

VOLUME 2: CHAPTER 5 - ORNITHOLOGY

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Appendix V2-5.4: Shadow Habitats Regulations Appraisal for the Cuillins Special Protection Area

Appendix V2-5.5: Shadow Habitats Regulations Appraisal for the West Inverness-shire Lochs Special Protection Area

Appendix V2-5.6: Ornithology Confidential Report.

Figures (Volume 3 of this EIA Report)

The relevant figures for this Chapter are contained within the Appendices listed above

5. ORNITHOLOGY

5.1 Executive Summary

- 5.1.1 This Chapter considers the potential effects of the Proposed Development on ornithology and reaches conclusions as to the predicted likely significance of effects on ornithology. It details the methods used to establish the bird species and populations present that may be affected by the Proposed Development, together with the process used to determine their Nature Conservation Importance. The ways in which birds might be affected (directly or indirectly) by the Proposed Development are explained and an assessment is made with regards the significance of these effects.
- 5.1.2 The assessment is structured around the consideration of potential effects, including cumulative effects, of the Proposed Development upon those ornithological receptors identified during survey work.
- 5.1.3 Desk-based studies and field surveys were carried out in and around the Proposed Development over respective 'Study Areas' to establish baseline conditions and the species and populations present.
- 5.1.4 It was possible to 'scope out' the effects on a number of species of high Nature Conservation Importance by virtue of their ecology, absence, distance from the Proposed Development, small numbers, low levels of activity and the nature and location of this activity.
- 5.1.5 Four bird species were included in the assessment, white-tailed eagle, golden eagle, black-throated diver and common scoter. These species were considered to be of high Nature Conservation Importance due to their listing as Annex I species (Birds Directive) and Schedule 1 of the Wildlife and Countryside Act 1981, as amended by the Nature Conservation (Scotland) Act 2004).
- 5.1.6 Habitat loss arising from the construction of the Proposed Development is unlikely to result in adverse impacts upon any bird species. Any impacts are likely to be negligible and not significant. Population reductions due to habitat loss, displacement and/or collision mortality are also likely to be minimal. Where "hot spots" of flight activity have been identified mitigation, by way of bird flight diverters, has been proposed. Any impacts are likely to be negligible and not significant for all bird species.
- 5.1.7 The contribution of adverse effects accrued by the Proposed Development to regional populations would be undetectable and so cumulative effects of the Proposed Development with existing and planned developments in the region are judged as being unlikely to have a significant effect on existing bird populations. Overall, it is concluded that the Proposed Development would not have a significant effect on birds under the terms of the EIA Regulations.
- 5.1.8 Information is presented to allow the competent authority to consider the requirement for an assessment of potential effects of the Proposed Development on the integrity of a number of Special Protection Areas (SPAs). This information demonstrates that the Proposed Development would not have an adverse effect on the integrity of any SPA.

5.2 Introduction

- 5.2.1 This Chapter presents the scope, methodology and assessment of predicted residual effects of the Proposed Development on ornithological interests. It details the methods used to establish the bird interest within the Study Area, together with the process used to determine the Nature Conservation Importance (NCI) of the bird populations present. It explains the ways in which birds may be affected by the Proposed Development and reports the assessment of the predicted residual effects of the Proposed Development and their significance. Additionally, the Chapter and Appendices set out information to allow Scottish Ministers to undertake an appropriate assessment of the effects of the Proposed Development on the Cuillins Special Protection Area

(SPA) and the West Inverness-shire Lochs SPA. Further information relating to the appropriate assessment process is provided in **Appendix V2-5.4: Shadow Habitats Regulations Appraisal for the Cuillins Special Protection Area** and **Appendix V2-5.5: Shadow Habitats Regulations Appraisal for the West Inverness-shire Lochs Special Protection Area**.

5.2.2 The assessment reported in this Chapter is based on the key characteristics of the Proposed Development as detailed in **Volume 1, Chapter 3: Project Description** and **Volume 2, Chapter 2: Section by Section Overview**. It is related to the assessment of Ecological effects in **Volume 2, Chapter 4: Ecology**. Planning policies of relevance to this assessment are provided in **Volume 1, Chapter 7: Planning and Energy Policy Context**.

5.2.3 This Chapter is further supported by:

- **Appendix V2-5.1: Ornithology Technical Report April 2016 to March 2019;**
- **Appendix V2-5.2: Ornithology Technical Report April 2016 to December 2018;**
- **Appendix V2-5.3: Ornithology Technical Report January to August 2021;**
- **Appendix V2-5.4: Shadow Habitats Regulations Appraisal for the Cuillins Special Protection Area;**
- **Appendix V2-5.5: Shadow Habitats Regulations Appraisal for the West Inverness-shire Lochs Special Protection Area;** and
- **Appendix V2-5.6: Ornithology Confidential Report.**

5.2.4 This Chapter has been prepared by Natural Research (Projects) Limited. All staff contributing to this Chapter have professional experience in ecological impact assessment and ornithological survey. A table presenting relevant qualifications and experience of key staff involved in the preparation of this Chapter is included in **Appendix V1-5.1: EIA Team**, contained within Volume 5 of this EIA Report.

5.3 Scope of Assessment and Methodology

Study Area

5.3.1 The Study Area was defined with reference to the location of the Proposed Development within each geographical Section¹ of the route for the Proposed Development. It encompasses a series of buffers of generally up to 2 km radius; with the buffer sizes as defined by NatureScot²³ and latterly⁴, and dependent on the sensitivity of key species to potential effects associated with developments. See **Appendices V2-5.1, V2-5.2 and V2-5.3 in Volume 5** of this EIA Report for further definition of the buffers described below and related Figures appended to those Appendices. The survey areas which make up the “Study Area” are defined as follows:

- ‘Site’ refers to the area enclosing the infrastructure and wayleave corridor for the Proposed Development (including the Limits of Deviation (LoD));
- ‘moorland bird survey area’, ‘winter walkover survey area’, ‘core survey area’ or ‘flight activity survey area’ refers to the Site plus an additional 500 m buffer around the Site;
- ‘black grouse survey area’ refers to the Site plus an additional 1.5 km buffer; and
- ‘scarce breeding bird survey area’ refers to the Site plus up to an additional 6 km buffer depending on the focal species (1 km for goshawk and barn owl, 6 km for white-tailed eagle and golden eagle and

¹ As described in Volume 1, Chapter 1: Introduction and Background, given the length of the route of the Proposed Development, this EIA Report splits the project into seven geographically defined ‘Sections’ to more easily describe the Proposed Development and the assessment of effects.

² SNH. (2016). Guidance: Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds. SNH. Battleby, UK.

³ SNH. (2014). Guidance: Recommended bird survey methods to inform impact assessment of onshore wind farms. SNH Battleby, UK.

⁴ SNH. (2017). Survey methods for use in assessing the impacts of onshore windfarms on bird communities (Version 2). SNH Guidance, Battleby.

2 km for other species) and the presence of contiguous suitable habitat outside of the core survey area.

- 5.3.2 The current land use of the Study Area includes upland moorland, commercial forestry, agricultural land and waterbodies.

Consultation and Scoping

- 5.3.3 The scope of the assessment has been determined through a combination of professional judgement, reference to the relevant guidance documents and consultation with stakeholders through a formal EIA scoping process and pre-application advice, and is based on the formal Scoping Opinion issued by Scottish Ministers in April 2022.

- 5.3.4 Scoping responses, relevant to ornithology are provided in **Table V2-5.1**.

Table V2-5.1: Scoping Responses

Consultee	Issue raised	Response/Action taken
The Highland Council	Require the analysis of the presence of protected species such as Schedule 1 Birds.	This is reported on within this Chapter and related Appendices.
NatureScot	NatureScot (NS) consider there will be a likely significant effect from disturbance and temporary loss of foraging habitat during construction within the SPA (relevant to Sections 1, 2 and 3 of the project). Potential impacts could be mitigated through a breeding bird protection plan and appropriate habitat restoration strategy. It is recommended that this mitigation is included in the EIA Report.	The Chapter includes an assessment of the Proposed Development on ornithology and suggests appropriate mitigation measures to avoid or reduce adverse effects. Specifically in relation to the Cuillins SPA, a Shadow HRA is provided in Appendix V2-5.4 .
	NS note that it is proposed to scope out barrier effects but recommend the potential for loss of accessible foraging habitat from the operation of a different scale and design of overhead line is given some consideration in the EIA Report.	This is considered within the Chapter.
	While the preferred solution for Section 2 is undergrounding, there is still potential for a likely significant effect through risk of collision with the remaining areas of OHL close to or within the Cuillin Hills SPA. NS advise that comprehensive desk study, field survey and assessment are used to inform the selection of a route which minimises impacts to SPA golden eagle and identify any additional mitigation requirements. This should include consideration of all known alternate nest sites, prey concentrations and the latest range-use modelling.	A Shadow HRA has been prepared that considers the potential effect of the Proposed Development on the qualifying features of the Cuillins SPA (see Appendix V2-5.4). This includes the result of a Golden Eagle Topographical (GET) model that analyses golden eagle range use based on topography. It is based on baseline survey work that is reported upon in this Chapter and related technical Appendices.

Consultee	Issue raised	Response/Action taken
	<p>Sections 5 and 6 would require a HRA in order to consider the potential for a likely significant effect from disturbance, displacement and collision risk to common scoters and black-throated divers which are protected by the SPA. The assessment of collision risk will need to be particularly robust in order to demonstrate no adverse effect on site integrity. Cumulative impacts will also require consideration.</p>	<p>A Shadow HRA has been prepared that considers the potential effect of the Proposed Development on the qualifying features of the West Inverness-shire Lochs SPA and is included within Appendix V2-5.5. Based on consideration of collision risk it is concluded that there is no adverse effect on site integrity predicted as a result of the Proposed Development.</p> <p>There is an assessment of likely significant effects within the Chapter.</p>
	<p>The EIAR should include further information on the extent of survey coverage, including how these detailed survey areas were arrived at and how those areas which were not surveyed will be considered. In the same regard, vantage point survey work should be justified and explained, in terms of the location and extent.</p>	<p>Information on the extent of survey coverage and vantage point survey locations can be found in this Chapter and Appendices V2-5.1 to V2-5.3.</p>
	<p>NS expect the EIA Report to demonstrate that survey methods and presentation of results comply with the NS recommended guidance. Cumulative effects should also be considered.</p> <p>Sensitive information should be provided in a Confidential Annex as described in Section 5.1 of the guidance.</p>	<p>The Chapter includes information on ornithology survey methodologies.</p> <p>Where required, sensitive information is provided in a confidential annex.</p>
	<p>In relation to breeding raptors, NS recommend the most up to date information is requested from the Highland Raptor Study Group. Historical contextual information should also be sought on e.g. alternate nest sites.</p>	<p>Up to date information was provided by the Highland Raptor Study Group.</p>
	<p>NS recommend any roost sites within 2 km of the transmission line are identified so that potential impacts can be assessed.</p>	<p>Identified roost sites are detailed within this Chapter.</p>
	<p>In cases where modelling is necessary to determine impacts, a GET (Golden Eagle Topographical) model assessment should be carried out.</p>	<p>GET modelling has been utilised to inform assessment of impacts on golden eagles in Sections 1, 2 and 3 of the Proposed Development.</p>
	<p>NS are pleased to note that the ornithology assessment will cover all aspects of the project, including removal of the existing line. They advise that potential impacts through habitat change and displacement should also be considered.</p>	<p>Information relating to potential impacts on habitat change and displacement are included in this Chapter.</p>

Consultee	Issue raised	Response/Action taken
	NS advise that mitigation options are considered as part of the assessment process and that full details are provided in the EIA Report. A well-designed and implemented breeding bird protection plan is likely to be required and NS advise that an outline plan is included in the EIA Report.	Full details of mitigation measures related to ornithology are referenced in this Chapter.
RSPB	RSPB welcome that new ornithological surveys will be taken, as some of the existing surveys are now over 5 years old.	New survey data is presented in this Chapter and related Appendices.
	RSPB disagree that dismantling the existing OHL poses no ornithological risk, and so argue that it should be scoped in.	This has been considered in this Chapter and has been scoped out of detailed assessment.
	It is essential that the impacts of this proposal are assessed in combination with other proposed and consented developments within the area, and RSPB are pleased this is proposed. Any identified impacts should be assessed against the relevant SPA and NHZ populations.	The likely cumulative impacts of the Proposed Development on ornithology are assessed in this Chapter.
	The EIA report should fully discuss mitigation measures required to reduce impacts of displacement, disturbance and direct mortality on priority species and deterioration of habitats present along the line, during both construction and ongoing future maintenance. Evidence should be provided for the assumed effectiveness of proposed mitigation measures based on experience from other projects.	Mitigation measures specific to ornithology are discussed in this Chapter.
	Flight activity data from vantage point surveys should be used to inform design to best avoid impacts on birds. Undergrounding or HDD should not be ruled out in some areas if field surveys reveal a high potential bird collision risk or presence of sensitive bog habitats. Line markers may also be required in some areas.	Flight activity from VP data has been included in this Chapter, along with proposed mitigation measures.

Legislation and Guidance

5.3.5 This assessment is carried out in accordance with the principles contained within the following legislation:

- The Wildlife and Countryside Act 1981 (as amended) (WCA).
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations).
- Environmental Impact Assessment Directive 2011/92/EU (as amended).

- The Conservation of Habitats and Species Regulations 2017 ('the Habitats Regulations').
- The Nature Conservation (Scotland) Act 2004 (as amended); and
- The Council Directive on the Conservation of Wild Birds 2009/147/EC (The EU 'Birds Directive').

5.3.6 This assessment is carried out in accordance with the principles contained within the following guidance documents:

- Scottish Natural Heritage (SNH) Guidance: Assessment and Mitigation of Impacts of Power Lines and Guyed Meteorological Masts on Birds (SNH, 2016).
- SNH Guidance: Assessing Connectivity with Special Protection Areas (SPAs) (SNH, 2016).
- SNH Guidance: Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms (SNH, 2017); and
- SNH Guidance: Assessing Significance of Impacts from Onshore Windfarms on Birds outwith Designated Areas (SNH, 2018).

Desk Based Research and Data Sources

5.3.7 A desk-based study was undertaken to collate existing bird records/data. Distribution and abundance data were collected from published sources and consultees, including:

- NatureScot Sitelink (online information about designated sites).
- UK Biodiversity Action Plan (BAP).
- The Birds of Conservation Concern (BoCC) (Eaton *et al.*, 2015)⁵.
- International Union for the Conservation of Nature (IUCN, 2018)⁶ Red list of threatened species.
- Scottish Biodiversity List (Scottish Biodiversity Forum, 2013)⁷.
- National Biodiversity Network (NBN) Gateway website (<https://data.nbn.org.uk/>).
- RSPB; current and historical survey records on various scarce breeding birds; and
- Highland Raptor Study Group (HRSG); information on scarce breeding raptors including current and historical survey records throughout the survey period.

5.3.8 As part of the desk-based data gathering exercise, NatureScot provided confidential data from the national golden eagle survey of 2015. The RSPB provided locations for a large number of species from a number of years, including those of high and moderate NCI including white-tailed eagle, golden eagle, red-throated diver, black-throated diver, common scoter, corncrake and black grouse. Local raptor workers provided confidential information on hen harrier, white-tailed eagle and golden eagle. Information on black-throated divers and common scoter was also provided by other surveyors working in the vicinity. Other non-confidential data on a number of species were obtained from the NBN gateway and other online resources.

Field Survey

5.3.9 NatureScot guidance (SNH, 2014³; SNH, 2017⁴) was used for initial survey design. A range of baseline ornithological surveys commenced in April 2016 and continued until end of August 2021.

5.3.10 The assessment has been informed by the following surveys:

⁵ Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. & Gregory, R.D. (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708-746.

