

9. Ornithology

9.1 Introduction

9.1.1 This chapter considers the likely significant effects on Important Ornithological Features (IOFs) associated with the construction, operation and decommissioning of the Proposed Development.

9.1.2 The specific objectives of the chapter are to:

- describe the ornithological baseline and identify IOFs relevant to the Proposed Development and associated Study Areas;
- describe the assessment methodology, assumptions and significance criteria used in undertaking the assessment;
- identify the potential impacts associated with the Proposed Development, including direct, indirect, and cumulative impacts;
- describe the resultant likely significant effects, including cumulative effects;
- describe additional mitigation measures proposed to address likely significant effects;
- assess the residual effects remaining following the implementation of any additional mitigation measures; and,
- outline those measures included as part of the Proposed Development that will conserve, restore and enhance biodiversity in accordance with National Planning Policy (NPF) 4, Policy 3: Biodiversity, together with any long-term monitoring required to monitor the implementation and efficacy of such measures.

9.1.3 The assessment has been carried out by SLR. All staff contributing to this chapter have undergraduate and/or postgraduate degrees in relevant subjects, have extensive professional ornithological impact assessment experience, hold professional membership of and/or abide by the Chartered Institute of Ecology and Environmental (CIEEM) Code of Conduct.

9.1.4 This chapter is supported by the following Figures and Appendices which are referenced throughout:

- **Figure 9.1:** Vantage Point and Viewsheds
- **Figure 9.2:** Ornithological Designated Sites
- **Figure 9.3:** Scarce Breeding Bird Survey and Study Areas
- **Figure 9.4:** Black Grouse Survey and Study Areas
- **Figure 9.5:** Breeding Moorland and Wintering Bird Survey and Study Areas
- **Figure 9.6:** Flight Activity: Black Grouse
- **Figure 9.7:** Flight Activity: Golden Eagle and White-tailed Eagle
- **Figure 9.8:** Flight Activity: Goshawk, Hen Harrier, Merlin and Red Kite

- **Figure 9.9:** Flight Activity: Dunlin, Golden Plover and Greenshank
- **Figure 9.10:** Flight Activity: Greylag Goose, Pink-Footed Goose and Herring Gull
- **Figure 9.11:** Golden Eagle and White-tailed Eagle Activity
- **Figure 9.12:** Other Raptor Activity
- **Figure 9.13:** Wader Registrations
- **Figure 9.14:** Golden Plover Registrations
- **Figure 9.15:** Goose and Gull Activity
- **Appendix 9.1:** Ornithology
 - Annex A Ornithological Legal Protection
 - Annex B Ornithological Survey Method
 - Annex C Ornithological Survey Effort and General Information
 - Annex D Ornithological Survey Results
 - Annex E Collision Risk Assessment
- **Appendix 9.3:** Ornithology Assessment Methodology

9.1.5 Environmentally sensitive bird information (as defined in SNH, 2016a and NatureScot, 2025a) is summarised to an imprecise resolution within this chapter as per guidance but is detailed within the following presented in **Volume 5: Confidential Appendices and Figures:**

- **Confidential Appendix 9.2:** Confidential Ornithology
- **Confidential Figure 9.2.1:** Flight Activity: Red-Throated Diver (Sensitive)
- **Confidential Figure 9.2.2:** Black Grouse and Ptarmigan Activity (Sensitive)
- **Confidential Figure 9.2.3:** Black-Throated Diver and Red-Throated Diver Activity (Sensitive)
- **Confidential Figure 9.2.4:** Golden Eagle Topographical Model
- **Confidential Figure 9.2.5:** Merlin Activity (Sensitive)
- **Confidential Figure 9.2.6:** Wader Activity (Sensitive)

9.1.6 Sensitive information presented within **Volume 5: Confidential Appendices and Figures** will not be made publicly available but will be provided to the Scottish Government, The Highland Council (THC), NatureScot and RSPB Scotland, to inform their appraisals of the Proposed Development.

9.2 Legislation, Planning Policy and Guidance

9.2.1 The following key pieces of legislation, policy and guidance, of relevance to ornithological features, have been referred to during the undertaking of baseline studies and the design and assessment of the Proposed Development:

Legislation

- Environmental Impact Assessment Directive 2014/52/EU;
- Directive 2009/147/EC on the Conservation of Wild Birds (hereafter the 'Birds Directive');
- Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (hereafter 'the Habitats Directive');
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended), (hereafter the 'EIA Regulations');
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended) and the Conservation of Habitats and Species Regulations 2017 (hereafter the 'Habitat Regulations');
- The Wildlife and Countryside Act 1981 (as amended); and
- The Nature Conservation (Scotland) Act 2004 (as amended).

Policy

- Scottish Biodiversity Strategy to 2045: Tackling the Nature Emergency – (2024)¹;
- Scottish Government. National Planning Framework 4 (NPF4)²;
 - Policy 3: Biodiversity
 - Policy 4: Natural Places
- Scottish Government. Draft Planning Guidance: Biodiversity³;
- The Highland Council (THC) Highland-wide Local Development Plan (2016)⁴;
- THC Onshore Wind Energy Supplementary Guidance (2016)⁵;
- THC Addendum Supplementary Guidance 'Part 2b' (2017)⁶;
- THC Biodiversity Enhancement Planning Guidance (2024)⁷; and
- Highland Nature: Biodiversity Action Plan 2021-2026 (2021)⁸.

Guidance

- Environmental Impact Assessment:
 - Chartered Institute for Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018);

¹ <https://www.gov.scot/publications/scottish-biodiversity-strategy-2045/>

² Scottish Government (2023) National Planning Framework 4, Edinburgh: Scottish Government.

³ Scottish Government (November 2023). Draft Planning Guidance: Biodiversity

⁴ https://www.highland.gov.uk/info/178/development_plans/199/highland-wide_local_development_plan

⁵ https://www.highland.gov.uk/downloads/file/16949/onshore_wind_energy_supplementary_guidance-_nov_2016

⁶ https://www.highland.gov.uk/downloads/file/16949/onshore_wind_energy_supplementary_guidance-_nov_2016

⁷ <https://www.highland.gov.uk/info/1210/environment/68/biodiversity/2>

⁸ <https://www.highlandenvironmentforum.info/biodiversity/action-plan/>

- NatureScot Environmental Impact Assessment Handbook – Version 5: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland (SNH⁹, 2018);
- NatureScot General pre-application and scoping advice for onshore wind farms (NatureScot, 2025b);
- Assessing the significance of impacts on bird populations from onshore wind farms that do not affect protected areas (NatureScot, 2025c);
- Scottish Government Planning Advice Note 1/2013 – Environmental Impact Assessment (2017);
- Designated sites:
 - Assessing connectivity with Special Protection Areas (SPAs) (SNH, 2016b);
- Collision risk modelling:
 - Developing field and analytical methods to assess avian collision risk at wind farms (Band *et al.*, 2007);
 - Windfarms and birds: calculating a theoretical collision risk assuming no avoidance action (SNH, 2000);
 - Guidance on using an updated collision risk model to assess bird collision risk at onshore wind farms (NatureScot, 2024);
 - Use of Avoidance Rates in the NatureScot Wind Farm Collision Risk Model (NatureScot, 2025d); ;
- Cumulative assessment:
 - Guidance - Assessing the cumulative impacts of onshore wind farms on birds (NatureScot, 2025e);
- Bird populations/species-specific guidance:
 - The Digital Birds of Scotland (Forester *et al.*, 2012);
 - Bird Monitoring Methods (Gilbert *et al.*, 1998);
 - Raptors: a field guide to survey and monitoring (Hardey *et al.*, 2013);
 - Recommended bird survey methods to inform impact assessment of onshore windfarms (NatureScot, 2025f);
 - Birds of Conservation Concern 5 (Stanbury *et al.*, 2021);
 - Birds of Conservation Concern 5 Addendum (Stanbury *et al.*, 2024);
 - Natural Heritage Zone Bird Population Estimates (Wilson *et al.*, 2015);
- Construction and birds:
 - Dealing with construction and birds (SNH, 2016c); and
 - An updated literature review of disturbance distances of selected bird species (Goodship and Furness, 2022);

9.3 Consultation

9.3.1 **Table 9.1** provides a summary of the consultations undertaken in relation to ornithological matters, which have informed the approach to baseline studies and the design and assessment of the Proposed Development.

⁹ Scottish Natural Heritage (SNH). The former operating name of NatureScot.

Table 9.1 Summary of consultation responses.

