with most collisions resulting in the death of the bird. Collisions can occur for reasons including poor weather conditions resulting in low visibility, from strong wind pushing birds into the OHL or from birds recognizing the larger conductor wires and changing height to avoid them only to collide with the thinner earth wire at the top of the OHL.

9.4.14 Potential collision risk is assessed qualitatively for OHLs, with the methodology set out in **Technical Appendix 9.1: Ornithology Methodology (EIAR Volume 4).** For this assessment, any flight of a bird between 5 m and 55 m is considered to be at CRH. The collision risk assessment is set out in **Table 9-9**.

Table 9-9: Collision Risk Assessment

Species	Flights Crossing Line at CRH	Assessed Flight Activity	Assessed Collision Risk	Justification
Golden eagle	5	Low	Low	Golden eagle is a large bird with poor agility and manoeuvrability, but, away from the nest area, the species typically spends more time flying at higher altitudes than the Proposed Development, considerably higher than CRH. Although the species was the most recorded target species during both VP survey programmes, most flights were over the higher ground either side of the Proposed Development. The low flight activity crossing the Proposed Development at CRH suggests a low collision risk.
White-tailed eagle	4	Low	Low	White-tailed eagle is a large bird with poor agility and manoeuvrability. It has one of the lowest avoidance rates of a bird species in relation to impacts from collisions with wind turbines47. With two flights of four individuals crossing the Proposed Development at CRH, the level of flight activity recroded was considered low. The low flight activity crossing the Proposed Development at CRH suggests a low collision risk.
Black grouse	0	Low	Low	Black grouse are fast-flying birds that make daily commutes between lekking foraging and roosting areas. They hold their heads facing forward in flight, which is better for identifying obstacles, but are limited in how they can avoid collisions due to their speed. Flights are typically undertaken at low heights, flying just high enough to clear trees or other vegetation. As such, flights are typically at the height of the thicker, conductor wires of the configuration and not the top earth wires which are typically thinner and therefore more prone to collisions. This includes flights to and from any lek sites. It is therefore considered that, in line with the above and the low

[47] NatureScot (2018) Avoidance Rates for the Onshore SNH Wind Farm Collision Risk Model.

Species	Flights Crossing Line at CRH	Assessed Flight Activity	Assessed Collision Risk	Justification
				level of flight activity observed, a low potential for collision risk is considered appropriate.
Hen harrier	0	Low	Low	When hunting, hen harriers typically fly very low to the ground with their heads facing downwards, known as quartering[48]. This means they are typically recorded flying at less than CRH but are less able to avoid potential collisions. They are very agile, however. During the early breeding season, males skydance49 as a territorial display. This involves the birds flying up and down repeatedly and would put them at the risk of collision. No skydancing was recorded during the VP surveys. Consistent with the low flight activity recorded, collision risk is predicted to be low.
Goshawk	0	Low	Low	Goshawk spend most of their flying time within woodland, below the canopy and as such are adapted to avoiding potential collisions with branches and other obstacles. When flying above canopy height during the breeding season, typically limited to territorial displays, the birds would be found over territories within woodland rather than over the open areas around the Proposed Development if constructed. Consistent with the low flight activity recorded, collision risk is predicted to be low.
Merlin	0	Low	Low	Merlin is a small raptor species that hunt by pursuing small avian prey. They are exceptionally agile/manoeuvrable. They are ambush predators which fly low and grab birds such as skylark or meadow pipit from on or close to the ground. Consistent with the low flight activity, and low flight height, below that of the OHL, collision risk is predicted to be low.
Peregrine	0	Low	Low	Peregrine is a large raptor species that hunts by pursuing prey or ambushing them from above via steep dives unseen by the prey species flying below. They will also pursue flocking species such as small waders. They are agile and manoeuvrable and likely able to avoid potential collisions. There is no evidence of a peregrine territory close to the Proposed Development, hence the extremely low activity. Consistent with the low flight activity and good avoidance ability, collision risk is predicted to be low.

9.4.15 Collision risk for all species is assessed to be low. Impacts would be adverse, low or negligible magnitude, long term and irreversible, but mainly impacts would be very or extremely unlikely, and as such only Minor Adverse effects from collision are predicted (not significant) for these species and mitigation is not considered to be required.