⁶ International Union for the Conservation of Nature. (2018). The IUCN Red list of threatened species version 2018-2 www.iucnredlist.org

⁷ Scottish Biodiversity Forum (2013). Scottish Biodiversity List. Available at [www2.gov.scot/Topics/Environment/Wildlife-](http://www2.gov.scot/Topics/Environment/Wildlife-Habitats/16118/Biodiversitylist/SBL)

[Habitats/16118/Biodiversitylist/SBL](http://www2.gov.scot/Topics/Environment/Wildlife-Habitats/16118/Biodiversitylist/SBL)

- Moorland Bird Surveys (April to July 2018 and April to July 2021; within selected Sections of the OHL route and 500 m buffer);
- Scarce Breeding Bird surveys (April to September 2016, April to August 2018, October 2018 to March 2019 and January to July 2021; within selected Sections of the OHL route extending up to 6 km depending on species);
- Black grouse surveys (April and May 2018; within Section 5 of the OHL route and 1.5 km buffer);
- Flight activity (vantage point) surveys (April to September 2016, February to August 2017, March 2018 to March 2019 and February to August 2021; within Sections of the OHL route extending up to 2km); and
- Coastal Bird Surveys (April to June 2018 and January to March 2019; Loch Sligachan and Loch Ainort (Section 2 of the OHL)).

5.3.11 **Appendices V2-5.1 to V2-5.3** present the results of baseline surveys including figures showing the Survey Areas and vantage points used.

5.3.12 Survey methods followed contemporary best practice guidance and no further surveys to inform the assessment are anticipated. A detailed methodology for all surveys is provided in **Appendices V2-5.1 to V2-5.3** and is summarised below.

Moorland Bird Surveys

5.3.13 The Brown & Shepherd (1993)⁸ method for surveying upland waders was modified to provide reliable estimates for some breeding moorland passerines by undertaking some surveys during the first few hours of daylight. All target bird species were surveyed. Surveyors conducted four separate "visits" during the survey period. Bird locations and behaviour were plotted onto 1:25,000 scale maps, using the standard Common Birds Census notation. Supplementary behavioural observations and notes were made to determine breeding locations as accurately as possible.

5.3.14 Suitable habitat within the moorland bird survey area was systematically searched for evidence of breeding birds. A survey route was chosen to ensure that all parts of the survey area were surveyed to within 100 m of the observer. The surveys were carried out during daylight hours, avoiding strong winds, heavy rain, fog and low cloud. Walking, listening and scanning by eye and with binoculars were the methods used to locate the birds. Particular attention was given to any topographical and vegetation features likely to influence bird distribution. Birds were considered to be breeding if they were observed singing, displaying, carrying nest material, if nests or young were found, or evidence observed of repetitively alarmed adults or disturbance displaying, or birds carrying food or in territorial dispute.

Scarce Breeding Bird Surveys

5.3.15 Priority was given to detecting the species considered most likely to occur; black-throated diver (*Gavia arctica*), red-throated diver (*G. stellata*), common scoter (*Melanitta nigra*), golden eagle (*Aquila chrysaetos*), white-tailed eagle (*Haliaeetus albicilla*), osprey (*Pandion haliaetus*), hen harrier (*Circus cyaneus*), merlin (*Falco columbarius*), peregrine (*F. peregrinus*), barn owl (*Tyto alba*), short-eared owl (*Asio flammeus*) and corncrake (*Crex crex*). Surveys focussed on areas or sites suitable for nesting and foraging within a buffer of between 0.5 and 6 km of the Proposed Development. The survey areas were informed through consultation with RSPB, NatureScot and local raptor workers, along with incidental data collected during the surveys in 2016 and 2017. The survey methods used for each species are described below.

⁸ Brown, A.F. & Shepherd, K.B. (1993). A method for censusing upland breeding waders. *Bird study* 40: 3 pp189-195.

Diver species

5.3.16 The methods described in Gilbert *et al.* (1998)⁹ for surveying breeding diver species were used. All potential breeding sites within 1 km of the Proposed Development were checked for suitability and, if deemed to be required, further checks for occupancy were made at least twice per calendar month in May-July. Wherever possible, lochs were scanned from a distance to search for incubating birds or other evidence of breeding.

Common scoter

5.3.17 The methods described in Gilbert *et al.* (1998)⁹ for surveying breeding common scoter were used. All potential breeding sites were checked for suitability and, if deemed to be required, further checks for occupancy were made.

Eagle species

5.3.18 Survey methods given in Hardy *et al.* (2013)¹⁰ were followed. Targeted watches and searches focusing on sites known to have been used for nesting in previous years were undertaken. In addition, areas potentially suitable for nesting and roosting within 6 km of the Proposed Development were searched for signs of recent activity.

Osprey

5.3.19 Survey methods given in Hardey *et al.* (2013)¹⁰ were followed. Potential nest sites within 2 km of the Proposed Development were searched for in spring to look for the evidence of occupancy (presence of birds, faeces, fresh prey remains).

Hen harrier

5.3.20 Survey methods given in Hardey *et al.* (2013)¹⁰ were followed. Emphasis was given to searching habitats considered potentially suitable for nesting within 2 km of the Proposed Development, in this case including areas of heath/bog with stands of heather >0.4 m tall, and suitable habitats within plantation forest.

Merlin

5.3.21 Survey methods given in Hardey *et al.* (2013)¹⁰ were followed. Within suitable habitats, old crow nests (which could be re-used by merlin), fenceposts, hummocks, bushes and trees within 2 km of the Proposed Development were checked for signs of occupation (e.g. plucked prey, moulted feathers, pellets and faeces). Emphasis was given to heath/bog habitats with stands of heather >0.4 m tall.

Peregrine

5.3.22 Survey methods given in Hardey *et al.* (2013)¹⁰ were followed. Potential nest sites within 2 km of the Proposed Development were searched for in spring to look for the evidence of occupancy (presence of birds, faeces, fresh prey remains).

⁹ Gilbert, G., Gibbons, D.W. & Evans, J. (1998). Bird monitoring methods. RSPB Sandy, Bedfordshire.

¹⁰ Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). Raptors, a field guide to survey and monitoring. The Stationery Office, Edinburgh.

Barn owl

5.3.23 Survey methods given in Hardey *et al.* (2013)¹⁰ were followed. Potential nesting and roosting sites were searched within a 1 km buffer of the Proposed Development. Some suitable sites were checked for signs of occupancy (adult birds, young, pellets, feathers, faecal splash).

Short-eared owl

5.3.24 Survey methods given in Hardey *et al.* (2013)¹⁰ were followed. Suitable habitat was within 2 km of the Proposed Development was checked for evidence of hunting males, territorial activity and other signs of presence.

Corncrake

5.3.25 Corncrake surveys were undertaken between 15 May and 30 June 2021 in dry, calm weather. The methods employed are those described in Gilbert *et al.* (1998)⁹ and were undertaken between 0000hrs and 0300hrs. The survey area for corncrake consisted of all suitable habitats within a 500 m buffer of the Proposed Development centred around Trumpan (Section 0).

Black Grouse Surveys

5.3.26 Suitable habitat within the 1.5 km survey buffer was surveyed for displaying (lekking) male black grouse during April and May 2018. Survey methods were based on those in Gilbert *et al.* (1998)⁹ and care was taken to avoid disturbing birds.

5.3.27 In areas which were identified as being potentially suitable for display by black grouse, two visits were undertaken within two hours of dawn to locate leks. Visits were conducted in calm, dry weather with good visibility. Observers watched and listened for lekking birds from a number of suitable vantage points.

Flight Activity Surveys

5.3.28 Information on bird flight activity was collected during timed watches from strategic Vantage Points (VPs) using the methods described by Band *et al.* (2007)¹¹. VPs were located to provide views over the 500 m buffer of the Proposed Development in areas identified through the desk study and during consultation, where species of high NCI were considered likely to occur. VPs were selected through a mix of GIS analysis and field trials, with the aim of maximising ground visibility within the site using the minimum number of points. Viewsheds are derived using a 20 m vertical cut-off and are truncated horizontally to 2 km.

5.3.29 Watches from these VPs did not exceed three hours in length and were timed to ensure each VP has observations spread throughout daylight hours each month. The height above ground level of flights by target and secondary species were judged to be within one of several bands so that an estimate can be made of flight activity within the zone where OHLs would be present.

Coastal Bird Surveys

5.3.30 Focussed searches for breeding and wintering waders and waterfowl were carried out in areas identified through desk studies and consultations as being suitable for these species. These areas were confined to suitable habitat at the head of Loch Sligachan and head of Loch Ainort within Section 2 of the OHL.

¹¹ Band, W., Madders, M. & Whitfield, D.P. (2007). Developing field and analytical methods to assess avian collision risk at wind farms. In de Lucas, M, Janss, G. and Ferrer, M. (eds), *Birds and Wind Power*. Lynx Edicions, Barcelona.

5.3.31 For breeding birds, surveys were in the same areas as for winter and followed methods outlined in Gilbert *et al.* (1998)¹⁵, i.e. three visits were undertaken between April and June 2018. Coastal breeding sites including saltmarsh, grazing marshes, shingle beaches, dunes, rocky-shores and lowland grassland were surveyed.

Assessing Significance

5.3.32 The assessment follows a methodology that has been designed to provide the environmental information required in terms of the EIA Regulations. The process of evaluating the effects of the Proposed Development on birds seeks to ensure that the competent authority (Scottish Ministers) have sufficient information in relation to the significance of likely effects predicted to result from the construction and operation of the Proposed Development on bird interests. In addition, shadow Habitats Regulations Appraisals (HRAs) to assist the competent authority's appropriate assessment of the implications of the Proposed Development for the Cuillins SPA and West Inverness-shire Lochs SPA in view of the sites' conservation objectives have been provided in **Appendices V2-5.4 and V2-5.5**.

5.3.33 Effects are evaluated against the existing baseline conditions, i.e. without the Proposed Development present, but including the existing OHL. The evaluation assumes that there are no existing (baseline) significant adverse effects on the population, range or distribution of a species and no significant interference with the flight paths of migratory birds. If any mitigation is required in relation to likely significant effects associated with the Proposed Development this is then identified, and the residual effects re-assessed with this included.

5.3.34 In assessing the effects, emphasis is given to the national and regional populations of the species. Regional populations are those occurring within the host Natural Heritage Zone (NHZ) as defined by NatureScot (SNH, 2000)¹².

5.3.35 The assessment reported in this Chapter first identifies the potential effects of the Proposed Development and considers the likelihood of their occurrence. For the purposes of this assessment, an effect is defined as a change in the assemblage of the bird species present, as a result of the construction or operation of the Proposed Development, or in relation to the dismantling of the existing OHL. Effects can be adverse, neutral or beneficial. A judgement is then made as to whether or not they are significant in the context of the EIA Regulations. Subsequently, mitigation measures and the likely residual effects are considered.

5.3.36 In assessing whether an effect is significant, three factors are taken into account which determine the sensitivity of the species to each potential effect and the magnitude of the changes which could be brought about by the potential effects on the population of each species:

- The NCI of the species involved.
- The magnitude of likely effects (spatial and temporal); and
- The conservation status of the species.

5.3.37 Following the classification of each species' NCI and consideration of the magnitude of each effect and behavioural sensitivity, professional judgement is used to make a reasoned assessment of the likely effect on the conservation status of each potentially affected species.

Determining the Magnitude of Change and Sensitivity of Receptors

Methods Used to Evaluate Nature Conservation Importance

5.3.38 The NCI of each species potentially affected by the Proposed Development is defined according to **Table V2-5.2**.

¹² SNH. (2000). Natural Heritage Zones. SNH, Battleby, UK.

Table V2-5.2: Nature Conservation Importance

Importance	Definition
High	<p>Species listed in Annex 1 of the EU Birds Directive.</p> <p>Breeding species listed on Schedule 1 of the WCA.</p> <p>Species listed on Schedule 1A and A1 of the WCA.</p> <p>Species cited in the qualifying features for international designated sites or notified features of national designated sites within 20 km of the Proposed Development.</p>
Moderate	<p>Species cited on the BoCC 'Red list' (Eaton <i>et al.</i>, 2015)⁸ or the IUCN 'Red list – Near Threatened' (IUCN, 2021)⁹.</p> <p>Regularly occurring migratory species, which are either rare or vulnerable, or warrant special consideration on account of the proximity of migration routes, or breeding, moulting, wintering or staging areas in relation to the Proposed Development.</p> <p>Species present in regionally important numbers (>1% regional population).</p>
Low	<p>All other species not falling within the categories mentioned above.</p>

5.3.39 Species listed in Local Biodiversity Action Plans (LBAPs) will be considered moderately important only if the Proposed Development supports at least 1% of the regional population.

Magnitude

5.3.40 The magnitude of change has been determined by consideration of the spatial and temporal nature of each effect. There are five levels of spatial magnitude (**Table V2-5.3**) and four levels of temporal magnitude (**Table V2-5.4**). For the majority of species which are included in the assessment, where the species considered is not connected to a designated site, the spatial magnitude is assessed in respect of regional populations within the relevant Natural Heritage Zone (NHZ) as defined by NatureScot (SNH, 2000)¹⁸.

Table V2-5.3: Levels of Spatial Magnitude

Magnitude	Definition
Very high	Total/near loss of a bird population due to mortality or displacement. Total/near loss of productivity in a bird population due to disturbance. Guide: >80% of regional population affected.
High	Major reduction in the status or productivity of a bird population due to mortality, displacement or disturbance. Guide: 21-80% of regional population affected.
Moderate	Partial reduction in the status or productivity of a bird population due to mortality, displacement or disturbance. Guide: 6-20% of regional population affected.
Low	Small but discernible reduction in the status or productivity of a bird population due to mortality, displacement or disturbance. Guide: 1-5% of regional population affected.
Negligible	Very slight reduction in the status or productivity of a bird population due to mortality, displacement or disturbance. Reduction barely discernible, approximating to the 'no change' situation. Guide: <1% of regional population affected.

Table V2-5.4: Levels of Temporal Magnitude

Magnitude	Definition
Permanent	Effects continuing indefinitely beyond the span of one human generation (taken as approximately 25 years), except where there is likely to be substantial improvement after this period (e.g. the replacement of mature trees by young trees which need >25 years to reach maturity). Such exceptions can be termed very long effects.
Long-term	Approximately 15 to 25 years or longer (refer to above).
Medium-term	Approximately five to 15 years.
Short-term	Up to approximately five years.

5.3.41 The magnitude of an effect can be influenced by when it occurs. For example, operations undertaken in daylight hours may have little temporal overlap with the occupancy of birds' night-time roosts, and seasonality in a bird population's occupancy of a site may mean that effects are unlikely during certain periods of the year. Using professional judgement this is taken into account when defining the magnitude of the effects on the species.

5.3.42 A populations' behavioural sensitivity may also be considered when assessing the magnitude of effects and the species' overall sensitivity to them. Behavioural sensitivity may be judged as being high, moderate or low according to a species' ecological function and behaviour. Behavioural sensitivity can differ even between similar species and, for particular species, some populations and individuals may be more sensitive than others, and sensitivity may change over time e.g. species are often more sensitive during the breeding season. Using

professional judgement this is also taken into account when defining the magnitude of the effects on the species.

Determining Conservation Status

5.3.43 Where the data allow, the conservation status of each potentially affected population is considered within the region. For these purposes conservation status is taken to mean the sum of the influences acting on a population which may affect its long-term distribution and abundance. Conservation status is considered to be favourable where:

- A species appears to be maintaining itself on a long-term basis as a viable component of its habitats.
- The natural range of the species is not being reduced, nor is likely to be reduced for the foreseeable future; and
- There is (and will probably continue to be) sufficient habitat to maintain the species' population on a long-term basis.