Consultee	Issues / Point Raised	Response/Action Taken
NatureScot 23rd March 2022 Pre-application consultation on scope of baseline studies	Noted small gaps in VP coverage but that a high proportion of the development area is covered. Commented that the VP coverage therefore appears to be largely adequate, subject to the developer ensuring that a turbine is not proposed within the VP blank spots. The development area seems to be large enough to accommodate a good spread of turbines without needing to resort to these two small VP blank spots.	Consultation was undertaken on a preliminary turbine layout, with VP coverage of the final proposed turbine layout shown in Figure 9.1 . All turbine locations are directly covered by VP viewsheds and no limitations are therefore considered to arise. Further discussion is presented in Section 9.4 .
NatureScot 21st June 2024 Pre-application consultation on scope of baseline studies	Advised consultation with RSPB for capercaillie records and HRSG for golden eagle territories. Justification for scoping out impacts to capercaillie should be presented within the EIA Report and the Golden Eagle Topographical (GET) model should be reviewed to inform an assessment of impacts upon golden eagle. Provided advice on disturbance buffers for dotterel (300-400 m) and that mitigation should be included where necessary. Advised design should seek to avoid impacts on greenshank in so far as is possible and that there may be opportunities for peatland restoration in areas not affected by development.	The RSPB Data Unit and HRSG were consulted for existing ornithological records. Information obtained has been used to inform the design and assessment of the Proposed Development. Justification for the scoping out of impacts to capercaillie is presented within Section 9.7. The GET model has been reviewed to inform assessment of potential displacement impacts to golden eagle, presented in Section 9.8. Advice on disturbance buffers for dotterel has been adopted and specific measures to avoid the potential for disturbance to the species is set out in Section 9.6 and justification for scoping out the potential for significant effects upon the species is set out in Section 9.7. Scheme design has sought to minimise potential displacement impacts upon greenshank in so far as has been possible, as set out in Section 9.6. Industry standard good practice measures to avoid the potential for disturbance during construction and operational maintenance works are also set out in Section 9.6. Peatland restoration opportunities to be delivered by the Proposed Development are set out in Appendix 8.6 Outline Habitat Management Plan.
NatureScot 21st Oct 2024	Potential for impacts, including cumulative impacts, to birds such as, but	Potential impacts on these species have been scoped into

Consultee	Issues / Point Raised	Response/Action Taken
EIA Scoping	not limited to, golden eagle, other Schedule 1 species, black grouse, and greenshank.	assessment in Section 9.7 and assessed in Section 9.8 , where they are considered likely to arise.
	Restoration and enhancement measures for moorland breeding birds, black grouse and foraging and nesting raptors etc should be located away from turbines and infrastructure.	Habitat enhancement opportunities for bird species by way of peatland restoration to be delivered by the Proposed Development are set out in Appendix 8.6 Outline Habitat Management Plan .
	Proposal has hydrological connectivity with the Cromarty Firth and Dornoch Firth. There is potential for developments, in-combination, to have an adverse effect on the integrity of the associated protected areas (and SSSIs) as a result of impacts on water quality. The EIA Report will need to demonstrate how adverse changes to water quality have been avoided.	Information to inform a Habitats Regulations Appraisal (HRA) of the Proposed Development, including on the basis of the potential for hydrological connectivity and adverse effects on the integrity of the Cromarty Firth and Dornoch Firth designated areas, including the Cromarty Firth and Dornoch Firth Special Protection Areas (SPAs), is presented in Appendix 8.7 Information to inform a Habitats Regulations Appraisal .
	We note that ornithological field surveys have not conformed to guidance. The Applicant will need to justify why sufficient coverage could not be achieved and explain how this affects collision risk calculations.	The VP survey area has provided coverage of all proposed turbine locations and extensive areas within the surrounding Main Development Area (MDA). The absence of limitations to the dataset is set out in Section 9.4 and the resulting collision mortality risk estimates are considered to be valid and appropriate for the purposes of assessment.
	Advise that survey work and the desk study also cover access routes as well as any proposed habitat management or enhancement areas.	Survey areas adopted between March 2022 and February 2024 have provided coverage of the MDA and appropriate buffers recommended in NatureScot guidance (2025f). This includes coverage of proposed habitat management areas within the Development Site. Survey of the onsite access track route was also undertaken during the 2025 breeding season, and the collation of existing ornithological records has been undertaken out to at least 2 km from the Development Site (including the Existing Forestry Access Track),

Consultee	Issues / Point Raised	Response/Action Taken
		extended to 6km for eagle species.
	Recommend surveys for roosting raptors are also considered.	No existing ornithological records of roosting Schedule 1A raptors have been identified within 2km of the Development Site, and the presence of such has not been recorded during winter walkovers and flight activity surveys undertaken over two consecutive non-breeding seasons (2022/2023 and 2023/2024).
	Cumulative impacts on ornithological interests from other operational and consented wind farm developments should be assessed at the NHZ level and correct data sources are referenced.	An assessment of likely significant effects at the regional NHZ 7 scale is presented in Section 9.8 .
	Recommend that golden eagles are scoped in for assessment and that GET (Golden Eagle Topographical) modelling is undertaken to help with the assessment of impacts. The scoping out of significant collision risks will require justification within the EIA Report.	The GET model has been reviewed and used to inform the assessment of operational habitat losses to golden eagles, as presented in Section 9.8 . An assessment of collision risks to golden eagle is also presented in Section 9.8 .
NatureScot 18th July 2025 Pre-application consultation on scope of cumulative assessment	Provided its current cumulative collision mortality risk spreadsheet for wind farm projects within Natural Heritage Zone (NHZ) 7.	This information has been used to inform the assessment of likely significant cumulative effects upon ornithological features scoped-in to detailed assessment.
Scottish Government Energy Consents Unit (ECU) Scoping Opinion on behalf of Scottish Ministers	Presence of Schedule 1 Birds and qualifying interests of designated sites must be considered.	Likely significant effects on these species have been scoped into assessment in Section 9.8 , where they are considered likely to arise.
	Comments from NatureScot and RSPB should be referred to in this respect.	Comments provided by NatureScot over the course of baseline studies and pre-application consultations have been referred to and responded to above.
	An assessment of the impacts to birds through collision, disturbance, and displacement from foraging / breeding / roosting habitat is required for the proposed development site and cumulatively with other proposals.	Such impacts have been assessed for IOFs scoped into assessment in Section 9.8 .
	Any deviations from guidance on ornithology matters should be made clear.	An extensive record of ornithological information exists for the MDA and surrounding area and there are considered to be no deviations to NatureScot

Consultee	Issues / Point Raised	Response/Action Taken
		recommended survey guidance (2025e) that may result in a limitation to the assessment presented within this chapter. Justification is presented in Section 9.4 .
	The HMP should include a comprehensive monitoring programme for habitat improvements and breeding birds.	Monitoring of habitat enhancement opportunities for bird species by way of peatland restoration to be delivered by the Proposed Development are set out in Appendix 8.6 Outline Habitat Management Plan .
	Remote sensing to help inform future development and decision making within the industry with regards to eagles should also be considered.	This has been considered and determined that given the low level of collision mortality risk predicted for these species, such technology is not required in this case.
	A protocol for reporting collisions to NatureScot should also be included.	The Proposed Development includes for a commitment of collision fatality reporting to NatureScot over its operational lifetime, as set out in Section 9.13 .

9.4 Approach and Methodology

Study Area

9.4.1 The ornithology assessment and gathering of baseline information considers the following study areas which are based on the Proposed Development's infrastructure layout within the Main Development Area (MDA) and the Existing Forestry Access Track:

- Connectivity with designated sites – a 20 km study area buffer around the MDA (**Figure 9.2**), based on the greatest foraging range for qualifying features of Special Protection Areas (SPAs) listed in NatureScot guidance (SNH, 2016b);
- Collision risk modelling – a Collision Risk Analysis Area ('CRAA') created using a 500 m buffer around proposed turbine locations, to identify "at collision risk" flight activity and estimate collision mortality risks (**Figure 9.1**);
- Scarce breeding birds¹⁰ – a species-specific buffer of up to 2 km from the MDA (extended to 6 km for eagle species) as per NatureScot guidance (2025f) and a 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**);

¹⁰ Scarce breeding birds are those listed on Annex 1 of the EU Birds Directive and/or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

- Black grouse – a 1.5 km buffer from the MDA as per NatureScot guidance (2025f) and a 750 m buffer from the Existing Forestry Access Track (**Figure 9.4**); and
- Breeding moorland and wintering birds – a 500 m buffer from the MDA and Existing Forestry Access Track, as per NatureScot guidance (2025f) (**Figure 9.5**).

9.4.2 Scarce breeding bird and black grouse / capercaillie study areas along the Existing Forestry Access Track are defined on the basis of the nature of works proposed and current recommended buffer zones to avoid the potential disturbance to relevant species (as per Goodship and Furness, 2022).