[48] Quartering describes the low hunting flights of owls and harriers where they fly low to the ground very slowly looking for prey.

[49] Skydancing describes hen harrier courtship behaviour, where the male and female fly in unison and mirror behaviours.

9.5 Mitigation

Mitigation During Construction

9.5.1 The felling work is due to be undertaken over six months from May 2024 therefore pre-construction surveys for nesting birds are required to avoid destroying or disturbing nests. These surveys will seek to identify the locations of any active nests within, or immediately adjacent to the working and felling areas along the Proposed Development. All pre-construction bird surveys should extend a sufficient distance out from the Proposed Development to identify any nest sites which may be within the disturbance range of the species in question. For example, pre-construction checks for general nesting birds do not need to extend more 50 m beyond the development footprint, while surveys for rare and vulnerable raptors should extend out to between 500 m and 750 m.

9.5.2 Surveys for rare and vulnerable breeding raptors, including hen harrier, white-tailed eagle, and goshawk, will be conducted in the year prior to works. The surveys should focus on confirmed or probable territories, identified in the survey work already undertaken and should be expanded to include other areas of potentially suitable habitat. The surveys should seek to locate any new nest sites and advise the Applicant and their Principal Contractor of required mitigation measures in line with the Bird SPP.

9.5.3 In the event that any confirmed, or suspected active nests are identified within range of potential disturbance, then a works exclusion zone will be established around the nest site to a distance as set out in the Bird SPP and as advised by the ECoW. Works will not be permitted to commence within the exclusion zone until nesting has been completed and the young have fledged, or the ECoW deems, through monitoring each stage of the breeding attempt, that the extent of the exclusion zone may be reduced.

Monitoring

9.5.4 Construction phase monitoring would be carried out by the ECoW, to ensure compliance with environmental legislation and effective delivery of mitigation measures (and licence conditions) set out in the generic and works-specific SPP. This would include monitoring any potential breeding raptor nests that could be impacted by the Proposed Development, e.g. goshawk. Monitoring shall also include surveys of the black grouse lek to ensure they remain functional through the construction phase. Additional mitigation measures would be enacted if deemed necessary as a result of monitoring.

Mitigation During Operation

9.5.5 No mitigation during operation is considered to be required.

9.6 Residual Effects

Residual Construction Effects

9.6.1 Through the implementation of pre-construction surveys, checks and on-going monitoring during construction, the residual effects on breeding birds through nest damage/destruction or disturbance are anticipated to be of Negligible significance (not significant).

Residual Operational Effects

9.6.2 As no significant effects from operational activities are predicted, no residual significant effects are predicted.

9.7 Cumulative Effects

9.7.1 Cumulative effects are considered to include both the total effects resulting from the Proposed Development in combination with other similar Proposed Developments (past, present and reasonably foreseeable), and

the additional contribution of the Proposed Development to the total cumulative effects taking account of other similar Proposed Developments. As such, the aim is to identify any likely significant effects associated with the combination or addition of the Proposed Development with the cumulative baseline. EIA Reports for infrastructure projects within NHZ 14 were consulted and are presented below, as requested by RSPB (see **Table 9-1**). Developments for which no data could be reviewed are listed below but have been left out of the assessment. The absence of data for some cumulative developments is not considered to be a significant limitation on this assessment. The key ornithological issues for development in the areas of Argyll crossed by the Proposed Development have been identified and are fully assessed in this section. Based on our professional judgement, specialist local knowledge of the area and the robust and precautionary approach taken in this assessment, we consider it to be unlikely that potentially significant cumulative effects have been overlooked.

Installed Wind Farms

A'Chruach

9.7.2 A 21 turbine wind farm in Kilmichael Forest approximately 4 km west of Minard. This wind farm is located 19 km southwest of the Proposed Development. The assessment of cumulative effects for A'Chruach Wind Farm highlighted the potential for a cumulative collision risk on both red-throated divers and black grouse. It was considered reasonable to assume that A'Chruach Wind Farm would only make a small contribution to any cumulative effects as the magnitude of the effect was low. Collision risk for red-throated divers and black grouse associated with the Proposed Development was considered to be negligible.