Significance

5.3.44 In accordance with EIA Regulations each effect is evaluated and classified as either significant (major or moderate) or not significant (minor or negligible). The significance levels of effects on bird populations are described in **Table V2-5.5**. Effects resulting in detectable changes in the conservation status of regional populations of NCI are automatically considered to be significant effects for the purposes of the EIA Regulations (i.e. no distinction between effects of 'major' or 'moderate' significance). Non-significant effects include all those which are likely to result in small to barely detectable (minor) or non-detectable (negligible) changes in conservation status of regional (and therefore national) populations.

5.3.45 If an effect is determined to be significant adverse, measures to mitigate the effect are proposed wherever possible, and the effect is then re-evaluated as a residual effect.

Table V2-5.5: Significance Criteria

Magnitude	Definition
Major	Detectable changes in regional populations of NCI that would have a severe impact on conservation status.
Moderate	Detectable changes in regional populations of NCI that would have an impact on their conservation status.
Minor	Small or barely discernible changes in regional populations that would be unlikely to have an impact on the conservation status of regional populations of NCI.
Negligible	No or non-detectable changes in the conservation status of regional populations of NCI.

Cumulative Assessment

5.3.46 Cumulative changes involve the same impacts and potential effects for individual site-based construction and operational changes, but on an accumulated basis across several projects i.e. the addition of the effects of the Proposed Development to those determined or assessed for other projects (including the other Sections of the Proposed Development). When considering the individual Sections of the Proposed Development cumulatively with the other individual Sections in the Proposed Development there is a likelihood of construction processes coinciding therefore the potential cumulative construction and operational effects are considered across the project as a whole.

5.3.47 The assessment of cumulative effects is limited to species of high or moderate NCI for which there is a likely effect as a result of the Section being assessed, that may be exacerbated cumulatively with other projects as regards influencing the species' conservation status; therefore, only effects assessed as minor or above (for an individual Section) are included in the cumulative assessment. Effects that are assessed to be negligible are not taken forward to the cumulative assessment as it is considered that such effects cannot contribute to cumulative effects. Reference should be made to the Cumulative Assessment in relation to each individual Section below for greater detail.

Assessment Limitations

- 5.3.48 The available information on bird populations at the NHZ and regional level is limited, and available information on the results of monitoring, mitigation and enhancement work at other existing and proposed developments is sparse. Therefore, as is standard with these assessments, use is necessarily made of the available literature and professional judgement to inform the assessment.
- 5.3.49 Unlike for wind turbines there are no defined methods for modelling an estimation of collision risk for birds and OHLs. Bespoke methods are beset with issues and inevitably rely on the inclusion of an avoidance rate which is most often derived from non-empirical data. NatureScot in their guidance (SNH, 2016)⁹ state they “do not therefore currently recommend a generic modelling approach.” In line with current guidance from NatureScot, emphasis is put on mitigation where the assessment has indicated potential risks. Results of baseline surveys have been analysed to identify any ‘hot-spots’ of flight activity where mitigation may be required.

5.4 Potential Effects

- 5.4.1 The potential effects on ornithology associated with the construction and / or operation of the Proposed Development (and dismantling of the existing OHL) are:
- a short-term reduction in breeding or wintering bird populations due to disturbance (during construction of the Proposed Development and dismantling of the existing OHL);
 - a long-term/permanent reduction in breeding or wintering populations due to direct loss of critical habitats (during operation);
 - a long-term/permanent reduction in breeding or wintering populations due to disturbance displacement resulting from maintenance activities or birds' perceived reductions in suitability of adjacent habitats (during construction and operation);
 - a long-term/permanent reduction in breeding or wintering bird populations due to collision mortality (during operation);
 - long-term/permanent reduction in breeding or wintering bird populations due to electrocution mortality (during operation); and
 - cumulative effects with other nearby development proposals that are constructed during the same period, and/or with other developments which pose a potential mortality risk (during operation).
- 5.4.2 As specified by NatureScot Guidance (SNH, 2018)¹³ the potential for significant effects is assessed for species which are considered to be of high and moderate NCI (see **Table V2-5.2**) and for which a population is known to be present, or is potentially present, in the vicinity of the Proposed Development, and thus could potentially be affected.

Loss of Habitat and Habitat Modification

- 5.4.3 Direct loss of critical habitats due to the land-take for infrastructure (foundations/bases for towers/wood poles, access tracks, underground cables, wayleave corridors and ancillary structures); and habitat modification due to

¹³ SNH. (2018). Assessing significance of impacts from onshore wind farms outwith designated areas. SNH Guidance Note. Battleby, UK.

changes in land management and hydrology may occur. This may be temporary during the construction phase and long-term during the operation phase. The extent of the effect of direct loss of habitat would depend on the territory and range size of the species and the availability, and ability of, the species to make use of alternative habitat within that territory or range. Birds would also be affected by the restructuring of forest habitats, particularly in relation to the proposed felling for the establishment of the wayleave corridor that would include felling to create a windfirm edge. Forest restructuring would favour species which prefer forest edges and open ground however this may affect some woodland specialist species.

- 5.4.4 Both temporary and permanent habitat loss are predicted as a result of the Proposed Development. Permanent loss would occur from the construction of new permanent access tracks and within the footprint of new wood pole and steel lattice towers, as well as ancillary infrastructure such as sealing end compounds. Temporary, short-term habitat loss would occur at pole and tower bases and from the construction of new temporary access tracks and the underground cable working corridor that would be reinstated after construction. The loss of habitat is assessed in **Volume 2, Chapter 4: Ecology**. Habitat loss or modification is considered to result in a low magnitude, short-term, reversible impact on passerines, raptors, divers, wildfowl, coastal and wading birds. It would be a temporary impact in all locations other than the footprint of poles and towers, and ancillary infrastructure including sealing end compounds and new permanent access tracks. Furthermore, levels of habitat loss and/or modification are not considered to represent a likely significant additional loss and/or modification of bird habitat than that presented by the existing OHL. Therefore, the impact of habitat loss on these groups is assessed to be negligible and not significant. Hence, habitat loss due to the construction and operation of the Proposed Development is not considered further in the assessment.

Disturbance and Displacement

- 5.4.5 Disturbance of breeding attempts; disturbance of winter roosts; and displacement of foraging birds from suitable habitats may occur. Temporary disturbance of breeding birds is most likely to result in indirect habitat loss due to displacement of birds through disturbance by activity associated with people and machines in the vicinity of the Proposed Development during construction or dismantling.
- 5.4.6 There is a potential for destruction or damage of nests if site clearance and construction/dismantling activities occur within the breeding season (typically April to August for most species). However, as all bird nests are protected under the Wildlife and Countryside Act 1981, any destruction would be an offence. Similarly, under Schedule 1A of the Wildlife and Countryside Act 1981 it is an offence to disturb certain roosting birds.
- 5.4.7 The extent to which disturbance and displacement may occur and the implications for birds are likely to vary depending on the behavioural sensitivity of the species to human disturbance, the nature of the construction/dismantling activity and the intervening topography, which may influence the avoidance distance a species adopts. Birds that are disturbed at breeding sites are vulnerable to a variety of potential effects on breeding performance, including the chilling or predation of exposed eggs / chicks, damage to or loss of eggs / chicks caused by panicked adults and the premature fledging of the young. Birds disturbed when foraging, may also feed less efficiently and thereby breed or over-winter less successfully. These impacts may lead to a short-term reduction in the productivity of bird populations. Disturbance effects on birds would be confined to areas in the locality of the proposed towers/wood poles and associated ancillary infrastructure, with different species varying in their sensitivity. Larger bird species, those higher up the food chain e.g. most raptors, or those that feed in flocks in the open (e.g. geese) tend to be more susceptible to disturbance than small birds living in structurally complex or closed habitats (e.g. woodlands) (Hill *et al.*, 1997)¹⁴.
- 5.4.8 Dismantling of the existing OHL and construction of the Proposed Development would extend through the breeding season (taken as April to August) and non-breeding season, taken as being September to March.

¹⁴ Hill, D.A., Hockin, D., Price D., Tucker G., Morris, R. & Treweek, J. (1997). Bird disturbance: improving the quality of disturbance research. *Journal of Applied Ecology* 34, pp 275-288.

Where these phases extend into the breeding season then a Bird Protection Plan (BPP) would be enforced. A BPP would detail protocols for the prevention, or minimisation, of disturbance to birds as a result of activities associated with the Proposed Development and would be overseen by the Ecological Clerk of Works (ECoW) (see **Part 5.7: Embedded Protection Measures**). As such, through a combination of timing of works and implementation of a BPP, disturbance during construction or dismantling to breeding and roosting birds is considered to result in a low magnitude, short-term, reversible impact on passerines, raptors, divers, wildfowl, coastal and wading birds in all locations. Therefore, the impact of disturbance on these groups is assessed to be negligible and not significant. Hence, disturbance due to the construction of the Proposed Development and dismantling of the existing OHL is not considered further in the assessment.

- 5.4.9 If birds were disturbed by construction activities from foraging areas nearest the Proposed Development, there is other suitable habitat in the wider area which they could exploit. This temporally short-term negative effect would affect a small number of birds. These displaced birds would likely remain in the wider area and be able to find other suitable foraging locations, so any impact on their survival and productivity would be minimal. At worst, short-term displacement from foraging areas during construction would affect a very small proportion of regional populations (low spatial magnitude). Displacement effects on all species are predicted to be at worst negligible and not significant. Hence, displacement due to the construction of the Proposed Development is not considered further in the assessment.
- 5.4.10 Displacement effects due to dismantling of the existing OHL and removal from site would last for a shorter time and be of lower intensity than during construction; so, effects would be similar in nature but of lower magnitude, both temporally and spatially, during dismantling. Therefore, the magnitude of dismantling effects on all species is considered to be negligible. Even in the case of species of highest NCI these effects are judged not significant under the terms of the EIA Regulations and are not considered further in the assessment.
- 5.4.11 Relatively little published information is available on the displacement of birds by OHLs. A study of the impact of wind farm infrastructure on birds in the UK looked at the avoidance of turbines, tracks and transmission lines for a sample of upland species including raptors, waders and passerines (Pearce-Higgins *et al.*, 2009)¹⁵. Compared with wind turbines, birds showed a smaller degree of avoidance of tracks and no consistent avoidance of transmission lines. Altemüller & Reich (1997)¹⁶ also studied the influence of high-tension power lines on breeding birds and found no evidence that the presence of the power line had any effect on breeding lapwing and Eurasian curlew. Transmission lines may have some limited effects in reducing the density of breeding birds or limiting the use of areas close to OHLs by foraging birds such as wintering geese. However, no studies have been found that suggest wide scale impacts from displacement effects that might affect any species at a population scale. Furthermore, displacement from habitats during the operation of the Proposed Development is not considered to represent a likely significant additional loss of bird habitat than that presented by the existing OHL. Indeed, approximately 24 km of the Proposed Development (within Sections 2 and 6) is to be undergrounded and, on completion of habitat restoration of these undergrounded sections, there will be an overall net gain in habitats potentially suitable for breeding and foraging given the dismantling of the existing OHL. At worst, long-term displacement from foraging areas during operation would affect a very small proportion of regional populations (low spatial magnitude). Displacement effects on all species are predicted to be at worst negligible and not significant. Hence, displacement due to the operation of the Proposed Development is not considered further in the assessment.

¹⁵ Pearce-Higgins, J.W., Stephen, L., Langston, R.H.W., Bainbridge, I.P. and Bullman, R. (2009). The distribution of breeding birds around upland wind farms. *Journal of Applied Ecology* 46, 1323–1331.

¹⁶ Altemüller, M. & Reich, M. (1997). Influence of high-tension power lines on breeding meadow birds (in German with English summary). *Vogel und Umwelt* 9 (Sonderheft): 111-127.

Electrocution Mortality

- 5.4.12 A large amount of research on the risk of electrocution to birds has been undertaken and it has been understood within the industry for many years how to design poles / towers which minimise or remove the risk of electrocution (e.g. APLIC, 2006¹⁷; Ferrer, 2012¹⁸). In general, electrocution of birds can occur on structures with: phase conductors separated by less than the wrist-to-wrist or head-to-foot (flesh-to-flesh) distances of a bird; distance between earthed hardware and energised phase conductors that is less than the flesh-to-flesh distance of a bird. The recommended minimum horizontal distance is stated as 1.5 m for the wrist-to-wrist measurement of a bird and 1 m for head-to-foot measurement (APLIC, 2006)¹⁷.
- 5.4.13 Electrocution risk can be discounted for the majority of the Proposed Development, due to the design of the steel lattice towers. The steel lattice towers have conductors which are at least 3.75 m apart vertically and are separated by more than 2 m vertically from any part of the tower itself. There is a theoretical electrocution risk associated with the 'Trident' design wood pole proposed within Section 0 of the project which have all the conductors aligned on a horizontal plane attached to a cross-arm and a pole which may appeal to birds as a perch. These however are also designed to ensure reduced risk of electrocution due to the horizontal separation of the conductors by 2.5 m and by their separation of 1.46 m vertically from any part of the cross-arms.
- 5.4.14 Golden eagle and white-tailed eagle are the largest birds of the current avifauna in the wider area surrounding the Proposed Development which are known to be prone to electrocution in other countries, if poles are not appropriately designed and deployed. The dimensions of the wood poles to be used for connections forming part of the Proposed Development are greater than the dimensions recommended by APLIC which take into account eagle species, thus are deemed to be avian-friendly.
- 5.4.15 Whilst this does not mean that electrocution of birds perched on these structures is impossible, the risk of a significant number of mortality events of birds as a result of electrocution is considered to be negligible, therefore electrocution is not considered further in this assessment.

Collision Mortality

- 5.4.16 The potential risk of collision is greatest in situations where particular factors exist or combine to create the risk such as: migratory flyways; situations where large numbers of birds fly in times of poor visibility or at night; and areas where a food resource is exceptional (and hence bird activity levels are elevated).
- 5.4.17 There is a potential risk of collision with the conductors and towers/wood poles. The risk of collision is considered to be dependent on a number of factors including the amount of flight activity over the OHL and bird species behaviour. In addition, the risk is considered to vary between species depending on the ability of birds to detect and manoeuvre around the conductors and earth wires. Finally, the position of the OHL in the landscape and habitats, and the configuration of the conductors would also affect the risk of collision by birds. For the purposes of the assessment reported in this Chapter, birds that collide are assumed to be killed or fatally injured. Collisions with the OHL may occur within a risk window which encompasses the heights of the conductors and earth wires of the OHL. Within this risk window, the actual risk of collision is far smaller than the defined risk window due to the conductors and earth wire only physically occupying a very small proportion of the total area in the risk window. Birds can fly unharmed between the conductors within the risk window.
- 5.4.18 The potential for collision mortality is considered further in this assessment.

¹⁷ Avian Power Line Interaction Committee (APLIC). (2006) Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C and Sacramento, CA.

¹⁸ Ferrer, M. (2012). Birds and Powerlines. ENDESA S.A. and Fundacion MIGRES, Sevilla.

Barrier Effects

- 5.4.19 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 crossing.
- 5.4.20 The existing OHL runs for much of the length of the Proposed Development. This suggests that birds would habituate/have already habituated to the presence of an OHL and would not treat it as a barrier. The alignment and wood pole/tower configuration would mean that the Proposed Development would not present a significantly different barrier to ornithological features than that presented by the existing OHL. In Sections 1, 2 and 5 there is a change in the vertical configuration, as wooden poles are replaced with steel lattice towers. However, this increase in height to typically c. 27 m to 33 m above ground level (depending on local topography) would have no discernible effect on a bird's ability to continue to fly over or under the new OHL and be of no consequence in the context of daily energy budgets. Therefore, the effect of this impact is considered to be of negligible significance, and this is not considered further in this assessment.