Baseline Methodology

Desk Study

9.4.3 The following key sources have been consulted for existing ornithological information:

- NatureScot Sitelink website¹¹;
- Planning application documentation and consultation responses for the previously proposed Glenmorie Wind Farm within the Development Site, including baseline information from ornithological field surveys undertaken from March 2005 to March 2009, and October 2009 to October 2010;
- Forestry Land Scotland (FLS) for all ornithological records held to inform management activities within the Ardross & Kildermorie forestry block along the Existing Forestry Access Track;
- RSPB Data Unit for all ornithological records within 6 km of the Development Site (over the most recent 10 year period); and
- Highland Raptor Study Group (HRSRG) records of Schedule 1 breeding and roosting raptors and owls, and short-eared owl within 2 km of the Development Site, extended to 6 km for eagle species (the most recent 10 year period).

9.4.4 Additional peer-reviewed literature has also been referred to and is referenced where relevant.

Field Surveys

9.4.5 Baseline ornithology surveys following survey methodologies set out in NatureScot guidance (2025f) have provided coverage of the MDA over two consecutive breeding seasons (2022 and 2023) and two consecutive non-breeding seasons (2022/2023 and 2023/2024):

- Flight activity surveys: March 2022 to February 2024 from five Vantage Point (VP) locations (**Figure 9.1**), minimum of 36 hours per season per VP;
- Scarce breeding bird surveys: 2022 and 2023 breeding seasons;
- Focal breeding diver loch watches (2022 and 2023 breeding seasons);
- Black grouse and capercaillie surveys: 2022 and 2023 lekking periods (April and May);

¹¹ <https://sitelink.nature.scot/>

- Moorland breeding bird surveys: 2022 and 2023 breeding seasons; and
- Wintering bird surveys: 2022/2023 and 2023/2024 non-breeding seasons.

9.4.6 Additionally, surveys were undertaken along the Existing Forestry Access Track during the 2025 breeding season, comprising a 1 km survey area for scarce breeding birds (**Figure 9.3**) and a 500 m survey area for breeding moorland birds (**Figure 9.5**).

Assessment Methodology

9.4.7 The assessment presented within this chapter takes a topic-specific approach and considers the likelihood for significant effects upon IOFs arising from:

- Disturbance and/or direct habitat loss through wind farm construction;
- Collision mortality risk through collision with operational turbines/other infrastructure; and
- Displacement (indirect habitat loss) through the avoidance of operational wind farm infrastructure.

9.4.8 Operational displacement also includes for barrier effects where birds are interrupted from using normal routes to foraging or roosting areas.

9.4.9 The assessment has been undertaken following the principles of CIEEM guidance (2018) and conclusions on overall significance made in view of feature sensitivity, magnitude and professional judgment

9.4.10 The assessment methodology, including criteria for assessing sensitivity of features, magnitude of change as well as overall significance criteria, is detailed in **Appendix 9.3 Ornithology Assessment Methodology**.

Cumulative Assessment

9.4.11 The likelihood of significant cumulative effects to IOFs have been considered within this chapter with reference to NatureScot guidance (2025c and 2025e) and is assessed, where appropriate, for the Proposed Development cumulatively with:

- Developments that are already operational, and those that are consented and likely to be built; and
- Wind farm applications that have been formally submitted to a planning authority or Scottish Government but have yet to be determined.

9.4.12 Cumulative effects are also considered with the proposed Ceislein Wind Farm as although this project is in the pre-application phase it is also being developed by the Applicant and as such there is more certainty available on project progress, layout and survey data than would be the case for other projects at a pre-application stage.

9.4.13 The likelihood of significant cumulative effects and scope of assessment presented takes into account the implementation of standard mitigation measures, that are included as part of the Proposed Development (see **Section 9.6**) and considered a requirement of other consented and proposed wind farm developments.

9.4.14 As per NatureScot guidance (2025c and 2025e) the NHZ level is generally considered practical and appropriate for breeding bird species populations not connected to a designated site. In this case the relevant NHZ is NHZ 7 'Northern Highlands', within which the Proposed

Development is located. Where an alternative geographical area is considered more appropriate for a particular species, this is justified within the assessment.

- 9.4.15 A detailed assessment of the likelihood of significant cumulative ornithological effects combined with other projects that are at the pre-planning submission stage is not included (with the exception of the proposed Ceislein Wind Farm, see above), as a detailed impact assessment is yet to be carried out and made available for such projects. Full baseline information is also not generally available for pre-planning stage projects, or a detailed finalised scheme layout, and so no meaningful information to inform a cumulative assessment is accessible. The likelihood of significant cumulative effects from such projects combined with the Proposed Development would however be undertaken as part of the planning applications for those developments, as appropriate and relevant at the time of submission, in line with standard EIA practice and NatureScot guidance (2025e).
- 9.4.16 A list of relevant cumulative wind farm development identified within NHZ 7, and which have been considered in subsequent assessment is provided in **Appendix 9.3 Ornithology Assessment Methodology**.

Assumptions and Limitations

Assumptions

- 9.4.17 The assessment is based on the Proposed Development as described in **Chapter 4: Proposed Development** and the adoption of embedded mitigation measures (by design and industry standard procedures) set out in **Section 9.6**.

Decommissioning

- 9.4.18 At the end of the Proposed Development's operational lifetime, turbines, BESS and any relevant ancillary infrastructure would be removed from the Development Site, subject to any application being made and granted to extend the operational life or repower the consented turbines.
- 9.4.19 Whilst future ornithological baseline conditions cannot be accurately known at that stage, given the nature of decommissioning works, potential impacts and likely significant effects on ornithological features associated with the decommissioning the Proposed Development can be reasonably concluded as being comparable, but of equal or lesser significance to construction disturbance/displacement effects, over a reduced timeframe.
- 9.4.20 Potential impacts and likely significant effects from decommissioning works are therefore not assessed separately within this chapter but considered to result in effects of similar significance to those predicted for construction phase disturbance.

Existing Forestry Access Track

- 9.4.21 The Existing Forestry Access Track does not pass within 2 km of any ornithological designated site listed in **Table 9.2**. The potential for disturbance to bird species within such designations, arising from required construction works and operational use of this component of the Proposed Development does therefore not arise, as it is located sufficiently beyond recommended disturbance distances for such species (as per Goodship and Furness, 2022).
- 9.4.22 With the exception of information pertaining to presence of black grouse within its northern extent (see further below), a review of existing ornithological information, including from key sources set out in **Section 9.5**, does not identify the known presence of additional nest, roost or lekking locations along the Existing Forestry Access Track for any species listed as a

priority for assessment when considering the development of onshore wind farms in Scotland (as per Annex 1 of NatureScot, 2025c).

- 9.4.23 Survey along the Existing Forestry Access Track undertaken during the 2025 breeding season, did not record any observations of breeding waders, black grouse or capercaillie (see limitations section below for further discussion) or evidence of breeding Schedule 1 raptors, owls or divers¹⁰ within the survey area.
- 9.4.24 Habitat losses along the Existing Forestry Access Track route would largely be limited to the small-scale removal of commercial managed coniferous plantation woodland along the existing track footprint (see **Chapter 8 Ecology** for habitat loss calculations), with construction works being temporary and operational access likely only to be occasional. On the basis of the implementation of standard mitigation measures, as set out within **Section 9.6**, including the appointment of an Ecological Clerk of Works (ECoW), implementation of a Construction Environmental Management Plan (CEMP), undertaking of pre-commencing surveys and implementation of a Bird Disturbance Management Plan (BDMP), the potential for significant effects upon ornithological features as a result of relatively minor losses of low value ornithological habitats, is considered highly unlikely and is not therefore assessed exclusively within this chapter.

Limitations

- 9.4.25 No substantial limitations to baseline studies or assessment presented within this chapter have been identified. Some limitations do exist with regard to the knowledge base on accurate species population sizes, and how some species, and the populations to which they belong, react to impacts associated with onshore wind farms and associated construction activities. A precautionary approach is therefore taken in these circumstances, and as such it is considered that these limitations do not affect the robustness of this assessment.
- 9.4.26 Following the completion of baseline ornithological surveys, Stanbury *et al.* (2021) issued an addendum to the Birds of Conservation Concern (BoCC) 5 list in September 2024 (Stanbury *et al.*, 2024). This addendum has reclassified common gull and great black-backed gull as Red list species (previously Amber list species) and which would now include them as a species for specific recording during onshore wind farm surveys as recommended in NatureScot guidance (2025c and 2025f; and see **Appendix 9.1 Ornithology, Annex B**). These gull species were however only infrequently noted during baseline surveys (as secondary species) and so would not have scoped into the assessment, given the absence of any likely significant effects.
- 9.4.27 Baseline field survey effort has met minimum requirements stipulated in NatureScot guidance (2025f) and has been undertaken by suitably experienced professional and where necessary licenced ornithological surveyors.
- 9.4.28 In general, weather conditions were appropriate for the surveys, but where not, surveys were suspended (or additional surveys were undertaken) (refer to **Appendix 9.1**).
- 9.4.29 Effort was made during all surveys to minimise disturbance risks, including avoiding surveyors being present during flight activity surveys within another surveyor's viewshed and ensuring VP locations were located (or relocated) a sufficient distance from sensitive bird species' breeding or lekking sites. Where VP locations were located in near proximity to breeding sites of sensitive species, surveyors were either Schedule 1 licenced or an accredited agent and therefore suitably experienced in positioning themselves in a location which avoided the potential for disturbance to actively or potentially breeding birds.