Allt Dearg Community Wind Farm

9.7.3 A 12 turbine wind farm southwest of Stronachullin, approximately 43 km south west of the Proposed Development. Insufficient information was available on any significant environmental effects. As a result, an assessment of the cumulative effects could not be undertaken.

An Suidhe

9.7.4 A 24 turbine wind farm to the west of Inveraray, approximately 7 km west of the Proposed Development. Insufficient information was available on any significant environmental effects. As a result, an assessment of the cumulative effects could not be undertaken.

Beinn an Tuirc

9.7.5 A 45 turbine wind farm approximately 82 km to the south of the Proposed Development. Insufficient information was available on any significant environmental effects. However, the cumulative assessment undertaken as part of the consented Phase 3 extension identified no potentially significant cumulative effects with other developments.

Beinn an Tuirc Extension

9.7.6 A 19 turbine wind farm to the north of the existing wind farm. Insufficient information was available on any significant environmental effects. However, the cumulative assessment undertaken as part of the consented Phase 3 extension identified no potentially significant cumulative effects with other developments.

Beinn Ghlas

9.7.7 A 16 turbine wind farm approximately 12 km to the north west of the Proposed Development. Insufficient information was available on any significant environmental effects. As a result, an assessment of the cumulative effects could not be undertaken.

Carraig Gheal

9.7.8 A 20 turbine wind farm approximately 10 km to the west of the Proposed Development. Insufficient information was available on any significant environmental effects. As a result, an assessment of the cumulative effects could not be undertaken.

Clachan Flats (Ardkinglas)

9.7.9 A nine turbine wind farm approximately 10 km to the east of the Proposed Development. Insufficient information was available on any significant environmental effects. As a result, an assessment of the cumulative effects could not be undertaken.

Cour

9.7.10 Cour Wind Farm is a ten turbine development approximately 70 km to the south of the Proposed Development. The project's residual impacts included minor impacts on breeding curlew (displacement), a minor collision risk impact on golden eagle and a moderate collision risk impact on red-throated diver. The Proposed Development is not predicted to have any significant effects on curlew or red-throated diver but is predicted to have a low collision risk impact on golden eagle.

Cruach Mhor

9.7.11 A 35 turbine wind farm approximately 23 km to the south of the Proposed Development. Insufficient information was available on any significant environmental effects. As a result, an assessment of the cumulative effects could not be undertaken.

Deucheran Hill

9.7.12 A nine turbine wind farm near Carradale, approximately 75 km south of Crossaig. Golden eagle and red-throated diver were recorded using the site. No significant effect was predicted associated with collision risk on golden eagle (negligible risk). The predicted collision mortality for red-throated diver was one bird every 22.2 years.

Freasdail

9.7.13 An 11 turbine wind farm approximately 59 km south of the Proposed Development. No significant effects on ornithology are predicted associated with Freasdail Wind Farm. Most effects were predicted to be minor, however minor negative effects were predicted for disturbance and displacement of breeding curlew, displacement of curlew and kestrel and collision risk on hen harrier and Greenland white-fronted geese.

Isle of Gigha

9.7.14 A four turbine wind farm on Gigha, approximately 78 km southwest of the Proposed Development. Insufficient information was available on any significant environmental effects. As a result, an assessment of the cumulative effects could not be undertaken.

Srondoire (Extension to Allt Dearg)

9.7.15 The Srondoire Wind Farm is an extension to Allt Dearg Wind Farm comprising of three turbines. Minor residual effects were predicted on snipe and golden eagle from construction disturbance, displacement/habitat loss and collision mortality. The Proposed Development is not considered to have any effects relating to snipe but is predicted to have a low magnitude impact on golden eagle from collision risk.

Tangy I, II and III Wind Farms

9.7.16 Tangy Wind Farms have collectively 37 turbines located 92 km south of the Proposed Development. Key target species for this development were Greenland white-fronted goose, hen harrier, merlin and herring gull *Larus argentatus*. The Proposed Development is not predicted to have any effects on Greenland white-fronted goose and herring gull. The Proposed Development is assessed to have non-significant, adverse effects on hen harrier and merlin, the effects are considered alongside those from the Proposed Development in this cumulative section.