Disturbance during Operational Maintenance

- 5.4.21 Maintenance activities associated with the OHLs and the wayleave corridor during operation of the Proposed Development may disturb breeding birds. However, such activities are infrequent and highly unlikely to be a notable source of disruption. All maintenance activities would be undertaken in line with SSEN Transmission's duties in terms of Schedule 9 of the Electricity Act 1989, and wider commitments to protect flora and fauna. For example, if planned maintenance works need to take place during the breeding bird season or adjacent to known protected species, surveys would be undertaken prior to works commencing to determine appropriate mitigation to avoid disturbance. Thus, any potential for disturbance displacement resulting from maintenance activities associated with the operation of the Proposed Development would be negligible, and this is not considered further in this assessment.

Effects scoped in / out of further assessment

- 5.4.22 On the basis of the professional judgement of the EIA team, experience from other relevant projects, consultations and policy guidance, several topics have been 'scoped out' of the assessment. Specifically, following due consideration of the potential for the Proposed Development to give rise to significant effects on relevant ornithological interests, it has been concluded that significant effects are unlikely. Therefore, a detailed assessment is not required under the EIA Regulations. The topics scoped out of further assessment are:
- Effects arising from habitat loss and/or modification during construction and operation of the Proposed Development and dismantling of the existing OHL;
 - Effects arising from disturbance and/or displacement from critical habitats for feeding, breeding, wintering or roosting during construction and operation of the Proposed Development and dismantling of the existing OHL;
 - Effects arising from electrocution during operation of the Proposed Development;
 - Effects arising due to the Proposed Development acting as a barrier to movement during operation; and
 - Effects arising from maintenance of the Proposed Development during operation.
- 5.4.23 The remaining topic scoped in for further assessment is:
- Effects arising from collision mortality during operation of the Proposed Development.

5.5 Baseline

Designated Sites

- 5.5.1 There are two sites with statutory designations for ornithological interest with potential connectivity to the Proposed Development. The details of the designations and qualifying features are summarised in **Table V2-5.6** and their locations are provided on **Appendix V2-5.1; Figure 1**.

Table V2-5.6 Ornithological Designated Sites

Site	Qualifying feature		Section of Proposed Development
Cuillins SPA	Golden eagle		Sections 1, 2 and 3
West Inverness-shire Lochs SPA	Black-throated diver Common scoter		Sections 5 and 6
West Inverness-shire Lochs Site of Special Scientific Interest (SSSI)	Black-throated diver Common scoter		Sections 5 and 6

- 5.5.2 As Sections 1, 2 and 3 of the Proposed Development pass through the Cuillins SPA and it cannot be concluded on the basis of objective information that a likely significant effect on the qualifying feature of the SPA cannot be ruled out, it is anticipated that an appropriate assessment under the 2017 Habitats Regulations will be required and this will be carried out by the competent authority (i.e. the Scottish Ministers). **Appendix V2-5.4** includes relevant information to enable the competent authority to undertake this assessment in respect of the Cuillins SPA.
- 5.5.3 Similarly, as Sections 5 and 6 of the Proposed Development pass immediately adjacent to the West Inverness-shire Lochs SPA, and it cannot be concluded on the basis of objective information that likely significant effects on two qualifying features of the SPA cannot be ruled out, it is anticipated that an appropriate assessment under the 2017 Habitats Regulations will be required and this will be carried out by the competent authority (i.e. Scottish Ministers). **Appendix V2-5.5** includes relevant information to allow the competent authority to undertake this assessment for the SPA. Impacts upon the notified features of the SSSI designation which spatially overlaps the West Inverness-shire Lochs SPA are also assessed in **Appendix V2-5.5**.

Section 0: Ardmore to Edinbane

Designated Sites

- 5.5.4 Section 0 of the Proposed Development is not covered by any statutory nature conservation designations for ornithological interests. The nearest site designated for ornithology is the Cuillins SPA which lies approximately 13 km to the south of Section 0. Hence, consideration of potential effects on the Cuillins SPA is not required for Section 0.

Species

- 5.5.5 Moorland breeding bird surveys carried out between April and July 2021 detected no notable species of conservation concern breeding within 500 m of the Proposed Development within Section 0. Similarly, scarce breeding bird surveys over the same period detected no breeding sites of scarce raptors or owls within 500 m of the Proposed Development within Section 0. A single male corncrake was recorded holding territory at Trumpan in May 2021; however, no further records of corncrake were made during dedicated surveys.
- 5.5.6 White-tailed eagle was recorded in flight on four occasions during scarce breeding bird surveys and once during moorland breeding bird surveys. White-tailed eagles are known to breed within the wider area however no breeding sites were located within 500 m of the Proposed Development within Section 0 during baseline

surveys, and there are no historical records of breeding in this area. Furthermore, all nests and roosts of white-tailed eagle would be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). As Section 0 closely follows the existing OHL for the majority of its route, and is of a similar scale, potential operational effects of the new OHL on white-tailed eagle would be **neutral** to those that currently exist, resulting in no material change to the existing effects. Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 0 affecting the regional white-tailed eagle population. Hence, despite their high NCI (**Table V2-5.2**), white-tailed eagle is not considered further in this assessment of the Proposed Development within Section 0.

- 5.5.7 Hen harrier was recorded in flight once during scarce breeding bird surveys. Hen harriers are known to breed within the wider area however no breeding sites were located within 500 m of the Proposed Development within Section 0. Furthermore, all nests of hen harrier would be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). As Section 0 closely follows the existing OHL for the majority of its route, and is of a similar scale, potential operational effects of the new OHL on hen harrier would be **neutral** to those that currently exist, resulting in no material change to the existing effects. Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 0 affecting the regional hen harrier population. Hence, despite their high NCI (**Table V2-5.2**), hen harrier is not considered further in this assessment of the Proposed Development within Section 0.
- 5.5.8 Merlin was recorded in flight once during scarce breeding bird surveys. It is suspected that merlin breed within the wider area however no breeding sites were located within 500 m of the Proposed Development within Section 0. Furthermore, all nests of merlin would be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). As Section 0 closely follows the existing OHL for the majority of its route, and is of a similar scale, potential operational effects of the new OHL on merlin would be **neutral** to those that currently exist, resulting in no material change to the existing effects. Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 0 affecting the regional merlin population. Hence, despite their high NCI (**Table V2-5.2**), merlin is not considered further in this assessment of the Proposed Development within Section 0.
- 5.5.9 Peregrine was recorded in flight on three occasions, once during scarce breeding bird surveys and twice during moorland breeding bird surveys within Section 0. No breeding sites were located within 500 m of the Proposed Development within Section 0. As Section 0 closely follows the existing OHL for the majority of its route, and is of a similar scale, potential operational effects of the new OHL on peregrine would be **neutral** to those that currently exist, resulting in no material change to the existing effects. Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 0 affecting the regional peregrine population. Hence, despite their high NCI (**Table V2-5.2**), peregrine is not considered further in this assessment of the Proposed Development within Section 0.
- 5.5.10 Red-throated diver was recorded in flight on three occasions during scarce breeding bird surveys and once during moorland breeding bird surveys in Section 0. The habitat within 500 m of the Proposed Development within Section 0 is intrinsically unsuitable for breeding red-throated divers and all observations were of birds flying at heights that would not put them at risk of collision. As Section 0 closely follows the existing OHL for the majority of its route, and is of a similar scale, potential operational effects of the new OHL on red-throated diver would be **neutral** to those that currently exist, resulting in no material change to the existing effects. Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 0 affecting the regional red-throated diver population. Hence, despite their high NCI (**Table V2-5.2**), red-throated diver is not considered further in this assessment of the Proposed Development within Section 0.
- 5.5.11 Golden plover was recorded in flight once in Section 0. A flock of 15 individuals were observed flying on 16 April 2021. It is likely that these were non-breeding adults returning to their breeding grounds further north. No

breeding sites were located within 500 m of the Proposed Development within Section 0. As Section 0 closely follows the existing OHL for the majority of its route, and is of a similar scale, potential operational effects of the new OHL on golden plover would be **neutral** to those that currently exist, resulting in no material change to the existing effects. Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 0 affecting the regional golden plover population. Hence, despite their high NCI (**Table V2-5.2**), golden plover is not considered further in this assessment of the Proposed Development within Section 0.

5.5.12 Corncrake was recorded on two occasions within Section 0. Once on 18 May 2021 during dedicated surveys and once on 17 May 2021 during moorland breeding bird surveys. No further records of corncrake were made after 18 May 2021. Whilst historically corncrake have been recorded breeding in the area around Trumpan, due to the sparsity of records it is considered unlikely that breeding occurred in 2021. However, as breeding may occur in the future, all nests of corncrake would be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). As Section 0 closely follows the existing OHL for the majority of its route, and is of a similar scale, potential operational effects of the new OHL on corncrake would be **neutral** to those that currently exist, resulting in no material change to the existing effects. Given this, and no flight activity was recorded, there is deemed to be no prospect of the Proposed Development within Section 0 affecting the regional corncrake population. Hence, despite their high NCI (**Table V2-5.2**), corncrake is not considered further in this assessment of the Proposed Development within Section 0.

5.5.13 No species of moderate or high NCI was identified for detailed consideration within the assessment of the Proposed Development within Section 0.

Section 1: Edinbane to North Sligachan

Designated Sites

5.5.14 The majority of the Proposed Development within Section 1 is not covered by any statutory nature conservation designations for ornithology. However, approximately 1.2 km of new OHL would pass through the Cuillins SPA which is classified for its breeding population of golden eagles. Hence, potential likely significant effects on the Cuillins SPA are considered in the assessment.

Species

5.5.15 Moorland breeding bird surveys detected three species of conservation concern breeding within 500 m of the Proposed Development within Section 1: curlew, greenshank and golden plover. Scarce breeding bird surveys located breeding sites of red-throated diver, white-tailed eagle, golden eagle and hen harrier within 2 km of the Proposed Development within Section 1. Flight activity was recorded for seven species of conservation concern within 2 km of the Proposed Development within Section 1: red-throated diver, golden eagle, white-tailed eagle, hen harrier, merlin, greenshank and curlew.

5.5.16 White-tailed eagle was recorded regularly during the course of baseline bird surveys. White-tailed eagles are known to breed within the wider area and in 2018 two breeding sites were located within 2 km of the Proposed Development within Section 1. Surveys in 2021 revealed that both these breeding sites had collapsed. It is suspected the first pair have moved further into Tungadal Forest at a distance greater than 500 m from the Proposed Development within Section 1. The second pair have built a new nest in the same location, near their old nest. A communal roost site was located within 500 m of the Proposed Development within Section 1. Hence, potential effects on white-tailed eagle are considered in the assessment of the Proposed Development within Section 1.

5.5.17 Golden eagle was recorded regularly during the course of baseline bird surveys in Section 1. Golden eagles are known to breed within the wider area and baseline surveys located one breeding site within 2 km of the Proposed Development within Section 1, however no roost sites were located. All nests and roost sites of

golden eagle would be identified and protected from disturbance during the construction and dismantling periods (see **Part 5.7: Embedded Protection Measures**). Given this, and the low level of flight activity recorded, there is deemed to be no prospect of the Proposed Development within Section 1 affecting the regional golden eagle population. Hence, despite their high NCI (**Table V2-5.2**), golden eagle is not considered further in the assessment of the Proposed Development within Section 1. However, potential effects on golden eagle are considered within the HRA under the 2017 Habitats Regulations (**Appendix V2-5.4**) as it is anticipated that the competent authority would be required to undertake an Appropriate Assessment. **Appendix V2-5.4** includes relevant information to enable the competent authority to undertake this assessment for the Cuillins SPA.

- 5.5.18 Hen harriers are known to breed within the wider area and one breeding site was located at a distance greater than 500 m from the Proposed Development within Section 1. However, all nests of hen harrier would be identified and protected from disturbance during the construction and dismantling periods (see **Part 5.7: Embedded Protection Measures**). Given this, and the low level of flight activity recorded, there is deemed to be no prospect of the Proposed Development within Section 1 affecting the regional hen harrier population. Hence, despite their high NCI (**Table V2-5.2**), hen harrier is not considered further in the assessment of the Proposed Development within Section 1.
- 5.5.19 Merlin was recorded in flight once during flight activity surveys. It is suspected that merlin breed within the wider area however no breeding sites were located within 500 m of the Proposed Development within Section 1. Furthermore, all nests of merlin will be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 1 affecting the regional merlin population. Hence, despite their high NCI (**Table V2-5.2**), merlin is not considered further in the assessment of the Proposed Development within Section 1.
- 5.5.20 Red-throated diver was recorded breeding at one location at a distance greater than 500 m from the Proposed Development within Section 1. All observations of birds flying were at heights that would not put them at risk of collision. Furthermore, all nests of red-throated diver will be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 1 affecting the regional red-throated diver population. Hence, despite their high NCI (**Table V2-5.2**), red-throated diver is not considered further in the assessment of the Proposed Development within Section 1.
- 5.5.21 Greenshank was recorded breeding at two locations in 2018 and 2021 within 500 m of the Proposed Development within Section 1. However, all nests of greenshank will be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). Given this, and the very low level of flight activity recorded, there is deemed to be no prospect of the Proposed Development within Section 1 affecting the regional greenshank population. Hence, despite their high NCI (**Table V2-5.2**), greenshank is not considered further in the assessment of the Proposed Development within Section 1.
- 5.5.22 Golden plover was recorded breeding at two locations in 2018 within 500 m of the Proposed Development within Section 1. No breeding sites were confirmed during 2021 surveys. However, all nests of golden plover will be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 1 affecting the regional golden plover population. Hence, despite their high NCI (**Table V2-5.2**) golden plover is not considered further in this assessment of the Proposed Development within Section 1.
- 5.5.23 Curlew was recorded breeding at five locations in 2018 within 500 m of the Proposed Development within Section 1. However, only one breeding site was confirmed during 2021 surveys. All nests of curlew will be

identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). Given this, there is deemed to be no prospect of the Proposed Development within Section 1 affecting the regional curlew population. Hence, despite their high NCI (**Table V2-5.2**) curlew is not considered further in this assessment of the Proposed Development within Section 1.

- 5.5.24 One species of high NCI was identified for consideration within the assessment for Section 1 of the Proposed Development: white-tailed eagle. As noted, there is a separate assessment in relation to the likely significant effects on golden eagle as reported in **Appendix V2-5.4**.

Section 2: North of Sligachan to Broadford

Designated Sites

- 5.5.25 Section 2 of the Proposed Development would pass through the Cuillins SPA, classified for 8 pairs of breeding golden eagles. Approximately 22 km of Section 2 passes through the Cuillins SPA, of which approximately 15 km would be underground. The remaining 7 km would comprise of a new steel lattice tower OHL. Hence, potential effects on the qualifying feature of the Cuillins SPA (golden eagle) are considered in the assessment.