- 9.4.30 Baseline survey coverage has also adequately covered all infrastructure proposed within the MDA and out to suitable buffers recommended in NatureScot guidance (2025f).
- 9.4.31 With reference to flight activity survey coverage, NatureScot guidance (2025f) states that “*It is very important that VPs are chosen to achieve maximum visibility with the minimum number of points*” and this was achieved for coverage of the Proposed Development. VP locations adopted for flight activity surveys are also outside or on the very edge of the CRAA used in the subsequent estimates of collision mortality risks for the Proposed Development (**Figure 9.1**). As such, this will have avoided any potential impact on baseline activity levels within proximity to proposed turbine locations over the course of surveys.
- 9.4.32 In review of VP locations and viewshed coverage, **Figure 9.1** shows that all turbine locations have been covered, although there are some small gaps in coverage of the 500 m buffer around turbine T8 and T9, based on an altitudinal cut off of 20 m above ordnance datum (AOD). There was however extensive spatial and temporal coverage of immediately adjacent moorland within the remainder of the MDA and 500 m turbine buffers.
- 9.4.33 The flight activity of target species within the MDA has also been previously surveyed during investigations for the Glenmorie Wind Farm, and which the results of baseline surveys for the Proposed Development broadly align.
- 9.4.34 It is therefore considered that overall, flight activity recorded from all VPs during baseline surveys for the Proposed Development, provides a sufficiently representative picture of target species’ presence and the pattern and level of “at collision risk” flight activity during the baseline survey period (and recorded previously), for the purpose of estimating collision mortality risks using the NatureScot collision risk model (Band *et al.*, 2007).
- 9.4.35 Baseline surveys along the Existing Forestry Access Track have not included the undertaking of targeted surveys for lekking black grouse or capercaillie. However, sufficient opportunity to record observations or signs of habitat use by these species along the track has been provided both incidentally over the course of baseline survey, as a result of access being taken along the Existing Forestry Access Track for baseline surveys of the MDA and scarce breeding bird and moorland breeding bird survey visits undertaken in 2025. In the absence of existing records from key third party sources including FLS and RSPB Data Unit, indicating the potential presence of lek locations outside the area of survey coverage for the MDA, the requirement for lek surveys along the Existing Forestry Access Track has not been identified. The absence of surveys is therefore not considered a limitation to the assessment presented within this chapter.

9.5 Baseline Conditions

Current Baseline

Designated Sites

- 9.5.1 The Development Site does not form part of any statutory designated site for nature conservation with cited ornithological qualifying features.
- 9.5.2 Within 20 km of the MDA, there are eight SPAs, six Sites of Special Scientific Interest (SSSIs) and three Ramsar sites with ornithological qualifying features, as summarised in **Table 9.2** and illustrated on **Figure 9.2**.

- 9.5.3 In review of each designation's qualifying interests and connectivity distances set out in NatureScot guidance (SNH, 2016b), the potential for connectivity with the Proposed Development is considered to be limited to the following designations:
- Cromarty Firth Special Protection Area (SPA) and Ramsar site:
 - Greylag goose (non-breeding); and,
 - Osprey (breeding), SPA only.
 - Dornoch Firth and Loch Fleet SPA/Ramsar site:
 - Greylag goose (non-breeding); and
 - Osprey (breeding).
- 9.5.4 Additionally, NatureScot in its response to EIA Scoping and Gatecheck 1 (see **Table 9.1**), advised on the potential for hydrological connectivity with the Cromarty Firth and Dornoch Firth and Loch Fleet SPAs, Ramsar sites and underpinning SSSIs and which is addressed within **Chapter 13: Geology, Hydrology, Hydrogeology and Peat**.
- 9.5.5 The potential for connectivity between the Proposed Development and any other statutory designation listed in **Table 9.2** is considered discounted on the basis of spatial separation and/or limited species records within relevant species study areas from the Development Site.
- 9.5.6 A summary of information to inform a Habitats Regulations Appraisal (HRA) of the Proposed Development in relation to the Cromarty Firth and Dornoch Firth SPAs, Ramsar sites and underpinning SSSIs is presented in **Appendix 8.7 Information to Inform a Habitats Regulations Appraisal**.
- 9.5.7 For all other SPAs and Ramsar sites listed in **Table 9.2** it can reasonably be concluded that, there would be no likely significant effects due to the Proposed Development, because of a lack of connectivity and/or lack of impact pathway, and therefore it is proposed that no HRA is required in relation to these designations.

Table 9.2 Ornithological designated sites (within 20 km of the MDA).

Designation	Distance from MDA	Ornithological Qualifying Features	Qualifying features with Potential Connectivity
Ben Wyvis SPA	8.66 km	Dotterel (breeding)	None. Considered sufficiently distant ¹² and potential connectivity not otherwise specifically advised by NatureScot.
Ben Wyvis SSSI	7.80 km	Dotterel (breeding)	None. Considered sufficiently distant ¹² and potential connectivity not otherwise specifically advised by NatureScot.
Novar Forest SPA	11.41 km	Capercaillie (breeding)	None.

¹² NatureScot guidance on designated site connectivity (SNH, 2016b) does not provide a foraging range for dotterel, but spatial separation is greater than the core foraging range set out for golden plover (3 km, as per SNH, 2016b), a close comparative species,

Designation	Distance from MDA	Ornithological Qualifying Features	Qualifying features with Potential Connectivity
			Considered sufficiently distant ¹³ and potential connectivity not otherwise specifically advised by NatureScot.
Morangie Forest SPA	11.48 km	Capercaillie (breeding)	None. Considered sufficiently distant ¹³ and potential connectivity not otherwise specifically advised by NatureScot.
Strath Carnaig and Strath Fleet Moors SPA	14.29 km	Hen harrier (breeding)	None. Located beyond core foraging and alternative nesting range for hen harrier (2 km and 1 km respectively, as per SNH, 2016b) and potential connectivity not otherwise specifically advised by NatureScot.
Strath Carnaig and Strath Fleet Moors SSSI	14.29 km	Hen harrier (breeding)	None. Located beyond core foraging and alternative nesting range for hen harrier (2 km and 1 km respectively, as per SNH, 2016b) and potential connectivity not otherwise specifically advised by NatureScot.
Beinn Dearg SPA	16.32 km	Dotterel (breeding)	None. Considered sufficiently distant ¹² and potential connectivity not otherwise specifically advised by NatureScot.
Beinn Dearg SSSI	15.13 km	Dotterel (breeding)	None. Considered sufficiently distant ¹² and potential connectivity not otherwise specifically advised by NatureScot.
Cromarty Firth SPA	16.22 km	Bar-tailed godwit (non-breeding) Common tern (breeding) Curlew (non-breeding) Dunlin (non-breeding) Greylag goose (non-breeding)	Greylag goose (non-breeding) Osprey (breeding)

¹³ NatureScot's guidance on designated site connectivity (SNH, 2016b) does not provide a foraging range for capercaillie. Capercaillie in Scotland are however understood to move around 5km within their home ranges (as per Fletcher and Baines, 2020).

Designation	Distance from MDA	Ornithological Qualifying Features	Qualifying features with Potential Connectivity
		Knot (non-breeding) Osprey (breeding) Oystercatcher (non-breeding) Pintail (non-breeding) Red-breasted merganser (non-breeding) Redshank (non-breeding) Scaup (non-breeding) Whooper swan (non-breeding) Wigeon (non-breeding) Waterfowl assemblage (non-breeding)	NatureScot has additionally advised on the potential for hydrological connectivity which is considered within Chapter 13: Geology, Hydrology, Hydrogeology and Peat and Appendix 8.7 Information to Inform a Habitats Regulations Appraisal. Located beyond core foraging ranges for all other species, or close comparative species set out in NatureScot guidance (SNH, 2016b).
Cromarty Firth Ramsar Site	16.22 km	Bar-tailed godwit (non-breeding) Greylag goose (non-breeding) Waterfowl assemblage (non-breeding)	Greylag goose (non-breeding) NatureScot has additionally advised on the potential for hydrological connectivity which is considered within Chapter 13: Geology, Hydrology, Hydrogeology and Peat and Appendix 8.7 Information to Inform a Habitats Regulations Appraisal. Located beyond core foraging ranges for all other species, or close comparative species set out in NatureScot guidance (SNH, 2016b).
Cromarty Firth SSSI	16.22 km	Bar-tailed godwit (non-breeding) Red-breasted merganser (non-breeding) Redshank (non-breeding) Whooper swan (non-breeding) Wigeon (non-breeding)	None, but NatureScot has additionally advised on the potential for hydrological connectivity which is considered within Chapter 13: Geology, Hydrology, Hydrogeology and Peat and Appendix 8.7 Information to Inform a Habitats Regulations Appraisal.
Dornoch Firth and Loch Fleet SPA	16.32 km	Bar-tailed godwit (non-breeding) Curlew (non-breeding)	Greylag goose (non-breeding)