Consented Wind Farms

A'Chruach Extension

9.7.17 A three turbine wind farm to be located on moorland to the east of the installed wind farm. No potentially adverse effects were required to be assessed in detail and therefore no significant residual effects have been identified. As a result, no cumulative effects are predicted.

Auchadaduie

9.7.18 A three turbine wind farm approximately 82 km to the south of the Proposed Development. No significant effects are predicted on ornithological features from Auchadaduie Wind Farm or from cumulative effects associated with Auchadaduie Wind Farm and others surrounding it. As a result, no cumulative effects are predicted.

Beinn an Tuirc Phase 3

9.7.19 A 17 turbine wind farm to the south of the existing wind farm. Residual effects from land take, disturbance (during construction and operation) and collision risk were all assessed to be negligible. Cumulative effects of disturbance and collision risk were assessed to be minor. No cumulative effects are predicted.

Blarghour

9.7.20 A 15 turbine wind farm approximately 5 km west of the Proposed Development. Surveys for this wind farm identified potential negligible-minor impacts on golden and white-tailed eagle. The Proposed Development is predicted to have non-significant residual effects on golden and white-tailed eagle, but potential for significant cumulative effects exists.

Blary Hill

9.7.21 A fourteen turbine wind farm approximately 83 km to the south of the Proposed Development. All residual effects from Blary Hill Wind Farm on ornithological features have been assessed to be not significant. The predicted minor negative impacts from this wind farm are listed below:

- habitat loss for forestry passerines;
- habitat loss for black grouse;
- construction disturbance of forestry passerines;
- construction disturbance of black grouse;
- construction disturbance of curlew; and
- displacement of forestry passerines.

9.7.22 No cumulative effects are predicted.

Wind Farms in Planning

Car Dubh

9.7.23 A 21 turbine wind farm approximately 7 km west of the Proposed Development. Target species for this wind farm were golden eagle, peregrine falcon, merlin, hen harrier, osprey, goshawk, short-eared owl, divers, black grouse, breeding Schedule 1 and Annex 1 waders and all waders and waterfowl. This project has potential to contribute to the cumulative impacts on golden eagle, hen harrier, merlin, black grouse, goshawk and peregrine falcon alongside the Proposed Development.

Cruach Nam Mult

9.7.24 Two turbines approximately 59 km southwest of the Proposed Development. While golden eagle, merlin and hen harrier were all recorded within the site, an impact assessment has not been undertaken which would allow for a comparison with the data collected for the Proposed Development. Species considered to be most at risk from collisions with Cruach nam Mult Wind Farm are buzzard, lesser black-backed gull, greater black-backed gull, raven and kestrel.

Eascairt (Kintyre)

9.7.25 A 13 turbine wind farm approximately 63 km south of the Proposed Development. Eascairt windfarm is predicted to have minor disturbance impacts on red-throated diver and black grouse. Minor collision risk impacts are predicted for hen harrier, red-throated diver, golden eagle and black grouse. Displacement impacts are predicted on hen harrier (minor), red-throated diver (minor), golden eagle (moderate) and black grouse (minor). The Proposed Development is predicted to have non-significant effects on hen harrier. These effects shall be considered alongside effects from Eascairt in this cumulative assessment.

Ladyfield

9.7.26 A 18 turbine wind farm approximately 500 m east of the Proposed Development. Target species for this project included golden eagle, hen harrier, merlin and golden plover. This project has potential to contribute to the cumulative effects on golden eagle, hen harrier and merlin alongside the Proposed Development.

Narachan

9.7.27 A 22 turbine wind farm approximately 73 km south of the Proposed Development. Surveys for this wind farm identified golden eagle, red-throated diver, black grouse, osprey and goshawk as target species. The Proposed Development has potential to result in non-significant impacts on golden eagle, black grouse and osprey, therefore potentially significant effects are considered in this cumulative assessment.

Upper Sonachan

9.7.28 An 18 turbine wind farm approximately 2 km west of the Proposed Development. No significant effects are predicted on ornithological features. As a result, no cumulative effects are predicted.

West Torrisdale

9.7.29 A 12 turbine wind farm approximately 83 km south of the Proposed Development. The scoping report highlights Greenland white-fronted goose, hen harrier, golden eagle, white-tailed eagle and black grouse as species likely present within the habitats on and surrounding the proposed wind farm. The Proposed Development could potentially result in non-significant impacts on hen harrier, golden eagle, white-tailed eagle and black grouse, therefore potentially significant effects are considered in this cumulative assessment.