Species

- 5.5.26 Golden eagle was recorded during the course of baseline bird surveys. Golden eagles are known to breed within the wider area however baseline surveys did not locate any breeding sites within 2 km of the Proposed Development within Section 2. As the existing wooden pole OHL is to be replaced in part (approximately 7 km) with taller steel lattice towers there would be a change to the vertical configuration of the OHL for this part of the OHL between Luib and Broadford Substation. However, as this part of Section 2 is located on low ground, these areas will be less important for foraging golden eagles (*sensu* Fielding *et al.*, 2019)¹⁹. Hence, the level of flight activity in these areas will be commensurately low. These predictions are further supported by the results of Golden Eagle Territory (GET) modelling (Fielding *et al.*, 2020)²⁰ and presented in **Appendix V2-5.4 Figures V2-5.4.1 and V2-5.4.2**. Given this, and that approximately 15 km of the Proposed Development within Section 2 is to be undergrounded, there is deemed to be no prospect of the Proposed Development within Section 2 affecting the regional golden eagle population. Hence, despite their high NCI (**Table V2-5.2**), golden eagle is not considered further in the assessment of the Proposed Development within Section 2. However, potential effects on golden eagle are considered within the HRA under the 2017 Habitats Regulations. It is anticipated that the competent authority would be required to undertake an Appropriate Assessment and **Appendix V2-5.4** provides the relevant information to enable the competent authority to undertake this assessment for the Cuillins SPA.
- 5.5.27 White-tailed eagle was recorded during the course of baseline bird surveys within Section 2. White-tailed eagles are known to breed within the wider area however baseline surveys did not locate any breeding sites within 2 km of the Proposed Development within Section 2. Given this, and that approximately 15 km of the Proposed Development within Section 2 is to be undergrounded, there is deemed to be no prospect of the Proposed Development within Section 2 affecting the regional white-tailed eagle population. Hence, despite their high NCI (**Table V2-5.2**), white-tailed eagle is not considered further in the assessment of the Proposed Development within Section 2.
- 5.5.28 Small numbers of common waterfowl, wader and gull species were recorded during the coastal bird surveys within Section 2, feeding or loafing on the open water or on the exposed mud. These included bar-tailed godwit, ringed plover, goosander, red-breasted merganser, curlew, greenshank, oystercatcher, common sandpiper,

¹⁹ Fielding, A.H., Haworth, P.F., Anderson, D., Benn, B., Dennis, R., Weston, E. & Whitfield, D.P. (2019). A simple topographical model to predict Golden Eagle *Aquila chrysaetos* space use during dispersal. *Ibis* 162:400–415.

²⁰ Fielding, A., Haworth, P.F., Anderson, D., Benn, S., Dennis, R., Weston, E. & Whitfield, D.P. (2020). A simple topographical model to predict Golden Eagle (*Aquila chrysaetos*) space use during dispersal. *Ibis*, 162, 400-415.

grey heron, redshank, great black-backed gull, herring gull, common gull, mallard, turnstone and goldeneye. Given the small numbers of birds, the limited spatial and temporal magnitude of effects and that the OHL would be undergrounded at Loch Ainort and Loch Sligachan, there is deemed to be no prospect of the Proposed Development within Section 2 affecting the regional populations of these coastal species. As such, these species are not considered further in the assessment of the Proposed Development within Section 2.

- 5.5.29 No species of moderate or high NCI were identified for consideration within the assessment of the Proposed Development within Section 2.

Section 3: Broadford to Kyle Rhea

Designated Sites

- 5.5.30 The majority of the Proposed Development within Section 3 is not covered by any statutory nature conservation designations for ornithology. However, approximately 0.8 km of new OHL passes through the Cuillins SPA which is classified for its breeding population of golden eagles. Hence, potential effects on the qualifying feature of the Cuillins SPA (golden eagle) are considered in the assessment.

Species

- 5.5.31 One active white-tailed eagle territory and an active golden eagle territory are located within 6 km of the Proposed Development within Section 3. Also, white-tailed eagles use the areas around the narrows at Kyle Rhea.
- 5.5.32 Golden eagle was recorded during the course of baseline bird surveys. Golden eagles are known to breed within the wider area however baseline surveys did not locate any breeding sites within 2 km of the Proposed Development within Section 3. No roost sites were located within 1.5 km of the Proposed Development within Section 3. Given this, and that the Proposed Development within Section 3 could be considered a like-for-like replacement in terms of potential ornithological constraints, albeit a slightly taller structure and in some places (i.e. within parts of the Kinloch and Kyleakin Hills SAC) at a higher elevation than the existing OHL, there is deemed to be no prospect of the Proposed Development within Section 3 affecting the regional golden eagle population. Hence, despite their high NCI (**Table V2-5.2**), golden eagle is not considered further in the assessment of the Proposed Development within Section 3. However, potential effects on golden eagle are considered within the HRA under the 2017 Habitats Regulations. It is anticipated that the competent authority would be required to undertake an Appropriate Assessment and **Appendix V2-5.4** provides the relevant information to enable the competent authority to undertake this assessment for the Cuillins SPA.
- 5.5.33 White-tailed eagle was recorded regularly during the course of baseline bird surveys. White-tailed eagles are known to breed within the wider area however no breeding sites were located within 2 km of the Proposed Development within Section 3. Surveys revealed a 'hot-spot' of flight activity at Kyle Rhea. Hence, potential effects on white-tailed eagle are considered in the assessment of the Proposed Development within Section 3.
- 5.5.34 Black-throated diver was recorded once during the study period within 2 km of the Proposed Development within Section 3. A pair was seen on Lochan na Saile in July 2018; however, breeding was not suspected. There were no further records from within Section 3. All nests of black-throated diver will be identified and protected from disturbance during the construction and dismantling periods (see **Part 5.7: Embedded Protection Measures**). Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 3 affecting the regional black-throated diver population. Hence, despite their high NCI (**Table V2-5.2**) black-throated diver is not considered further in this assessment of the Proposed Development within Section 3.
- 5.5.35 One species of high NCI was identified for consideration within the assessment of the Proposed Development within Section 3: white-tailed eagle.

Section 4: Kyle Rhea to Loch Cuaich

Designated Sites

- 5.5.36 Section 4 is not covered by any statutory nature conservation designations for ornithology. The nearest site designated for ornithology is the West Inverness-shire Lochs Special Protection Area (SPA) which lies approximately 4.6 km to the east of Section 4.

Species

- 5.5.37 Moorland breeding bird surveys detected one species of conservation concern breeding within 500 m of the Proposed Development within Section 4: golden plover. Scarce breeding bird surveys located two breeding sites of golden eagle within 2 km of the Proposed Development within Section 4. Flight activity was recorded for three species of conservation concern within 2 km of the Proposed Development within Section 4: black-throated diver, golden eagle and white-tailed eagle.
- 5.5.38 Golden eagle was recorded during the course of baseline bird surveys. Golden eagles are known to breed within the wider area and baseline surveys located four active territories within 6 km of the Proposed Development within Section 4. Of these, two breeding sites were located within 2 km of the Proposed Development within Section 4. Twenty-two flights were recorded, twelve of which were within 500 m of the Proposed Development within Section 4. Surveys revealed a 'hot-spot' of flight activity in proximity to the breeding sites. Hence, potential effects on golden eagle are considered further in the assessment of the Proposed Development within Section 4.
- 5.5.39 White-tailed eagle was recorded during the course of baseline bird surveys within Section 4. White-tailed eagles are known to breed within the wider area however baseline surveys did not locate any breeding sites within 2 km of the Proposed Development within Section 4. Three flights were recorded within 500 m of the Proposed Development within Section 4. As Section 4 of the Proposed Development closely follows the existing OHL for the majority of its route, and is of a similar scale, potential operational effects of the new OHL on ornithological interests would be **neutral** to those that currently exist, resulting in no material change to the existing effects. Given this, there is deemed to be no prospect of the Proposed Development within Section 4 affecting the regional white-tailed eagle population. Hence, despite their high NCI (**Table V2-5.2**), white-tailed eagle is not considered further in the assessment of the Proposed Development within Section 4.
- 5.5.40 Black-throated diver was recorded during the study period within 2 km of the Proposed Development within Section 4; however, no breeding sites were located. All nests of black-throated diver will be identified and protected from disturbance during the construction and dismantling periods (see **Part 5.7: Embedded Protection Measures**). As Section 4 of the Proposed Development closely follows the existing OHL for the majority of its route, and is of a similar scale, potential operational effects of the new OHL on ornithological interests would be **neutral** to those that currently exist, resulting in no material change to the existing effects. Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 4 affecting the regional black-throated diver population. Hence, despite their high NCI (**Table V2-5.2**) black-throated diver is not considered further in this assessment of the Proposed Development within Section 4.
- 5.5.41 Golden plover was recorded breeding at one location in 2018 within 500 m of the Proposed Development within Section 4. However, all nests of golden plover will be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 4 affecting the regional golden plover population. Hence, despite their high NCI (**Table V2-5.2**) golden plover is not considered further in this assessment of the Proposed Development within Section 4.

5.5.42 One species of high NCI was identified for consideration within the assessment of the Proposed Development within Section 4: golden eagle.

Section 5: Loch Cuaich to Invergarry

Designated Sites

5.5.43 Section 5 is not covered by any statutory nature conservation designations for ornithology. A length of Section 5 passes between some of the component lochs of the West Inverness-shire Lochs SPA, across moorland and areas of commercial forestry that are outwith the SPA. The SPA is classified for breeding black-throated diver and common scoter (on average 6.6 pairs and 7.8 pairs respectively). Hence, potential effects on the West Inverness-shire Lochs SPA are considered in the assessment.

Species

5.5.44 Moorland breeding bird surveys detected no notable species of conservation concern breeding within 500 m of Section 5. Scarce breeding bird surveys located breeding sites of golden eagle and osprey. Potentially up to three pairs of common scoter and two pairs of black-throated diver attempted to breed within 2 km of the Proposed Development within Section 5 during 2016 and 2018. Small numbers of lekking black grouse were recorded in 2018 and a lek holding eight males was recorded approximately 1.5 km from the Proposed Development within Section 5. Flight activity was recorded for eight species of conservation concern within 2 km of the Proposed Development within Section 5: black-throated diver, red-throated diver, common scoter, osprey, merlin, golden eagle, white-tailed eagle and black grouse.

5.5.45 Black-throated diver was recorded during the study period within 2 km of the Proposed Development within Section 5. All nests of black-throated diver would be identified and protected from disturbance during the construction and dismantling periods (see **Part 5.7: Embedded Protection Measures**). There were no indications from baseline surveys that black-throated diver regularly commuted over the existing OHL. Indeed, no flights by black-throated diver were recorded that would put them at risk of collision. However, black-throated diver may fly between the component lochs of the SPA and theoretically be vulnerable to collision. Hence, potential effects on black-throated diver are considered further in the assessment of the Proposed Development within Section 5. Furthermore, potential effects on black-throated diver are considered within the HRA under the 2017 Habitats Regulations. It is anticipated that the competent authority would be required to undertake an Appropriate Assessment and **Appendix V2-5.3** provides the relevant information to enable the competent authority to undertake this assessment for the West Inverness-shire Lochs SPA.

5.5.46 Red-throated diver was recorded in flight on four occasions during the study period however no breeding sites were located. All nests of red-throated diver would be identified and protected from disturbance during the construction and dismantling periods (see **Part 5.7: Embedded Protection Measures**). Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 5 affecting the regional red-throated diver population. Hence, despite their high NCI (**Table V2-5.2**) red-throated diver is not considered further in this assessment of the Proposed Development within Section 5.

5.5.47 Common scoter was recorded during the study period within 2 km of the Proposed Development within Section 5. All nests of common scoter will be identified and protected from disturbance during the construction and dismantling periods (see **Part 5.7: Embedded Protection Measures**). There were no indications from baseline surveys that common scoter regularly commuted over the existing OHL. Indeed, no flights by common scoter were recorded that would put them at risk of collision. However, common scoter may fly between the component lochs of the SPA and theoretically be vulnerable to collision. Hence, potential effects on common scoter are considered further in the detailed assessment of the Proposed Development within Section 5. Furthermore, potential effects on common scoter are considered within the HRA under the 2017 Habitats Regulations. It is anticipated that the competent authority would be required to undertake an Appropriate

Assessment and **Appendix V2-5.3** provides the relevant information to enable the competent authority to undertake this assessment for the West Inverness-shire Lochs SPA.

- 5.5.48 Osprey was recorded in flight on eleven occasions during the study period and attempted to breed at one location within the 2km survey buffer in 2016 and 2021. All nests of osprey will be identified and protected from disturbance during the construction and dismantling periods (see **Part 5.7: Embedded Protection Measures**). Given this, and the low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 5 affecting the regional osprey population. Hence, despite their high NCI (**Table V2-5.2**) osprey is not considered further in this assessment of the Proposed Development within Section 5.
- 5.5.49 Merlin was recorded in flight once during the study period. It is suspected that merlin breed within the wider area however no breeding sites were located within 500 m of the Proposed Development within Section 5. Furthermore, all nests of merlin will be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Mitigation Measures**). Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 5 affecting the regional merlin population. Hence, despite their high NCI (**Table V2-5.2**), merlin is not considered further in this assessment of the Proposed Development within Section 5.
- 5.5.50 Golden eagle was recorded during the course of baseline bird surveys. Golden eagles are known to breed within the wider area however baseline surveys did not locate any breeding sites within 2 km of the Proposed Development within Section 5. All nests of golden eagle will be identified and protected from disturbance during the construction period (see **Part 5.7: Embedded Protection Measures**). Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 5 affecting the regional golden eagle population. Hence, despite their high NCI (**Table V2-5.2**), golden eagle is not considered further in this assessment of the Proposed Development within Section 5.
- 5.5.51 White-tailed eagle was recorded in flight on five occasions during the study period, however no breeding sites were located and there are no historical records of breeding in this area. Given this, and the very low level of flight activity, there is deemed to be no prospect of the Proposed Development within Section 5 affecting the regional white-tailed eagle population. Hence, despite their high NCI (**Table V2-5.2**), white-tailed eagle is not considered further in this assessment of the Proposed Development within Section 5.
- 5.5.52 Black grouse was recorded during the course of baseline bird surveys. Small numbers of lekking black grouse were recorded in 2018 and a lek holding eight males was recorded approximately 1.5 km from the Proposed Development within Section 5. All nests and lek sites of black grouse will be identified and protected from disturbance during the construction and dismantling period (see **Part 5.7: Embedded Protection Measures**). Given this, the very low level of flight activity and the distance between the lek site and Section 5, there is deemed to be no prospect of the Proposed Development within Section 5 affecting the regional black grouse population. Hence, despite their moderate NCI (**Table V2-5.2**), black grouse is not considered further in this assessment of the Proposed Development within Section 5.
- 5.5.53 Two species of high NCI were identified for consideration within the assessment of the Proposed Development within Section 5: black-throated diver and common scoter.

Section 6: Invergarry to Fort Augustus

Designated Sites

- 5.5.54 Section 6 is not covered by any statutory nature conservation designations for ornithology. A part of the Proposed Development within Section 6 (underground cable) passes within 100 m of Loch Lundie, a component loch of the West Inverness-shire Lochs SPA. The SPA is classified for breeding black-throated diver

and common scoter (on average 6.6 pairs and 7.8 pairs respectively). Hence, potential effects on the West Inverness-shire Lochs SPA are considered in the assessment.

Species

- 5.5.55 Moorland breeding bird surveys detected no notable species of conservation concern breeding within 500 m of the Proposed Development within Section 6. Black-throated diver were recorded breeding at one location within 2 km of the Proposed Development within Section 6 during 2016 and 2018. A black grouse lek was identified in 2018 within 1.5 km of Section 6. Flight activity was recorded for two species of conservation concern within 2 km of the Proposed Development within Section 6: golden eagle and white-tailed eagle.
- 5.5.56 Through a combination of timing of works and implementation of a BPP (see **Part 5.7: Embedded Protection Measures**), all construction and dismantling effects on all species have been scoped out of assessment. The only remaining potential effect is collision mortality. However, as the entire length of Section 6 is to be underground there will be no long-term risk of collision mortality. Given this, there is deemed to be no prospect of the Proposed Development within Section 6 affecting regional populations of species of moderate or high NCI.
- 5.5.57 No species of moderate or high NCI were identified for consideration within the assessment of the Proposed Development within Section 6.