Designation	Distance from MDA	Ornithological Qualifying Features	Qualifying features with Potential Connectivity
		Dunlin (non-breeding) Greylag goose (non-breeding) Osprey (breeding) Oystercatcher (non-breeding) Redshank (non-breeding) Scaup (non-breeding) Teal (non-breeding) Wigeon (non-breeding) Waterfowl assemblage (non-breeding)	Osprey (breeding) NatureScot has additionally advised on the potential for hydrological connectivity which is considered within Chapter 13: Geology, Hydrology, Hydrogeology and Peat and Appendix 8.7 Information to Inform a Habitats Regulations Appraisal. Located beyond core foraging ranges for all other species, or close comparative species set out in NatureScot guidance (SNH, 2016b).
Dornoch Firth and Loch Fleet Ramsar site	16.32 km	Bar-tailed godwit (non-breeding) Curlew (non-breeding) Dunlin (non-breeding) Greylag goose (non-breeding) Osprey (breeding) Oystercatcher (non-breeding) Redshank (non-breeding) Scaup (non-breeding) Teal (non-breeding) Wigeon (non-breeding) Waterfowl assemblage (non-breeding)	Greylag goose (non-breeding) Osprey (breeding) NatureScot has additionally advised on the potential for hydrological connectivity which is considered within Chapter 13: Geology, Hydrology, Hydrogeology and Peat and Appendix 8.7 Information to Inform a Habitats Regulations Appraisal. Located beyond core foraging ranges for all other species, or close comparative species set out in NatureScot guidance (SNH, 2016b).
Dornoch Firth SSSI	16.32 km	Bar-tailed godwit (non-breeding) Whooper swan (non-breeding) Wigeon (non-breeding)	None, but NatureScot has additionally advised on the potential for hydrological connectivity which is considered within Chapter 13: Geology, Hydrology, Hydrogeology and Peat and Appendix 8.7 Information to Inform a Habitats Regulations Appraisal. Located beyond core foraging ranges for all

Designation	Distance from MDA	Ornithological Qualifying Features	Qualifying features with Potential Connectivity
			other species, or close comparative species set out in NatureScot guidance (SNH, 2016b).
Morrich More SSSI	23.23 km	Breeding bird assemblage ¹⁴ Bar-tailed godwit (non-breeding) Curlew (non-breeding) Teal (non-breeding) Wigeon (non-breeding)	None, but NatureScot has additionally advised on the potential for hydrological connectivity which is considered within Chapter 13: Geology, Hydrology, Hydrogeology and Peat and Appendix 8.7 Information to Inform a Habitats Regulations Appraisal .

Flight Activity Summary

- 9.5.8 Target species flight activity recorded during baseline flight activity surveys is presented in **Table 9.3**. This summarises all flights observed during the baseline flight activity survey period (March 2022 to February 2024 inclusive) regardless of the location of the flights in relation to the Proposed Developments wind turbine locations.
- 9.5.9 Flight lines of all target species recorded, with the exception of red-throated diver, are illustrated in **Figures 9.6 to 9.10**. Red-throated diver flight activity recorded is considered sensitive and is presented separately on **Confidential Figure 9.1.1** of **Confidential Appendix 9.2 Confidential Ornithology**, given the potential for it to identify breeding locations of the Schedule 1 species.
- 9.5.10 Further details of the flight activity surveys are presented in **Appendix 9.1 Ornithology (Annex B, C and D)**.
- 9.5.11 Collision risk modelling has been undertaken to identify and present the worst-case collision mortality risk estimate for each target species from the Proposed Development, based on two possible turbine specifications (200 m to tip, based on a Nordex 163 and 180 m to tip, based on a Siemens Gamesa 7.0-170, see **Appendix 9.1 Ornithology, Annex E**).
- 9.5.12 A summary of the worst-case collision risk model results, based on a turbine specification for a Siemens Gamesa 7.0-170 and 180 m tip height, is presented in **Table 9.4**. Detailed analysis is presented in **Appendix 9.1 Ornithology (Annex E)**.
- 9.5.13 It should be noted that as no 'at collision risk' flight activity was recorded for black grouse, greylag goose, herring gull or white-tailed eagle, collision mortality risks are not predicted or presented in **Table 9.4**.

¹⁴ Assemblage citation includes shelduck, ringed plover, snipe, curlew, redshank and linnet.

Table 9.3 Target species flight activity summary.

Species	Total No. of Flights	Total Bird Seconds ¹⁵
Black grouse	2	126
Common sandpiper	1	120
Dunlin	1	17
Golden eagle	45	8,380
Golden plover	21	1,939
Goose sp.	2	5,823
Goshawk	3	225
Greenshank	4	390
Greylag goose	1	114
Hen harrier	4	332
Herring gull	1	300
Merlin	11	470
Pink-footed goose	15	204.402
Red kite	16	2,219
Red-throated diver	5	422
Snipe	5	193
White-tailed eagle	1	221

Table 9.4 Estimated collision mortality risks.

Species	Mean Breeding Season	Mean Non-breeding season	Mean Annual	No. of Years per Collision
Dunlin	0.0000	0.0008	0.0016	1246.99
Golden eagle	0.0246	0.0115	0.0210	27.65
Golden plover	0.0287	0.0308	0.0000	16.80
Goshawk	0.0002	0.0056	0.0112	172.90
Greenshank	0.0000	0.0228	0.0455	43.93
Hen harrier	0.0000	0.0009	0.0017	1170.17
Merlin	0.0022	0.0042	0.0084	155.29
Pink-footed goose	0.0666	0.0000	0.0000	15.02
Red-throated diver	0.0000	0.0016	0.0031	636.28
Red kite	0.0011	0.0016	0.0032	367.62

¹⁵ Bird seconds are calculated for each observation as the product of flight duration and number of individuals recorded for each flight. This has then been summed to provide the total bird seconds for each species recorded over the entire survey period.

Grouse

Black grouse

- 9.5.14 **Study area:** 1.5 km buffer from the MDA / 750 m buffer from the Existing Forestry Access Track (**Figure 9.4**).
- 9.5.15 A total of seven black grouse lek locations were recorded over the baseline survey period for the MDA, as summarised in **Table 9.5** and shown on **Confidential Figure 9.2.2** of **Confidential Appendix 9.2 Confidential Ornithology**.
- 9.5.16 Of the seven lek locations recorded, three were recorded within the black grouse study area (Leks BK_2, BK_3 and BK_4), and which supported one or two males. Three leks (Leks BK_1-3) were found to be used consistently between survey years, whilst four locations (Leks BK_4-7) were found to be in use in only one year (2023).
- 9.5.17 A very low level of black grouse flight activity was also recorded, with a total of two flights observed over the baseline survey period (**Table 9.3** and **Figure 9.6**). Neither flight was identified as being “at collision risk” to the Proposed Development, occurring outside of the CRAA, and so no collision mortality risk is predicted for the species.
- 9.5.18 Typically, observations of black grouse during baseline surveys were made to the east and south of the MDA, in areas of lower elevation. No observations of nests or fledged broods were recorded, although these are generally difficult to observe.
- 9.5.19 A single additional existing lekking record (from 2019) was identified within the black grouse study area. This was found in review of existing information held by FLS along the Existing Forestry Access Track and is considered to relate to the location of Lek BK_4 identified during baseline surveys (as detailed above and **Table 9.3**). A small number of additional black grouse sighting records were also held by FLS along the Existing Forestry Access Track, also within general proximity to Lek BK_4.
- 9.5.20 No additional existing lekking locations were provided by the RSPB Data Unit.
- 9.5.21 Baseline surveys for the Glenmorrie Wind Farm (between 2005 and 2007 and in 2010) also only recorded small numbers of male and female black grouse¹⁶ and did not identify the presence of any lekking locations.

Table 9.5 Black grouse lek status (2022 and 2023) – male attendance counts¹⁷

Lek	Distance to nearest turbine	Distance to nearest infrastructure	Attendance Counts	
			2022	2023
BK_1	2.20 km	2.00 km (borrow pit search area)	3 (1)	1
BK_2	2.35 km	132 m (access track route - existing)	2	1
BK_3	2.54 km	410 m (borrow pit search area)	1	1
BK_4	2.02 km	360 m (access track route - existing)	0	1
BK_5	3.29 km	1.15 km (borrow pit search area)	0	1
BK_6	3.81 km	960 m (access track route - existing)	0	1
BK_7	4.51 km	900 m (access track route - existing)	3	1

¹⁶ See Figure B12 of the Glenmorrie Wind Farm Environmental Statement (ES).