Grid Infrastructure

Inveraray to Crossaig 275 kV OHL

9.7.30 Phase 1 Inveraray to Lochgilphead has been completed and Phase 2 Lochgilphead to Crossaig is under construction. This development runs from Inveraray substation (3.5 km east of the Proposed Development)

to Crossaig substation (69 km south of the Proposed Development). Mitigation was required to prevent significant impacts on golden eagles from disturbance. The Proposed Development could potentially result in non-significant impacts on golden eagle, therefore potentially significant effects are considered in this cumulative assessment.

Creag Dhubh to Dalmally 275 kV OHL

9.7.31 This development has been submitted to planning and will run between the Proposed Creag Dhubh substation (at the northern terminus of the Proposed Development) connecting into the Dalmally to Inverarnan 275 kV OHL at its northern end. The assessment for this project shall assess impacts on golden eagle (in particular from the Glen Etive and Glen Fyne SPA), white-tailed eagle, hen harrier, merlin and black grouse. The Proposed Development could potentially result in non-significant impacts on golden eagle (and Glen Etive and Glen Fyne SPA), white-tailed eagle, hen harrier and merlin, therefore potentially significant effects are considered in this cumulative assessment.

ITE/ITW Connection to Creag Dhubh Substation from existing 132 kV Taynuilt to Inveraray OHL

9.7.32 The northern end of the Proposed Development connects into the proposed Creag Dhubh substation. During its construction there will be a need to install sections (approximately 800 m) of OHL to allow continued transmission of energy while the substation is connected to the OHL. These sections of OHL would be required within coniferous plantation around the proposed substation. Potential significant impacts on nesting birds would be possible during felling for this diversion, but assuming best practice methods are followed (felling outside of breeding bird season if possible and pre-felling checks for nests if not) no significant effects are predicted.

Blarghour Wind Farm Connection Project

9.7.33 This project is in the pre-planning process and is reasonably foreseeable as part of the Argyll and Kintyre 275 kV Strategy. This would connect the consented Blarghour Wind Farm to the proposed Creag Dhubh substation, and therefore would connect into the northern extent of the Proposed Development. Surveys for this project are likely ongoing, but it is assumed that a similar suite of species to those observed during surveys for the Proposed Development would be present, therefore potential exists for significant cumulative effects on Glen Etive and Glen Fyne SPA, golden eagle and goshawk.

Cumulative Impact Summary

9.7.34 The above information is summarised in **Table 9-10**, which also sets out the assessed cumulative impacts.

Table 9-10: Cumulative Impact Assessment Summary

Feature	Developments with Potential Significant Impacts[50]	Assessed Cumulative Impacts
Glen Etive and Glen Fyne SPA	Ladyfield, Creag Dhubh to Dalmally 275 kV OHL.	All developments are on the fringes of the SPA, with no construction proposed within the SPA. Each development is to be constructed on land too low or wooded to be used by golden eagles. This impact is further assessed in **Technical Appendix 9.3: Habitat Regulations' Appraisal, EIAR Volume 4**. No significant cumulative effects are predicted on Glen Etive and Glen Fyne SPA.
Golden eagle	Cour, Srondoire, Blarghour, Car Dubh, Eascairt, Ladyfield, Narachan, West	The Proposed Development is predicted to have a low collision risk impact on golden eagle and is very unlikely to

[50] This includes developments yet to be submitted into planning that may provide significant impacts, based on review of scoping report.