5.6 Future Baseline in the Absence of the Proposed Development

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

Implications of Climate Change

- 5.6.2 The UK Climate Projections (UKCP18)²¹ for temperature and precipitation by 2080 (assumed to be the perceived lifetime of the Proposed Development) based on a precautionary intermediate representative concentration pathway for greenhouse gases of 6.0, suggests that Scotland will become hotter and drier in the summer (June to August) and warmer and wetter in the winter (December to February).
- 5.6.3 If the overwinter and spring weather conditions are suitable for adults to reach breeding condition, then for many species the main period of concern will be the months in spring and early summer when they nest and the chicks require feeding. Low cloud and rainfall can adversely affect the foraging activities of birds which forage in flight such as raptors and insectivorous birds and affects their ability to breed or feed chicks. Furthermore, the availability of invertebrates as food for chicks of species such as hirundines and swifts, gamebirds and waders may be affected by the alteration in the rainfall. For ground nesting species (e.g. waders, gamebirds and hen harrier) eggs and chicks could be subject to chilling due to rainfall. The nests of other species such as raptors, which often nest in exposed locations, could also be susceptible to chilling. Dry conditions in summer may benefit breeding success by improving conditions for the chicks, as long as the temperatures do not go too high. Warm and wet winters may well improve growing conditions for vegetation and hence provide better food for geese and swans.

5.7 Embedded Protection Measures

- 5.7.1 The assessment has been undertaken in the knowledge that a Bird Protection Plan (BPP), devised in consultation with NatureScot, would be in place prior to the onset of construction and dismantling activities (see **Appendix V1-3.5: General Environmental Management Plans (GEMPs) and Species Protection Plans**

²¹ UK Climate Projections (UKCP18) <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index>

(SPPs) which includes the Applicant's Bird SPP). The BPP describes the survey methods for the identification of sites used by protected birds and details protocols for the prevention, or minimisation, of disturbance to birds as a result of activities associated with the Proposed Development. The BPP would be overseen by the ECoW.

5.7.2 In summary, **Appendix V1-3.5: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)** describes the surveys to locate the nests or other key sites (e.g. roosts) of birds listed in Schedules 1 and 1A of the WCA, in advance of construction and dismantling works progressing. In the event that an active nest or roost of a Schedule 1 or Schedule 1A species is discovered within distances given by Ruddock & Whitfield (2007)²² (or within a 500 m radius of the nest for Schedule 1 species not listed), a disturbance risk assessment would be prepared under the BPP and any measures considered necessary to safeguard the breeding attempt or roost (e.g., exclusion zones or restrictions on timing of works), would be submitted to NatureScot for agreement before recommencing work. Similarly, although the species is not listed on Schedule 1, surveys to locate black grouse lek sites would be undertaken and appropriate measures to safeguard relevant lek sites would be agreed with NatureScot and included within the BPP. Standard forestry guidance would be followed in the case of tree felling operations.

5.8 Species Scoped Out of Further Assessment

5.8.1 On the basis of the desk based and field survey work undertaken (see **Appendices V2-5.1 to V2-5.3 and Paragraphs 5.5.1 to 5.5.57** of this Chapter), the professional judgement of the EIA team, experience from other relevant projects, consultations and policy guidance, several species have been 'scoped out' of the assessment. Specifically, following due consideration of the potential for the Proposed Development to give rise to significant effects on relevant ornithological interests, it has been concluded that significant effects are unlikely. Therefore, a detailed assessment of these species, noted below, has been deemed not to be required under the EIA Regulations.

5.8.2 Hence, effects on the following bird populations are scoped out of this assessment: wildfowl, waders, gulls, red-throated diver, corncrake, hen harrier, osprey, peregrine, merlin and passerines. Baseline field studies recorded infrequent use of the area near the Proposed Development site by these species or species groups. Although these species or species groups were present, they were recorded infrequently, and in relatively small numbers (**Appendices V2-5.1 to V2-5.3**). Hence, their reliance on habitats (e.g., for breeding, roosting or foraging) and airspace in the vicinity of the Proposed Development was clearly very low, and the Proposed Development would have negligible effects on relevant populations of these species or species groups. Consequently, given regional abundance and/or behavioural sensitivity there is considered to be no potential for any adverse effect on regional populations as a result of construction, operational or dismantling activities (see **Part 5.5 Baseline**).

5.8.3 Effects on all bird species classified as of low Nature Conservation Importance have also been scoped out of further assessment.

5.9 Information on Species Considered Further in the Assessment

5.9.1 Each Section of the Proposed Development is assessed individually and then the Proposed Development as a whole. Based on the results of the desk based and field surveys, **Table V2-5.7** sets out the species included within the detailed assessment for each relevant Section and the NCI (or 'sensitivity') of the species (in accordance with **Table V2-5.2**).

²² Ruddock, M. & Whitfield, D.P. (2007). A review of disturbance distances in selected bird species. Report from Natural Research (Projects) Ltd. To Scottish Natural Heritage.

Table V2-5.7 Nature Conservation Importance of Species Potentially Affected by the relevant Section of the Proposed Development

Nature Conservation Importance (NCI)	Species	Section of the Proposed Development						
		0	1	2	3	4	5	6
High	Golden eagle					✓		
	White-tailed eagle		✓		✓			
	Black-throated diver						✓	
	Common scoter						✓	

5.9.2 Information on the conservation status is described for these species below, which will then be utilised in the assessments of the individual Sections and the Proposed Development as a whole.

Golden eagle

5.9.3 Golden eagle is listed on Annex 1 of the Birds Directive and on Schedule 1 of the WCA and thus is a species of high NCI (**Table V2-5.2**). It is a scarce resident breeding species in Scotland. It is resident in the survey buffers of Sections 1, 2, 3, 4 and 5 of the Proposed Development but taken forward for detailed assessment in Section 4 only (as per **Table V2-5.7**) for the purposes of the EIA Report.

5.9.4 Golden eagles occupy a range of habitats from open montane areas, through woodland to sea cliffs. They are closely associated with mountainous areas and unenclosed and unimproved habitats such as deer forest and upland sheep-walk (Hardey *et al.*, 2013)¹⁰. Golden eagles reach breeding age and maturity at four to five years and established pairs are largely sedentary, occupying a usually exclusive home range which contains their nesting territory and hunting range, which they defend against intruding eagles (Watson, 2010)²³. During the breeding season golden eagle foraging ranges from the nest site are recorded as a core of 6 km with maximum range of up to 9 km (SNH, 2016)²⁴. Food consists of medium sized prey such as grouse, hares, rabbits and carrion (Whitfield *et al.*, 2008)²⁵. Most sub-adult golden eagles are highly mobile and have a high exploratory potential. Satellite tracking of dispersing juveniles in Scotland has shown that most of their movements occur within 30-50 km of their natal site but longer distance movements commonly take individuals over 100 km from their natal site (Watson, 2010)²³.

5.9.5 The Scottish population of golden eagles was assessed in 2015 at 508 territorial pairs and is in favourable conservation status. The study areas for the assessment of effects on golden eagle is the Western Seaboard Natural Heritage Zone (NHZ 6), North Highland Natural Heritage Zone (NHZ 7) and Western Highlands Natural Heritage Zone (NHZ 8), as defined by SNH (2000)¹². The golden eagle conservation framework (Whitfield *et al.*, 2008)²⁵ assessed the conservation status of golden eagle as favourable in NHZ 6 and unfavourable in NHZ 7 and NHZ 8.

White-tailed eagle

5.9.6 White-tailed eagle is listed on Annex 1 of the Birds Directive and on Schedule 1 of the WCA and thus is a species of high NCI (**Table V2-5.2**). It is a scarce resident breeding species in Scotland. It is resident in the

²³ Watson, J. (2010). The Golden Eagle. T & A D Poyser, London.

²⁴ SNH. (2016). Guidance: Assessing Connectivity with Special Protection Areas (SPAs). SNH Battleby, UK.

²⁵ Whitfield, D.P., Fielding, A.H., McLeod, D.R.A. & Haworth, P.F. (2008). A conservation framework for golden eagles: implications for their conservation and management in Scotland. Scottish Natural Heritage Commissioned Report No.193 (ROAME No. F05AC306).

survey buffers of Sections 1, 2, 3, 4 and 5 of the Proposed Development but taken forward for detailed assessment in Sections 1 and 3 only (as per **Table V2-5.7**).

- 5.9.7 White-tailed eagle home ranges are located near open water, either coastal or fresh. They build their eyries in a variety of locations, generally below 300 m above sea level (a.s.l), and below 150 m a.s.l is typical (Hardey *et al.*, 2013)¹⁰. Adult white-tailed eagles are predominantly sedentary, remaining in their home ranges all year round. White-tailed eagles usually breed for the first time at five years of age, although this can vary between three to seven years of age (Helander & Stjernberg, 2002)²⁶. White-tailed eagles congregate at communal roosts in winter. These roosts generally contain immatures and non-paired adults, however some local breeding adults may also join these roosts, although most territorial adults roost in their home ranges (Hardey *et al.*, 2013)¹⁰.
- 5.9.8 The Scottish population of white-tailed eagles was estimated in 2020 at 127 territorial pairs (Challis *et al.*, 2022)²⁷ and is in favourable conservation status. The study areas for the assessment of effects on white-tailed eagle is the Western Seaboard Natural Heritage Zone (NHZ 6), North Highland Natural Heritage Zone (NHZ 7) and Western Highlands Natural Heritage Zone (NHZ 8), as defined by SNH (2000)¹⁸. The conservation status of white-tailed eagle is favourable in NHZ 6, NHZ 7 and NHZ 8.

Common scoter

- 5.9.9 Common scoter is listed on Annex 1 of the Birds Directive and on Schedule 1 of the WCA and thus is a species of high NCI (**Table V2-5.2**). It is a scarce breeding duck in Scotland where it is at the southern end of its world distribution. It is resident in the survey buffers of Sections 5 and 6 of the Proposed Development but taken forward for detailed assessment in Section 5 only (as per **Table V2-5.7**).
- 5.9.10 Common scoter breed on tundra often near lakes and pools but also around lochs and move to the sea in the autumn. They nest in tall vegetation with small islands often used, but sometimes a long way from fresh water (Forrester *et al.*, 2007)²⁸. The most recent Scottish population estimate is 52 pairs and an average of 7.8 pairs is quoted in the West Inverness-shire SPA citation. The latest assessment of the SPA population during site condition monitoring in 2018 is unfavourable declining. Information from RSPB and the baseline surveys illustrated that Loch Garry is one of the lochs within the SPA (along with Loch Loyne – which lies approximately 2.7 km north of the Proposed Development) which is important to this species. The birds may fly between the component lochs of the SPA and are theoretically vulnerable to collision. These flights are more likely to occur where the intervening topography is lowest as these species follow the lowest topography, minimising effort. They will also fly along the glens and lochs to reach other large lochs in the area and the sea.

Black-throated diver

- 5.9.11 Black-throated diver is listed on Annex 1 of the Birds Directive and on Schedule 1 of the WCA and thus is a species of high NCI (**Table V2-5.2**). It is a scarce breeding species in Scotland. It is resident in the survey buffers of Sections 5 and 6 of the Proposed Development but taken forward for detailed assessment in Section 5 only (as per **Table V2-5.7**).
- 5.9.12 Black-throated diver breed on the margins of freshwater lochs and move to the sea in the autumn. 60% of birds breed on lochs of area less than 1 km², with territories often including nearby lochs which are used for feeding and they are strongly traditional in their use of sites (Forrester *et al.*, 2007)²⁸. The most recent Scottish

²⁶ Herlander, B. & Stjernberg, T. (2002). Action Plan for the conservation of white-tailed sea eagle (*Haliaeetus albicilla*). BirdLife International Sweden and Council of Europe, Strasbourg.

²⁷ 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.

²⁸ Forrester, R.W., Andrews, I.J., McInerny, C.J., Murray, R.D., McGowan, R.Y., Zonfrillo, B., Betts, M.W., Jardine, D.C. & Grundy, D.S. (eds) 2007. The Birds of Scotland. The Scottish Ornithologists' Club, Aberlady.

population estimate is 176 pairs (Wilson *et al.*, 2015)²⁹ with 14 in the NHZ 7, and an average of 6.6 pairs is quoted in the West Inverness-shire Lochs SPA citation. The latest assessment of the SPA population during site condition monitoring in 2010 is favourable maintained. Information from RSPB and the baseline surveys illustrated that Loch Garry and Loch Lundie were lochs within the SPA (along with Loch Loyne and Loch Cluanie – over 2.7 km north of the Proposed Development) which are utilised by this species. The birds may fly between the component lochs of the SPA and are theoretically vulnerable to collision. These flights are more likely to occur where the intervening topography is lowest as these species follow the lowest topography, minimising effort. They will also fly along the glens and lochs to reach other large lochs in the area and the sea.

5.10 Assessment of Significance of Effects

Section 0: Ardmore to Edinbane

Cuillins SPA

- 5.10.1 The qualifying species of the SPA is golden eagle. NatureScot connectivity guidance (SNH, 2016)²⁴ suggests that golden eagle has a core foraging range from nest sites during the breeding season of 6 km, with a maximum range of up to 9 km. Therefore, due to the separation distance between the SPA and Section 0 of 13 km, it is predicted that the construction and operation of the Proposed Development in Section 0 would not result in a likely significant effect on the only qualifying feature of this SPA. Consequently, an assessment of effects on the integrity of the SPA is not required under the Habitats Regulations for the Proposed Development within Section 0.

Predicted Construction and Dismantling Effects

- 5.10.2 As noted in paragraph 5.4.22 all potential effects arising from the construction of the Proposed Development and the dismantling of the existing OHL were scoped out of detailed assessment for the reasons explained in Part 5.4 of this Chapter. On that basis it is concluded that the likely effects of the Proposed Development on all bird species within Section 0, from construction and dismantling, are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Predicted Operational Effects

- 5.10.3 No potential adverse operational effects predicted to result from the operation of the Proposed Development in Section 0 were required to be assessed in detail and it is concluded that the likely effects of the Proposed Development on all bird species within Section 0 are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Mitigation

- 5.10.4 As all effects arising from the construction, operational or dismantling phases of the Proposed Development within Section 0 are **not significant** no additional mitigation, other than the Embedded Protection Measures that would be implemented by the Applicant (see **Part 5.7**), is proposed.

Residual Effects

- 5.10.5 The residual effects on all bird species within Section 0 during construction, operational or dismantling phases are **negligible** and therefore **not significant** under the EIA Regulations.

Cumulative Effects

- 5.10.6 Other projects of relevance to the consideration of cumulative effects within Section 0 include Edinbane Substation and Glen Ullinish Wind Farm (see **Volume 1, Chapter 5: EIA Process and Methodology**).

²⁹ Wilson, M.W., Austin, G.E., Gillings, S. & Wernham, C.V. (2015) Natural Heritage Zone Bird Population Estimates. SWBSG Commissioned report number SWBSG_1504 pp72

However, given there are no predicted significant adverse residual effects 'in isolation' for the construction, operational or dismantling phases of the Proposed Development within Section 0, i.e. all effects are assessed as **negligible**, it is considered highly unlikely that Section 0 would contribute cumulatively to adverse effects on the conservation status of regional populations of any bird species. Consequently, there is no requirement for a cumulative assessment.

Section 1: Edinbane to North of Sligachan

Cuillins SPA

- 5.10.7 The qualifying species of the Cuillins SPA is golden eagle and as noted in paragraph 5.5.14 above, approximately 1.2 km of the new OHL in Section 1 would pass through the SPA. It cannot be concluded on the basis of objective information that a likely significant effect on golden eagle can be ruled out. Consequently, it is anticipated that the competent authority may consider that an appropriate assessment of whether there would be an adverse effect on the integrity of the SPA under the Habitats Regulations is required. Information is provided in **Appendix V2-5.4: Shadow Habitats Regulations Appraisal for the Cuillins Special Protection Area** to enable the Scottish Ministers to conduct an appropriate assessment in respect of the potential effects of the Proposed Development on the integrity of the Cuillins SPA. This information demonstrates that having regard to the conservation objectives of the site, the Proposed Development would not have an adverse effect on the integrity of the SPA.