¹⁷ Females recorded presented in ().

Capercaillie

- 9.5.22 **Study area:** 2 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).
- 9.5.23 No observations of capercaillie were made over the course of baseline surveys.
- 9.5.24 Over several years of surveys for the Glenmorie Wind Farm between 2005 and 2010, only a single observation of capercaillie was made. This was of a single male capercaillie in 2006, foraging in forestry to the east of the MDA¹⁸. It was concluded within the Glenmorie Wind Farm Environmental Statement (ES) that the bird was not resident within the forestry and likely an exploratory male from the Morangie or Novar populations.
- 9.5.25 Only a very small number of additional and historical sighting records (up to 2013) are held by FLS along the Existing Forestry Access Track and no lek locations are understood to have been recorded within the Ardross & Kildermorie forestry block (through which the Existing Forestry Access Track passes).
- 9.5.26 In review of additional known records of capercaillie provided by FLS within the study area and the RSPB Data Unit outside of the study area, the Development Site is likely to be located on the edge of the known geographic ranges for the nearest known capercaillie populations, i.e. those of the Morangie and Novar Forest SPAs. There are no known lek locations or nesting areas identified within 2 km of the Development Site.
- 9.5.27 It therefore remains considered that capercaillie are not resident within the Ardross & Kildermorie forestry block, although more mature forestry compartments along the Existing Forestry Access Track, and with developed understorey, such as at the head of Strath Rusdale and to the east of the Black Water may provide suitable foraging habitat for occasional exploratory birds. These habitats will however not be directly impacted by the Proposed Development and are over 2 km away from any proposed turbine location.

Ptarmigan

- 9.5.28 **Study area:** 500 m buffer from the MDA and Existing Forestry Access Track (**Figure 9.5**).
- 9.5.29 Breeding ptarmigan were recorded during baseline surveys in 2022 and 2023, to the west of the MDA. Generally, only single birds were recorded during survey visits and breeding territories were primarily located outside of the study area (see **Confidential Figure 9.2.2 of Confidential Appendix 9.2 Confidential Ornithology**). Only a single breeding territory was present within the study area, in 2022 (see **Confidential Figure 9.2.2 of Confidential Appendix 9.1**).
- 9.5.30 Ptarmigan were also recorded during the non-breeding season, with observations of single birds recorded.
- 9.5.31 The species was not recorded during baseline surveys for the Glenmorie Wind Farm and no additional known records were provided by FLS or the RSPB Data unit within the study area.
- 9.5.32 The elevation of the MDA ranges between 340 m to 838 m AOD, with more mountainous areas of Carn Chuinneag to the northwest of the MDA. Much of the Development Site is however below 700 m, where ptarmigan in Scotland do not generally breed (750 m being the lower altitude over much of their range in Scotland; as per Watson and Rae, 1993 cited in Calladine and Wernham, 2007). The lower elevation and afforested habitats along the Existing Forestry Access Track are not suitable for the species.

¹⁸ See Figure B12 of the Glenmorie Wind Farm ES.

Divers

Black-Throated Diver

- 9.5.33 **Study area:** 2 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).
- 9.5.34 Only a single black-throated diver observation was made over the course of baseline surveys. This comprised two birds recorded on a lochan within the study area during the 2022 breeding season (see **Confidential Figure 9.2.3 of Confidential Appendix 9.2 Confidential Ornithology**). No breeding evidence or flight activity was observed, and no observations of black-throated diver were made in 2023.
- 9.5.35 Similarly, only a single record of black-throated diver was obtained during surveys for the Glenmorrie Wind Farm. This comprised a single bird in 2010, feeding on a lochan to the north of the Development Site. No additional existing records were provided by the RSPB Data Unit or FLS within the study area.
- 9.5.36 Both waterbodies for which black-throated diver presence was observed during baseline surveys for the Proposed Development and for the Glenmorrie Wind Farm are located over 750 m from the nearest Proposed Development turbine locations and therefore beyond currently advised disturbance buffers for the species during the breeding season (750 m as per Goodship and Furness, 2022).
- 9.5.37 There are no additional suitable breeding lochs or lochans for black-throated diver located within potential disturbance distance of the Existing Forestry Access Route.

Red-throated diver

- 9.5.38 **Study area:** 2 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).
- 9.5.39 Red-throated divers were recorded at five lochans within the study area during baseline surveys over the 2022 and 2023 breeding seasons (RH_1-5 as shown on **Confidential Figure 9.2.3 of Confidential Appendix 9.2 Confidential Ornithology**).
- 9.5.40 In 2022, red-throated divers were recorded at two lochans with a confirmed breeding attempt recorded at one of those lochans (RH_2). In accordance with recommendations set out in NatureScot guidance (2025f), focal loch watches were undertaken overlooking the confirmed breeding lochan (RH_2), to record incoming and outgoing flight activity of red-throated diver during the incubation and chick-rearing period.
- 9.5.41 Breeding activity was also recorded at the second lochan (RH_1) in April 2022, but the attempt was considered to have later failed, with no confirmed breeding evidence subsequently observed. Focal loch watches could therefore not be undertaken.
- 9.5.42 In 2023, red-throated divers were recorded at five lochans, with possible breeding evidence again recorded at one lochan (RH_2) and for which focal loch watches were again undertaken. Single or pairs of birds were recorded at all other lochans although no confirmed breeding evidence was observed suggesting any advanced breeding attempts (to incubation) had been made. Focal loch watches were however undertaken over an additional lochan (RH_4) to further understand species movements around the MDA.
- 9.5.43 All lochans for which red-throated diver presence during the breeding season was recorded are located over 750 m from the nearest Proposed Development turbine locations (and other infrastructure) and therefore beyond currently advised disturbance buffers for the species during the breeding season (750 m as per Goodship and Furness, 2022).

- 9.5.44 There are no additional suitable breeding lochs or lochans for red-throated diver located within potential disturbance distance of the Existing Forestry Access Track and neither FLS nor the RSPB data unit provided any additional existing records for the study area.
- 9.5.45 Focal loch watches and flight activity surveys over both surveyed breeding seasons did not identify the presence of regularly used flight corridors by red-throated divers intersecting the MDA. Flights were however noted to occur to the north and south of the MDA (see **Confidential Figure 9.2.1** and **Confidential Figure 9.2.3** of **Confidential Appendix 9.2 Confidential Ornithology**).
- 9.5.46 Baseline surveys for the Glenmorrie Wind Farm also reported that red-throated divers nested regularly within its 2 km survey area in 2005, 2006, 2007 and 2010; three waterbodies were used as nest sites, although only one lochan was occupied in any year. All waterbodies are stated as being between 600 m and 1 km from the nearest previously proposed Glenmorrie Wind Farm turbine locations; and so considered at least 750 m from the nearest Proposed Development turbines. Flight activity collated from the three breeding lochs recorded sufficient information for flight corridors to be derived to inform the Glenmorrie Wind Farm turbine layout. It is stated within the Glenmorrie Wind Farm ES that no previously proposed turbine locations for the Glenmorrie Wind Farm are located within such corridor; turbine locations for the Proposed Development are therefore similarly considered to be located outwith such corridors.

Raptors

Golden eagle

- 9.5.47 **Study area:** 6 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).
- 9.5.48 From consultation with the HRSG and RSPB Data Unit, the Development Site is identified to lie within 6 km of four known golden eagle breeding ranges (EA_1 to EA_4); two to the south/southwest of the MDA, one to the west and one to the north (see **Confidential Figure 9.2.4** of **Confidential Appendix 9.2 Confidential Ornithology**).
- 9.5.49 The HRSG recorded breeding attempts at three of the four ranges over the course of baseline surveys (at EA_1, EA_3 and EA_4, in 2022 and 2023). It is understood that no data has been obtained by the HRSG for the fourth range (EA_2) since 2015.
- 9.5.50 No golden eagle breeding sites were recorded during baseline surveys or are otherwise known to occur within 2 km of the Development Site. The nearest known breeding site is located approximately 4 km from the nearest Proposed Development turbine location (for EA_2), but for which no recent data from the associated breeding range is understood to have been obtained by the HRSG. The nearest known recently occupied nest site is located over 5 km to the south of the nearest proposed turbine location (for EA_3) and for which the associated range has been occupied by an adult pair since at least 2016, fledging one young in 2019, 2021, 2023 and 2024 (HRSG Comms).
- 9.5.51 Baseline flight activity surveys recorded a total of 45 golden eagle flights over the two-year survey period (720 hours of observation), with activity including that of both adult male and female birds, sub-adult and juvenile birds. Activity was primarily recorded over Carn Cas nan Gahbhar and Bad a Bhathaich in the south-east of the MDA, between Garbhan Beag and Sron na Saibhaidhe to Garbhan Mor (lower slopes of Meall Bhenneit) and over Glac Seileach to the northeast of the MDA (see **Figure 9.7** and additionally **Figure 9.11**).
- 9.5.52 There was however variation in use of the area between survey years, with activity largely recorded to the north and north-east of the MDA (Garbhan Beag to Garbhan Mor) during the

2022 breeding season and 2022/2023 non-breeding season, and largely to the south-east of the MDA (over Carn Cas nan Gahbhar and Bad a Bhathaich) during the 2023 breeding season and 2023/2024 non-breeding season.