Feature	Developments with Potential Significant Impacts[50]	Assessed Cumulative Impacts
	Torrisdale, Inveraray to Crossaig, Creag Dhubh to Dalmally 275 kV OHL.	have disturbance impacts on golden eagle. Neither of these impacts are considered sufficiently large to increase the cumulative impact on golden eagle within NHZ 14 to significant levels. No significant cumulative effects are predicted on golden eagles.
White-tailed eagle	Blarghour, West Torrisdale, Creag Dhubh to Dalmally 275 kV OHL.	The Proposed Development is predicted to have a low collision risk impact on white-tailed eagle and is very unlikely to have disturbance impacts on white-tailed eagle. Neither of these impacts are considered sufficiently large to increase the cumulative impact on white-tailed eagle within NHZ 14 to significant levels. No significant cumulative effects are predicted on white-tailed eagles.
Hen harrier	Freasdail, Tangy, Car Dubh, Eascairt, Ladyfield, West Torrisdale, Creag Dhubh to Dalmally 275 kV OHL.	The Proposed Development is predicted to have a low collision risk impact on hen harrier and is not predicted to have disturbance impacts on hen harrier. The collision risk impact is not considered sufficiently large to increase the cumulative impact on hen harrier within NHZ 14 to significant levels. No significant cumulative effects are predicted on hen harrier.
Goshawk	Car Dubh, Creag Dhubh to Dalmally 275 kV OHL.	Car Dubh wind farm is in the scoping stage and intends to undertake surveys targeting goshawk, however this wind farm on a moorland area is very unlikely to present significant impacts on a raptor that is a forest specialist.Creag Dhubh to Dalmally 275 kV OHL connects into the same substation as the northern end of the Proposed Development and could impact the same goshawk territory. However this would be mitigated following the same methods described for the Proposed Development. No significant cumulative effects are predicted on goshawk.
Black grouse	A' Chruach, Blary Hill, Car Dubh, Eascairt, Narachan, West Torrisdale, Creag Dhubh to Dalmally 275 kV OHL.	Black grouse impacts from disturbance and collision risk are possible on the cumulative developments listed. The Proposed Development is predicted to have a low collision risk impact on black grouse and is not considered sufficiently large to increase the cumulative effect on black grouse within NHZ 14 to significant levels. Disturbance impacts on black grouse are not predicted for the Proposed Development. No significant cumulative effects are predicted on black grouse.
Merlin	Tangy, Car Dubh, Ladyfield, Creag Dhubh to Dalmally 275 kV OHL.	The Proposed Development is predicted to have a low collision risk impact on merlin and is very unlikely to have disturbance impacts on merlin. Neither of these impacts are considered sufficiently large to increase the cumulative impact on merlin within NHZ 14 to significant levels. No significant cumulative effects are predicted on merlin.
Peregrine	Car Dubh, Creag Dhubh to Dalmally 275 kV OHL.	The Proposed Development is predicted to have a low collision risk impact on peregrine and is very unlikely to have disturbance impacts on peregrine. Neither of these impacts are considered sufficiently large to increase the cumulative impact on peregrine within NHZ 14 to significant levels. No significant cumulative effects are predicted on peregrine.

9.8 Summary

9.8.1 A programme of desk studies and field surveys were undertaken between 2018 and 2022 to determine the baseline of the Site. Surveys were undertaken following best practice guidance and the assessment was undertaken following CIEEM guidelines. Surveys were undertaken by Ramboll and LEC ornithologists. One of the key ornithological constraints is the Glen Etive and Glen Fyne SPA which lies 45 m east of the Proposed Development at its closest point and is classified for breeding golden eagle. Surveys only recorded low levels of golden eagle flight activity at CRH across the Proposed Development with very little of it attributable to birds from the only SPA territory near to the Proposed Development. As such, no significant impacts on the species or the SPA are predicted.

9.8.2 Field surveys recorded a black grouse lek within the Ornithological Field Survey Area and territories were identified of white-tailed eagle, merlin and hen harrier as well as a likely goshawk territory. All of these features are considered to be too far from the Proposed Development to be impacted and no significant collision risk impacts are predicted. **No significant residual impacts or cumulative effects on ornithological features are predicted.**

Table 9-11: Summary of Potential Significant Effects of the Proposed Development

Likely Significant Effect	Mitigation Proposed	Means of Implementation	Outcome/Residual Effect
Construction			
Disturbance to bird nests (hen harrier and barn owl)	• Timing of works; • Pre-construction surveys; and • Exclusion zones.	Set out in the Bird SPP.	Not significant
Operation			
Collision risk	None required	N/A	Not significant
Cumulative Construction			
Disturbance to bird nests (including potential Schedule 1 birds)	• Timing of works; • Pre-construction surveys; and • Exclusion zones.	Set out in the Bird SPP.	Not significant
Cumulative Operation			
Collision risk	None required	N/A	Not significant