Predicted Construction and Dismantling Effects

- 5.10.8 As noted in paragraph 5.4.22 all potential effects arising from the construction of the Proposed Development and the dismantling of the existing OHL were scoped out of detailed assessment for the reasons explained in Part 5.4 of this Chapter. On that basis it is concluded that the likely effects of the Proposed Development on all bird species within Section 1, from construction and dismantling, are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Predicted Operational Effects – Collision Risk

- 5.10.9 White-tailed eagle is listed on Annex 1 of the Birds Directive and on Schedule 1 and 1A of the WCA, and therefore a species of high NCI (**Table V2-5.2**).
- 5.10.10 The study area for the assessment of effects on white-tailed eagle is the Western Seaboard Natural Heritage Zone (NHZ 6), as defined by SNH (2000)¹⁷. The population of white-tailed eagle in NHZ 6 is considered to be in favourable conservation status.
- 5.10.11 The factors that contribute to a species' vulnerability to OHL collisions are generally well known. Species that flock, have rapid flight, and are large with slow manoeuvrability (high wing loading and low wing aspect ratio) are especially vulnerable, with younger individuals and nocturnal migrants exhibiting further vulnerability

(Crivelli *et al.*, 1988³⁰; Bevanger, 1998³¹; Erickson *et al.*, 2001³²; Crowder & Rhodes, 2002³³; Manville, 2005³⁴; Jenkins *et al.*, 2010³⁵)

5.10.12 The bird species that are most likely to collide with OHLs are those that are less able to cope with artificial obstacles (Bevanger, 1994)³⁶. Typically, these species include ground-dwelling species (e.g. bustards and capercaillies), waterbirds (e.g. wildfowl and shorebirds), thermal soarers (e.g. storks and cranes) and birds that form large flocks (e.g. gulls) (Bevanger, 1998³¹; Janss, 2000³⁷). Despite being thermal soarers, eagles are generally reported as collision victims in low numbers, probably due to a low number of span crossings per day and their solitary habits (Janss, 2000)³⁷. Bevanger (1998)³¹ classifies eagles as having low to medium wing load and low aspect, so are classified as low susceptibility to collision. As such, white-tailed eagle is generally considered to be at lower risk of collision with OHLs. The population of white-tailed eagle is increasing across NHZ 6, which suggests that collision mortality is not limiting population growth.

5.10.13 Therefore, due to the likely low frequency of predicted flight activity the long-term potential effects of collision due to the Proposed Development on white-tailed eagle along Section 1 of the Proposed Development are predicted to be **negligible** and therefore **not significant** in terms of the EIA Regulations.

5.10.14 However, current NatureScot guidance (SNH, 2016)² recommends that the results of baseline surveys should be analysed to identify any 'hot-spots' of activity where mitigation may be required. The results of baseline surveys have identified a 'hot-spot' of white-tailed eagle flight activity around the known roost site. The potential for collision mortality is elevated due to the increase in flight frequency and the low-level light conditions when white-tailed eagles are arriving at or leaving from the roost site.

5.10.15 Line marking remains the most common and practical form of wire collision mitigation worldwide, and research shows that it can reduce bird collisions by 50-94% (evidence reviewed in Prinsen *et al.*, 2012³⁸). Therefore, it is proposed that line marking along the length of OHL extending either side of the known roost site within Section 1 will be undertaken.

Mitigation

5.10.16 Line marking is proposed, extending either side of the known white-tailed eagle roost site, for the duration of the operational period of the Proposed Development within Section 1. Markers will be spaced at 5 m intervals and maintained for the duration of the operational period. Refer also to the Embedded Protection Measures that would be implemented by the Applicant (see **Part 5.7**).

³⁰ Crivelli, A.J., Jerrentrup, H. & Mitchev, T. (1988). Electric power lines: a cause of mortality in *Pelecanus crispus* Bruch, a world endangered species. Col. Waterbirds 11: 301-305.

³¹ Bevanger, K. (1998). Biological and conservation aspects of bird mortality caused by electric power lines: a review. Biological Conservation 86:67–76.

³² Erickson, W. P., Johnson, G. D., Strickland, M. D., Sernka, K. J. & Good, R. E. (2001). Avian collisions with wind turbines: a summary of existing studies and comparisons to other sources of avian collision mortality in the United States. Western Ecosystems Technology, Inc., Cheyenne, Wyoming, USA.

³³ Crowder, M. R. & Rhodes, O. E. (2002). Relationships between wing morphology and behavioural responses to unmarked power transmission lines. Pages 403–410 in J. W. Goodrich-Mahoney, D. F. Mutrie, and C. A. Guild, editors. The Seventh International Symposium on Environmental Concerns in Rights-of-Way Management. Elsevier, Boston, Massachusetts, USA.

³⁴ Manville, A. M., II. (2005). Bird strikes and electrocution at power lines, communication towers, and wind turbines: state of the art and state of the science—next step toward mitigation. U.S. Forest Service General Technical Report PSWGTR-191, Washington, D.C., USA.

³⁵ Jenkins, A. R., Smallie, J. J., & Diamond, M. (2010). Avian collisions with power lines: a global review of causes and mitigation with a South African perspective. Biological Conservation 10:1–16.

³⁶ Bevanger, K. (1994). Bird interactions with utility structures: collision and electrocution, causes and mitigating measures. Ibis 136(4): 412-425.

³⁷ Janss, G.F.E. (2000). Avian mortality from power lines: a morphologic approach of a species-specific mortality. Biological Conservation 95(3): 353-359.

³⁸ Prinsen, H.A.M., Smallie, J.J., Boere, G.C. & Pires, N. (Compilers). (2012). Guidelines on How to Avoid or Mitigate Impact of Electricity Power Grids on Migratory Birds in the African-Eurasian Region. AEW Conservation Guidelines No. 14, CMS Technical Series No. 29, AEW Technical Series No. 50, CMS Raptors MOU Technical Series No. 3, Bonn, Germany.

Residual Effects

5.10.17 As line marking is proposed, extending either side of the known roost site, for the duration of the operational period of the Proposed Development within Section 1 the residual effects on all bird species are **negligible** and therefore **not significant** under the EIA Regulations.

Cumulative Effects

5.10.18 Other projects of relevance to the consideration of cumulative effects within Section 1 include Edinbane Substation and Glen Ullinish Wind Farm (see **Volume 1, Chapter 5: EIA Process and Methodology**). However, given there are no predicted adverse residual effects 'in isolation' for the construction, operational or dismantling phases of the Proposed Development within Section 1, i.e. all effects are assessed as **negligible**, it is considered highly unlikely that Section 1 would contribute cumulatively to adverse effects on the conservation status of regional populations of any bird species. Consequently, there is no requirement for a cumulative assessment.

Section 2: North of Sligachan to Broadford*Cuillins SPA*

5.10.19 The qualifying species of the Cuillins SPA is golden eagle and as noted in paragraph 5.5.25 above, approximately 7 km of the new OHL in Section 2 would pass through the SPA. It cannot be concluded on the basis of objective information that a likely significant effect on golden eagle can be ruled out. Consequently, it is anticipated that the competent authority may consider that an appropriate assessment of whether there would be an adverse effect on the integrity of the SPA under the Habitats Regulations is required. Information is provided in **Appendix V2-5.4: Shadow Habitats Regulations Appraisal for the Cuillins Special Protection Area** to enable the Scottish Ministers to conduct an assessment of potential effects of the Proposed Development on the integrity of the Cuillins SPA. This information demonstrates that having regard to the conservation objectives of the site, the Proposed Development would not have an adverse effect on the integrity of the SPA.

Predicted Construction and Dismantling Effects

5.10.20 As noted in paragraph 5.4.22 all potential effects arising from the construction of the Proposed Development and the dismantling of the existing OHL were scoped out of detailed assessment for the reasons explained in Part 5.4 of this Chapter. On that basis it is concluded that the likely effects of the Proposed Development on all bird species within Section 2, from construction and dismantling, are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Predicted Operational Effects

5.10.21 No potentially adverse effects were required to be assessed in detail and it is concluded that the likely effects of the Proposed Development on all bird species within Section 2 are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Mitigation

5.10.22 As all effects arising from the construction, operational or dismantling phases of the Proposed Development within Section 2 are considered be **not significant** no additional mitigation, other than the Embedded Protection Measures that would be implemented by the Applicant (see **Part 5.7**), is proposed.

Residual Effects

5.10.23 The residual effects on all bird species during construction, operational or dismantling phases of the Proposed Development in Section 2 are **negligible** and therefore **not significant** under the EIA Regulations.

Cumulative Effects

5.10.24 Other projects of relevance to the consideration of cumulative effects within Section 2 include Broadford Substation (see **Volume 1, Chapter 5: EIA Process and Methodology**). However, given there are no predicted adverse residual effects 'in isolation' for the construction, operational or dismantling phases of the Proposed Development within Section 2, i.e. all effects are assessed as **negligible**, it is considered highly unlikely that Section 2 would contribute cumulatively to adverse effects on the conservation status of regional populations of any bird species. Consequently, there is no requirement for a cumulative assessment.

Section 3: Broadford to Kyle Rhea

Cuillins SPA

5.10.25 The qualifying species of the Cuillins SPA is golden eagle and as noted in paragraph 5.5.30 above, approximately 0.8 km of the new OHL in Section 3 would pass through the SPA. It cannot be concluded on the basis of objective information that a likely significant effect on golden eagle can be ruled. Consequently, it is anticipated that the competent authority may consider that an appropriate assessment of whether there would be and adverse effect on the integrity of the SPA under the Habitats Regulations is required. Information is provided in **Appendix V2-5.4: Shadow Habitats Regulations Appraisal for the Cuillins Special Protection Area** to enable the Scottish Ministers to conduct an assessment of potential effects of the Proposed Development on the integrity of the Cuillins SPA. This information demonstrates that having regard to the conservation objectives of the site, the Proposed Development would not have an adverse effect on the integrity of the SPA.

Predicted Construction and Dismantling Effects

5.10.26 As noted in paragraph 5.4.22 all potential effects arising from the construction of the Proposed Development and the dismantling of the existing OHL were scoped out of detailed assessment for the reasons explained in Part 5.4 of this Chapter. On that basis it is concluded that the likely effects of the Proposed Development on all bird species within Section 3, from construction and dismantling, are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Predicted Operational Effects – Collision Risk

5.10.27 White-tailed eagle is listed on Annex 1 of the Birds Directive and on Schedule 1 and 1A of the WCA, and therefore a species of high NCI (**Table V2-5.2**).

5.10.28 The study area for the assessment of effects on white-tailed eagle is the Western Seaboard Natural Heritage Zone (NHZ 6), as defined by SNH (2000)¹⁸. The population of white-tailed eagle in NHZ 6 is considered to be in favourable conservation status.

5.10.29 The factors that contribute to a species' vulnerability to OHL collisions are generally well known. Species that flock, have rapid flight, and are large with slow manoeuvrability (high wing loading and low wing aspect ratio) are especially vulnerable, with younger individuals and nocturnal migrants exhibiting further vulnerability (Crivelli *et al.*, 1988³⁰; Bevanger, 1998³¹; Erickson *et al.*, 2001³²; Crowder & Rhodes, 2002³³; Manville, 2005³⁴; Jenkins *et al.*, 2010³⁵).

5.10.30 The bird species that are most likely to collide with OHLs are those that are less able to cope with artificial obstacles (Bevanger, 1994)³⁶. Typically, these species include ground-dwelling species (e.g. bustards and capercaillies), waterbirds (e.g. wildfowl and shorebirds), thermal soarers (e.g. storks and cranes) and birds that form large flocks (e.g. gulls) (Bevanger, 1998³¹; Janss, 2000³⁷). Despite being thermal soarers, eagles are generally reported as collision victims in low numbers, probably due to a low number of span crossings per day and their solitary habits (Janss, 2000)³⁷. Bevanger (1998)³¹ classifies eagles as having low to medium wing load and low aspect, so are classified as low susceptibility to collision. As such, white-tailed eagle is generally

considered to be at lower risk of collision with OHLs. The population of white-tailed eagle is increasing across NHZ 6, which suggests that collision mortality is not limiting population growth.

5.10.31 However, current NatureScot guidance (SNH, 2016)⁸ recommends that the results of baseline surveys should be analysed to identify any 'hot-spots' of activity where mitigation may be required. The results of baseline surveys have identified a 'hot-spot' of white-tailed eagle flight activity around Kyle Rhea.

5.10.32 **Appendix V2-5.1 Figures 9 and 10** show the distribution of flight activity and perches of white-tailed eagle recorded during baseline surveys in this location. The substantial majority of white-tailed eagle activity is to the south of the crossing tower at Kyle Rhea within Section 3 of the Proposed Development. Therefore, the frequency of flight activity in proximity to the Proposed Development within Section 3 is not considered to be significantly increased and is unlikely to give rise to an increase in collision effects.

5.10.33 Therefore, the long-term potential effects of collision due to the Proposed Development on white-tailed eagle within Section 3 are predicted to be **negligible** and therefore **not significant** in terms of the EIA Regulations.

Mitigation

5.10.34 As all effects arising from the construction, operational or dismantling phases of the Proposed Development within Section 3 are considered to be **not significant** no additional mitigation, other than the Embedded Protection Measures that would be implemented by the Applicant (see **Part 5.7**), is proposed.

Residual Effects

5.10.35 The residual effects on all bird species during construction, operational or dismantling phases of the Proposed Development within Section 3 are **negligible** and therefore **not significant** under the EIA Regulations.

Cumulative Effects

5.10.36 Other projects of relevance to the consideration of cumulative effects within Section 3 include Broadford Substation (see **Volume 1, Chapter 5: EIA Process and Methodology**). However, given there are no predicted adverse residual effects 'in isolation' for the construction, operational or dismantling phases of the Proposed Development within Section 3, i.e. all effects are assessed as **negligible**, it is considered highly unlikely that Section 3 would contribute cumulatively to adverse effects on the conservation status of regional populations of any bird species. Consequently, there is no requirement for a cumulative assessment.

Section 4: Kyle Rhea to Loch Cuaich

West Inverness-shire Lochs SPA

5.10.37 The qualifying species of the SPA are breeding black-throated diver and common scoter. NatureScot connectivity guidance (SNH, 2016)²⁴ suggests that black-throated diver has a core foraging range from nest sites during the breeding season of less than 10 km. No distance is provided for common scoter. However, flights by both species are more likely to occur where the intervening topography is lowest as these species follow the lowest topography, minimising effort. They will also fly along sea lochs and lochs to reach other large waterbodies in the area and the sea.

5.10.38 No flights by either species were recorded passing over the Proposed Development and all flights were at elevations below 10 m above water level. Other flights recorded incidentally during other surveys were also over waterbodies.

5.10.39 Therefore, it is predicted that this would not result in a likely significant effect on either of the qualifying features of the SPA within Section 4. Consequently, an assessment of effects of the Proposed Development within Section 4 on the integrity of the SPA is not required under the Habitats Regulations.

Predicted Construction and Dismantling Effects

5.10.40 As noted in paragraph 5.4.22 all potential effects arising from the construction of the Proposed Development and the dismantling of the existing OHL were scoped out of detailed assessment for the reasons explained in Part 5.4 of this Chapter. On that basis it is concluded that the likely effects of the Proposed Development on all bird species within Section 4, from construction and dismantling, are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Predicted Operational Effects – Collision Risk

5.10.41 Golden eagle is listed on Annex 1 of the Birds Directive and on Schedule 1 and 1A of the WCA, and therefore is a species of high NCI (**Table V2-5.2**).