- 9.5.53 Observations of golden eagle flight made during winter walkovers, breeding wader and scarce breeding bird survey visits followed a similar general pattern, but also recorded additional areas of activity within the study area, including over the upper and westerly slopes Meall Bhenneit to the north east of the MDA and over Cairn Maire to the west of the MDA during the 2022 breeding season (see **Figure 9.11**).
- 9.5.54 Areas of flight activity recorded during baseline surveys in 2022 and 2024, are considered to be broadly comparable with that recorded during baseline surveys for the Glenmorie Wind Farm.
- 9.5.55 In review of the GET model (Fielding *et al.*, 2019) for the MDA and surrounding area (**Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**), which can provide a prediction of golden eagle spatial use by both dispersing and territory holding golden eagles, concentrated areas of flight activity recorded over the baseline survey period (and described above) also broadly accord with areas of higher predicted golden eagle use (i.e. activity broadly occurs over more continuous or connected areas assigned a value of 6+ by the GET model).
- 9.5.56 In further review of the GET model, the MDA can be seen to largely encompasses areas of lower predicted use by the GET model (<GET 6), or otherwise fragmented and disconnected areas of higher predicted use (GET 6+). The relatively low levels of flight activity recorded during baseline surveys and those for the Glenmorie Wind Farm, are therefore supportive of the MDA being sited in an area of less preferred habitat for golden eagles.
- 9.5.57 The Existing Forestry Access Track, passing through afforested areas is assigned a low value by the GET model, as such habitats are generally avoided by golden eagles (Fielding *et al.*, 2019).

Goshawk

- 9.5.58 **Study area:** 2 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).
- 9.5.59 A very low level of goshawk activity was recorded over the baseline survey period, with only a small number of flights observed, primarily over woodland habitats to the northeast of the MDA over (see **Figure 9.8** and **Figure 9.12**).
- 9.5.60 No evidence of breeding was recorded within 2 km of the MDA during surveys in 2022 or 2023, and no existing breeding records were provided for the wider study area by the HRSG, FLS or RSPB Data Unit. Only a single species' sighting record is held by FLS along the Existing Forestry Access Track.

Hen harrier

- 9.5.61 **Study area:** 2 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).
- 9.5.62 No evidence of breeding hen harrier was recorded within 2 km of the MDA during surveys in 2022 or 2023 and no recent breeding records were provided from within the study area by the HRSG, FLS or RSPB Data unit. Only a small number of sightings records were held by FLS along the Existing Forestry Access Track.

- 9.5.63 In review of information provided by the HRSG and the RSPB Data unit, two breeding territories are known to be present outside the study area, to the south of the Development Site and over 6 km from the nearest proposed turbine location. One territory is known to have been occupied between 2021 and 2023, with the other only in 2023.
- 9.5.64 Baseline surveys for the Glenmorrie Wind Farm did also not observe the presence of breeding hen harrier within the Development Site, or within 2 km from any of its proposed turbine locations.
- 9.5.65 Overall, only a low level of hen harrier flight activity was recorded during baseline surveys (see **Figure 9.8** and **9.12**). This occurred within both the breeding and non-breeding season and activity included that of adult male, juvenile and unaged ringtail birds. Flight activity observed in the breeding season occurred in the early and late parts of the 2022 and 2023 breeding seasons (March and June/July).
- 9.5.66 The overall low level of activity outside the core breeding season, suggests that the MDA did not provide an important foraging area for breeding pairs known to have been present within the wider area in 2022 and 2023.
- 9.5.67 No evidence of communal roosts was recorded within 2 km of the MDA or reported within the study area from existing datasets.

Merlin

- 9.5.68 **Study area:** 2 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).
- 9.5.69 During the 2022 and 2023 breeding season activity of male and female merlin were recorded in the east / north-east of the MDA, suggesting at least one territory to be present in that general location (**Confidential Figure 9.2.5 of Confidential Appendix 9.2 Confidential Ornithology**). Additional territorial behaviour was also recorded for a potential second pair in 2023, but outside of the study area and approximately 3 km from the nearest proposed turbine location (**Confidential Figure 9.2.5 of Confidential Appendix 9.2 Confidential Ornithology**).
- 9.5.70 No recent breeding records within the study area were provided by the HRSG, RSPB Data unit or FLS. Only a small number of sightings were reported by FLS along the Existing Forestry Access Track.
- 9.5.71 The presence of up to two breeding merlin territories in proximity to the MDA is broadly consistent with findings of baseline surveys for the Glenmorrie Wind Farm.
- 9.5.72 Overall, flight activity recorded during baseline surveys was very low and did not suggest the main area of the MDA comprised an important foraging area for breeding or non-breeding merlin (see **Figure 9.8** and **Figure 9.12** and **Confidential Figure 9.2.5 of Confidential Appendix 9.2 Confidential Ornithology**).

Osprey

- 9.5.73 **Study area:** 2 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).
- 9.5.74 No osprey nest sites were recorded within 2 km of the MDA, and no breeding records within the study area were provided by the HRSG, RSPB Data unit or FLS. A small number of sighting records were provided by FLS along the Existing Forestry Access Track and the HRSG provided distant records of a known nesting area over 10 km to the north of the MDA.

9.5.75 Osprey activity recorded over the baseline survey period comprised three observations of single birds (**Figure 9.12**). There was no evidence to suggest that any of the waterbodies within 2 km of the MDA were of importance for foraging during the breeding season.

9.5.76 The low level of activity is also considered to be consistent with findings of observations for the Glenmorie Wind Farm.

Peregrine falcon

9.5.77 **Study area:** 2 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).

9.5.78 Only a single peregrine falcon sighting was made over the course of baseline surveys, which comprised a single flight of a single bird to the north of the MDA in May 2023 (**Figure 9.12**).

9.5.79 No breeding records within the study area were provided by the HRSG, RSPB Data unit or FLS. The nearest known breeding site provided by the HRSG is located over 7 km from the nearest Proposed Development turbine location.

9.5.80 The low level of activity and absence of recorded breeding sites is also considered to be consistent with baseline survey findings for the Glenmorie Wind Farm.

Red kite

9.5.81 **Study area:** 2 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).

9.5.82 In contrast with previous surveys for the Glenmorie Wind Farm, red kite flight activity was recorded frequently over the baseline survey period, likely as a result of the species continued re-establishment across Scotland following reintroduction efforts.

9.5.83 No nest sites or evidence of breeding were recorded within 2 km of the MDA during baseline surveys in 2022 and 2023 and no breeding records were provided from within the study area by the HRSG, RSPB Data unit or FLS. Breeding records were however provided by the HRSG and RSPB Data Unit for the wider surrounding area, primarily to the south-east of the study area, with the nearest known nest site located over 8 km from the nearest proposed turbine location. FLS held only records of sightings along the Existing Forestry Access Track.

9.5.84 Flight activity was observed during both the breeding and non-breeding seasons but primarily occurred in the east or outside of the MDA to the north and south (**Figure 9.8** and **9.12**). The overall low level of activity recorded does however suggest the MDA is of relatively low importance for foraging birds.

9.5.85 No evidence of roosting was recorded within 2 km of the MDA or reported within existing datasets for the study area.

White-Tailed Eagle

9.5.86 **Study area:** 6 km buffer from the MDA / 1 km buffer from the Existing Forestry Access Track (**Figure 9.3**).

9.5.87 Five observations of white-tailed eagle were made over the baseline survey period, which comprised flights of single birds, with adult and sub-adult birds recorded (**Figure 9.7** and **9.11**).

9.5.88 Only one flight was recorded during flight activity surveys and which transited through the MDA (**Figure 9.8**), suggesting the MDA is of relatively low importance for foraging birds.

- 9.5.89 No nests sites or potential roost sites were recorded within 2 km of the MDA, and no breeding records were provided from within the study area by the HRSG, RSPB Data unit or FLS. The low level of activity and absence of nest sites is consistent with survey findings for the Glenmorie Wind Farm.
- 9.5.90 No evidence of communal roosts was recorded within 2 km of the MDA or reported within existing datasets for the study area.