5.10.42 The study area for the assessment of effects on golden eagle is the Western Highlands Natural Heritage Zone (NHZ 8), as defined by SNH (2000)¹⁷. The population of golden eagle in NHZ 8 is considered to be in unfavourable conservation status, however this due to the NHZ's poor fledging rate (Whitfield *et al.*, 2008)²⁵.

5.10.43 The factors that contribute to a species' vulnerability to OHL collisions are generally well known. Species that flock, have rapid flight, and are large with slow manoeuvrability (high wing loading and low wing aspect ratio) are especially vulnerable, with younger individuals and nocturnal migrants exhibiting further vulnerability (Crivelli *et al.*, 1988³⁰; Bevanger, 1998³¹; Erickson *et al.*, 2001³² Crowder & Rhodes, 2002³³; Manville, 2005³⁴; Jenkins *et al.*, 2010³⁵).

5.10.44 The bird species that are most likely to collide with OHLs are those that are less able to cope with artificial obstacles (Bevanger, 1994)³⁶. Typically, these species include ground-dwelling species (e.g. bustards and capercaillies), waterbirds (e.g. wildfowl and shorebirds), thermal soarers (e.g. storks and cranes) and birds that form large flocks (e.g. gulls) (Bevanger, 1998³¹; Janss, 2000³⁷). Despite being thermal soarers, eagles are generally reported as collision victims in low numbers, probably due to a low number of span crossings per day and their solitary habits (Janss, 2000)³⁷. Bevanger (1998)³¹ classifies eagles as having low to medium wing load and low aspect, so are classified as low susceptibility to collision. As such, golden eagles are generally considered to be at lower risk of collision with OHLs. The population of golden eagle is in unfavourable conservation status across NHZ 8; however, this unfavourable status is due to poor productivity; in other words, insufficient young birds are being produced for potential self-sufficiency. However, the Western Highlands has supported a stable population since at least 1982 (Whitfield *et al.*, 2008)²⁵ which suggests that collision mortality is not limiting the population.

5.10.45 Therefore, due to the likely low frequency of predicted 'at-risk' flight activity the long-term potential effects of collision due to the Proposed Development on golden eagle within Section 4 are predicted to be **negligible** and therefore **not significant** in terms of the EIA Regulations.

5.10.46 However, current NatureScot guidance (SNH, 2016)⁸ recommends that the results of baseline surveys should be analysed to identify any 'hot-spots' of activity where mitigation may be required. The results of baseline surveys have identified a 'hot-spot' of golden eagle flight activity within an area between known eagle territories. The potential for collision mortality is elevated due to the increase in flight frequency associated with breeding sites and territorial behaviour.

5.10.47 **Appendix V2-5.1 Figure 7** and **Appendix V2-5.1 Table 14** detail the distribution of flight activity of golden eagle recorded during baseline surveys in this location. The substantial majority of golden eagle activity is located on the higher ground and along ridgelines, well above the existing OHL located in the lower valley bottom. Many observations were made of golden eagles passing, at height, over the existing OHL which could be explained by golden eagle's preference to fly at higher altitudes close to ridges but also highlights a degree of habituation to the presence of the existing OHL. Therefore, the frequency of 'at-risk' flight activity in proximity

to the Proposed Development within Section 4 is not considered to be significant and is unlikely to give rise to an increase in collision effects.

5.10.48 Therefore, the long-term potential effects of collision due to the Proposed Development on golden eagle within Section 4 are predicted to be **negligible** and therefore **not significant** in terms of the EIA Regulations.

Mitigation

5.10.49 As all effects arising from the construction, operational or dismantling phases of the Proposed Development within Section 4 are considered to be **not significant** no additional mitigation, other than the Embedded Protection Measures that would be implemented by the Applicant (see **Part 5.7**), is proposed.

Residual Effects

5.10.50 The residual effects during construction, operational or dismantling phases of the Proposed Development within Section 4 of the project on all bird species are **negligible** and therefore **not significant** under the EIA Regulations.

Cumulative Effects

5.10.51 Given there are no predicted adverse residual effects 'in isolation' for the construction, operational or dismantling phases of the Proposed Development within Section 4, i.e. all effects are assessed as **negligible**, it is considered highly unlikely that Section 4 would contribute cumulatively to adverse effects on the conservation status of regional populations of any bird species. Consequently, there is no requirement for a cumulative assessment, and there are no other projects of relevance to the consideration of cumulative effects within Section 4 (see **Volume 1, Chapter 5: EIA Process and Methodology**).

Section 5: Loch Cuaich to Invergarry

West Inverness-shire Lochs SPA

5.10.52 The qualifying species of the SPA are breeding black-throated diver and common scoter and as noted in paragraph 5.5.43 above, a length of the new OHL in Section 5 would pass between some of the component lochs of the West Inverness-shire Lochs SPA. It cannot be concluded on the basis of objective information that a likely significant effect on either or both of these species can be ruled out. Consequently, it is anticipated that the competent authority may consider that an appropriate assessment of whether there would be an adverse effect on the integrity of the SPA under the Habitats Regulations is required. Information is provided in **Appendix V2-5.5: Shadow Appropriate Assessment for the West Inverness-shire Lochs Special Protection Area** to enable the Scottish Ministers to conduct an assessment in respect of the potential effects of the Proposed Development on the integrity of the West Inverness-shire Lochs SPA. This information demonstrates that having regard to the conservation objectives of the site, with mitigation the Proposed Development would not have an adverse effect on the integrity of the SPA.

5.10.53 The proposed mitigation to reduce the risk of collision mortality for the two qualifying features of the SPA is the use of Bird Flight Diverters on part of the OHL through Section 5. As previously discussed, line marking remains the most common and practical form of wire collision mitigation worldwide, and research shows that it can reduce bird collisions by up to 94% (evidence reviewed in Prinsen *et al.*, 2012³⁹). Therefore, it is proposed that line marking the earth wire along the length of two separate parts of the OHL within Section 5 would be undertaken. The earth wire would be marked using reflective Bird Flight Diverters³⁹ between Towers BF279 to BF306 inclusive and between Towers BF327 to BF337 inclusive. It is proposed that markers would be spaced at 5 m intervals and maintained for the duration of the operational period.

³⁹ For example <https://pr-tech.com/product/firefly-hw-bird-diverter/>

Predicted Construction and Dismantling Effects

5.10.54 As noted in paragraph 5.4.22 all potential effects arising from the construction and operation of the Proposed Development and the dismantling of the existing OHL were scoped out of detailed assessment for the reasons explained in Part 5.4 of this Chapter. On that basis it is concluded that the likely effects of the Proposed Development on all bird species within Section 5, from construction and dismantling, are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Predicted Operational Effects – Collision Risk

5.10.55 There were no indications from baseline surveys that black-throated diver or common scoter regularly commuted over the existing OHL. Indeed, no flights by either species was recorded that would put them at risk of collision. However, as highlighted by NatureScot and RSPB in their scoping responses, black-throated diver and common scoter may fly between the component lochs of the SPA and theoretically be vulnerable to collision.

5.10.56 If such flights were to occur, then these flights are more likely to be the most direct flight line between lochs where the intervening topography is lowest, as these species follow the lowest topography and avoid flying over high ground to minimise energetic cost and effort, and to minimise the risk of predation. Therefore, with mitigation measures, significant effects on black-throated diver and common scoter will be avoided (see **Appendix V2-5.5: Shadow Appropriate Assessment for the West Inverness-shire Lochs Special Protection Area** for more detail).

5.10.57 Line marking remains the most common and practical form of wire collision mitigation worldwide, and research shows that it can reduce bird collisions by 50-94% (evidence reviewed in Prinsen *et al.*, 2012³⁸). Therefore, it is proposed that line marking along two separate parts of the OHL within Section 5 would be undertaken.

Mitigation

5.10.58 Line marking is proposed on two separate parts of the Proposed Development within Section 5. The earth wire would be marked using reflective Bird Flight Diverters³⁹ between Towers BF279 to BF306 inclusive and between Towers BF327 to BF337 inclusive. Markers would be spaced at 5 m intervals and maintained for the duration of the operational period. Refer also to the Embedded Protection Measures that would be implemented by the Applicant (see **Part 5.7**).

Residual Effects

5.10.59 As line marking is proposed for the duration of the operational period of the Proposed Development within Section 5 the residual effects on all bird species are **negligible** and **not significant** under the EIA Regulations.

Cumulative Effects

5.10.60 Other projects of relevance to the consideration of cumulative effects within Section 5 include Quoich Tee Switching Station, Coire Glas Grid Connection and Loch Lundie Substation (see **Volume 1, Chapter 5: EIA Process and Methodology**). However, given there are no predicted adverse residual effects 'in isolation' for the construction, operational or dismantling phases of the Proposed Development within Section 5, i.e. all effects are assessed as **negligible**, it is considered highly unlikely that Section 5 will contribute cumulatively to adverse effects on the conservation status of regional populations of any bird species. Consequently, there is no requirement for a cumulative assessment.

Section 6: Invergarry to Fort Augustus

West Inverness-shire Lochs SPA

5.10.61 The qualifying species of the SPA are breeding black-throated diver and common scoter. Consequently, an assessment of effects on the integrity of the SPA under the Habitats Regulations is required. Information is presented in **Appendix V2-5.5: Shadow Appropriate Assessment for the West Inverness-shire Lochs Special Protection Area** to allow the Scottish Ministers to conduct an assessment of potential effects of the Proposed Development on the integrity of the West Inverness-shire Lochs SPA. This information demonstrates that, with mitigation, the Proposed Development would not have an adverse effect on the integrity of the SPA.

Predicted Construction and Dismantling Effects

5.10.62 As noted in paragraph 5.4.22 all potential effects arising from the construction of the Proposed Development and the dismantling of the existing OHL were scoped out of detailed assessment for the reasons explained in Part 5.4 of this Chapter. On that basis it is concluded that the likely effects of the Proposed Development on all bird species within Section 6, from construction and dismantling, are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Predicted Operational Effects

5.10.63 As the entire length of Section 6 is to be underground, no potentially adverse effects were required to be assessed in detail and it is concluded that the likely effects of the Proposed Development on all bird species are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Mitigation

5.10.64 As all effects arising from the construction, operational or dismantling phases of the Proposed Development within Section 6 are considered be **not significant** no additional mitigation, other than the Embedded Protection Measures that would be implemented by the Applicant (see **Part 5.7**), is proposed.

Residual Effects

5.10.65 The residual effects on all bird species during construction, operational or dismantling phases of the Proposed Development within Section 6 are **negligible** and therefore **not significant** under the EIA Regulations.

Cumulative Effects

5.10.66 Other projects of relevance to the consideration of cumulative effects within Section 6 include Coire Glas Grid Connection and Loch Lundie Substation (see **Volume 1, Chapter 5: EIA Process and Methodology**). However, given there are no predicted adverse residual effects 'in isolation' for the construction, operational or dismantling phases of the Proposed Development within Section 6, i.e. all effects are assessed as **negligible**, it is considered highly unlikely that Section 6 would contribute cumulatively to adverse effects on the conservation status of regional populations of any bird species. Consequently, there is no requirement for a cumulative assessment.

The Proposed Development as a Whole

5.10.67 Potential effects on golden eagle, white-tailed eagle, black-throated diver and common scoter are considered within the assessments above for the individual Sections of the Proposed Development where these species are present and it is considered that there are potential likely significant operational effects from the risk of collision mortality. For all of these species the following paragraphs describe the assessment of effects for the Proposed Development as a Whole, bringing together the information from the individual Section assessments.

5.10.68 For the Proposed Development as a Whole, there are effects which are geographically concentrated and in respect of golden eagle, black throated diver and common scoter the effects are limited to a specific Section. In relation to those species the level of effect for the Proposed Development as a Whole is the same as the assessed significance of effect for the relevant individual Section. On that basis, the effects on black-throated diver and common scoter are relevant to Section 5 only. Therefore, the effects for the Proposed Development as a Whole are the same as those assessed in respect of Section 5 for these species. Similarly, the effects on golden eagle are relevant to Section 4 only. Therefore, the effects for the Proposed Development as a Whole are the same as those assessed in respect of Section 4 for golden eagle.

5.10.69 Therefore, the only species that requires further consideration is white-tailed eagle as potential operational effects were identified in Sections 1 and 3 because of the risk of collision mortality.

Predicted Construction and Decommissioning Effects

5.10.70 No potentially adverse effects were required to be assessed in detail and it is concluded that the likely effects of the Proposed Development on white-tailed eagle are **negligible** and therefore **not significant** under the terms of the EIA Regulations.

Predicted Operational Effects – Collision Risk

5.10.71 With mitigation the collision risk is judged to be **negligible** for white-tailed eagle. The potential for collision will decline as distance increases away from nest and roost locations. The result is predicted to lead to no or non-detectable changes in the conservation status of this species.

5.10.72 The long-term potential effects of operation of the Proposed Development as a Whole on white-tailed eagle is predicted to be **negligible** and therefore **not significant** in the terms of the EIA Regulations.

5.10.73 The undergrounding of approximately 24 km of the Proposed Development and the subsequent permanent removal of the existing OHL in Sections 2 (part) and 6 will remove the risk of collision for all species. This will result in a beneficial effect where the underground elements of Section 2 passes through the Cuillins SPA and where Section 6 passes close to the West Inverness-shire Lochs SPA. During operation of the Proposed Development there will no longer be any collision risk to white-tailed eagle or for other species in these locations.

5.10.74 Therefore, **permanent operational beneficial effects** are anticipated for the Proposed Development as a Whole due to the undergrounding of parts of the Proposed Development within these Sections.

Additional Mitigation

5.10.75 As line marking is proposed in Section 2 and no significant residual effects are predicted, no additional mitigation, other than the Embedded Protection Measures that would be implemented by the Applicant (see **Part 5.7**), is proposed.

Residual Effects

5.10.76 No significant residual effects are predicted for any ornithological interests for the Proposed Development as a Whole, and the residual effects predicted would be **negligible** and therefore **not significant** in terms of the EIA Regulations.

Cumulative Effects

5.10.77 Given there are no predicted adverse residual effects 'in isolation' for the construction, operational or dismantling phases of the Proposed Development as a Whole, i.e. all effects are assessed as **negligible**, it is considered highly unlikely that the Proposed Development as a Whole would contribute cumulatively to adverse

effects on the conservation status of regional populations of any bird species. Consequently, there is no requirement for a cumulative assessment.

5.11 Summary and Conclusions

- 5.11.1 This Chapter considers the potential effects of the Proposed Development on ornithology. It details the methods used to establish the bird species and populations present, together with the process used to determine their Nature Conservation Importance. The ways in which birds could be affected (directly or indirectly) by the construction, operation and dismantling phases of the Proposed Development are explained.
- 5.11.2 An assessment is made with regards to the significance of these effects for each Section of the Proposed Development and the Proposed Development as a Whole. The assessment is structured around the consideration of potential effects that could result from the construction and operation of the Proposed Development, and, the dismantling of the existing OHL upon those ornithological receptors identified during survey work. The likely effects of the Proposed Development were evaluated in accordance with the methods and the significance of each potential effect stated in **Part 5.3 Scope of Assessment and Methodology**.
- 5.11.3 There would be permanent operational beneficial effects as a result of undergrounding approximately 24 km of the Proposed Development and the subsequent permanent removal of the existing OHL in Sections 2 (part) and 6.
- 5.11.4 Line marking parts of the new OHL in Sections 1 and 5 would significantly reduce the potential for collision effects and implementation of these precautionary measures would lead to no or non-detectable changes in the conservation status of white-tailed eagle, common scoter and black-throated diver.
- 5.11.5 It is concluded that the likely effects of construction, operation and dismantling for each of the individual Sections, and for the Proposed Development as a Whole, on all bird species are **not significant** under the terms of the EIA Regulations.