Waders

- 9.5.91 **Study area:** 500 m buffer from the MDA and Existing Forestry Access Track (**Figure 9.5**).
- 9.5.92 Breeding wader surveys undertaken in 2022 and 2023 which focussed on habitats within the MDA and an appropriate buffer, recorded five target wader species of higher conservation interest: curlew, dotterel, dunlin, golden plover and greenshank.
- 9.5.93 The afforested habitats along the Existing Forestry Access Track are generally unsuitable for breeding waders as species of moorland and open country.
- 9.5.94 The number of estimated breeding territories for all target wader species recorded during survey both within and overlapping the study area is summarised in **Table 9.6**, with breeding registrations illustrated on **Figures 9.13, 9.14** and **Confidential Figure 9.2.6** of **Confidential Appendix 9.2 Confidential Ornithology** (Schedule 1 listed dotterel and greenshank).
- 9.5.95 Single observations of lapwing and woodcock (single birds) were also made during the non-breeding season but no breeding evidence was recorded for either species. The lapwing record was heard only (unmapped) with the woodcock observation illustrated on **Figure 9.13**.
- 9.5.96 The breeding wader assemblage recorded within the study area also includes some species of lower conservation priority which are not generally considered sensitive to onshore wind farm developments (i.e. not listed on Annex 1 of NatureScot guidance, 2025b) These are common sandpiper and snipe, for which a relatively small number of territories were recorded within the study area.

Table 9.6 Breeding wader territories within the study area

Species	No. of Territories 2022	No. of Territories 2023
Curlew	0	0-1 (east of access track)
Dotterel	0-1	0
Dunlin	1-5	3
Golden plover	6-7	7-8
Greenshank	2-4	5-7

Curlew

- 9.5.97 Curlew were recorded during the 2023 breeding season only, with one territory overlapping the study area to the east of the Existing Forestry Access Track (**Figure 9.13**). No breeding pairs were recorded within the MDA or within 500 m of any proposed turbine location. No flight activity was recorded.
- 9.5.98 The low level of overall activity is consistent with findings from the Glenmorie Wind Farm, and no additional existing records were provided from within the study area by the RSPB Data unit or FLS.

Dotterel

- 9.5.99 A single observation of pair of dotterel was recorded during the 2022 breeding season, within the west of the study area (**Confidential Figure 9.2.6 of Confidential Appendix 9.2 Confidential Ornithology**). However no further breeding evidence or sightings of the species was recorded.
- 9.5.100 The habitats within the Development Site are largely unsuitable for dotterel, with the species typically associated with montane habitats on ridges and plateaux above 800m AOD (e.g. Gilbert *et al.*, 1998). It is therefore considered unlikely the pair bred within the MDA or survey area (see **Figure 9.5**) and the pair was likely recorded on passage to suitable breeding grounds. No additional existing records were provided from within the study area by the RSPB Data unit or FLS.

Dunlin

- 9.5.101 Up to five breeding dunlin pairs were recorded to be present within the study area in 2022 and 2023 (**Figure 9.13**), closely associated with areas of blanket bog and small lochan systems within the MDA. A similar distribution was recorded during baseline surveys for the Glenmorie Wind Farm.
- 9.5.102 Only a single flight was recorded during flight activity surveys, which was observed during the species' non-breeding season (**Figure 9.9**). No additional existing records were provided from within the study area by the RSPB Data unit or FLS.

Golden Plover

- 9.5.103 During surveys in 2022 and 2023, golden plover breeding territories were found to be widely distributed within the MDA and moorland habitats of the wider survey area (**Figure 9.14**) which is consistent with baseline surveys for the Glenmorie Wind Farm.
- 9.5.104 Up to eight territories were recorded within or likely overlapping with the study area. A total of 21 flights were also recorded during flight activity surveys (**Figure 9.9**), with the majority recorded during the 2023 breeding season and primarily involving one or two birds.
- 9.5.105 No additional existing records from within the study area were provided by the RSPB Data unit or FLS.

Greenshank

- 9.5.106 The presence of breeding greenshank was recorded within the survey area in 2022 and 2023, with up to seven territories recorded within or likely overlapping the study area in 2023 (**Confidential Figure 9.2.6 of Confidential Appendix 9.2 Confidential Ornithology**) and closely associated with areas of blanket bog and small lochan systems. A very low level of flight activity was recorded, restricted to the 2022 breeding season (**Figure 9.9**).
- 9.5.107 Baseline surveys for the Glenmorie Wind Farm similarly confirmed the presence of greenshank in similar locations, although a smaller number of breeding territories were estimated.
- 9.5.108 No additional existing records from within the study area were provided by the RSPB Data unit or FLS.

Wildfowl and Gulls

- 9.5.109 **Study area:** 500 m buffer from the MDA and Existing Forestry Access Track (**Figure 9.5**).

Greylag goose

- 9.5.110 Greylag geese were recorded only occasionally flying over the MDA, primarily during the 2022 and 2023 breeding seasons (**Figures 9.10 and 9.15**).
- 9.5.111 Only a single flight was recorded during flight activity surveys, and which comprised a flock of three birds in November 2023 to the north of the MDA and outside the CRAA (**Figure 9.10**). No collision mortality risk is therefore predicted for the species.
- 9.5.112 The upland open moorland habitats within the MDA and afforested habitats along the Existing Forestry Access Track, are unsuitable for foraging geese and there was no evidence of lochans within or adjacent to the MDA being utilised for roosting.
- 9.5.113 The low level of flight activity is consistent with that recorded for the Glenmorrie Wind Farm.

Pink-footed goose

- 9.5.114 Pink-footed geese were recorded frequently in flight during flight activity surveys. The upland open moorland habitats within the MDA and afforested habitats along the Existing Forestry Access Track are however unsuitable for foraging geese.
- 9.5.115 There was no evidence of lochans within or adjacent to the MDA being utilised for roosting.

Gulls (herring and common)

- 9.5.116 Herring gulls (**Figure 9.13 and 9.14**) and common gulls (as a secondary species) were also occasionally recorded in flight during baseline surveys, but there was no evidence of breeding, roosting or foraging recorded.

Additional Species

- 9.5.117 A single observation of wryneck (single bird heard calling in forestry) was also made over the course of surveys, but no evidence of breeding was recorded.

Future Baseline

- 9.5.118 In the absence of the Proposed Development, or assuming a gap between baseline surveys and the commencement of the Proposed Development, any substantive changes in baseline ornithological conditions (for example, in the distribution and population of breeding species), would most likely occur due to large scale habitat modifications within the Development Site, or due to widespread management practices.
- 9.5.119 As such, providing estate management within the MDA is not significantly altered, and management along the Existing Forestry Access Track predominantly remains under commercial forestry interests (and under the current forest management strategy), it is most likely that the baseline ornithological assemblage recorded will remain relatively unchanged.
- 9.5.120 The MDA is also not subject to any other development pressures, which may have the potential to affect habitats and species in such a way to substantially alter the baseline reported here.
- 9.5.121 Improved habitats for moorland birds along the Existing Forestry Access Track including at its Garbhan Rock terminal, and around Strathrusdale (location of a proposed Borrow Pit search area), may arise in the longer term (following cessation of construction works) as a result of peatland restoration area proposed by FLS. Such areas being adjacent to retained forestry coupes are however, in the main located over 300 m from proposed turbine locations, and are

therefore unlikely to result in any substantive changes to the distribution, abundance and activity of breeding moorland birds recorded within the MDA during baseline surveys.

- 9.5.122 Breeding bird densities at least in the short-medium term, would therefore reasonably be expected to remain at comparable levels with those recorded during field surveys and identified through desk study, although remaining subject to minor inter-annual variation and existing local population pressures.
- 9.5.123 The UKCP18 climate change projections do show a general trend towards warmer, wetter winters and hotter, drier summers. These factors may result in extensions to breeding bird seasons, with the potential for increases in some species breeding productivity.
- 9.5.124 Conversely it may also result in unfavourable habitat changes, changes to prey availability and species survival rates. This makes predicting future outcomes very difficult.
- 9.5.125 Breeding productivity for some species sensitive to precipitation rates e.g. ground nesting species including breeding raptors or divers, may reduce, given the predicted higher rates of average precipitation across the lifespan of the Proposed Development (according to the UKCP18 climate change projections). This would most likely occur in line with national trends for such and there is no reason to anticipate that the baseline bird assemblage established to be using the Development Site would change substantially over the lifespan of the Proposed Development due to climate change.
- 9.5.126 Whilst short-term and small-scale variability in ornithological populations and distributions may occur, and revisions to conservation statuses and statutory designation sites for nature conservation are possible, such changes would be unlikely to qualitatively alter the conclusions of the assessment and have been accounted for through the adoption of a precautionary approach and appropriate standard good practice mitigation measures.

9.6 Embedded Mitigation

Mitigation by Design

- 9.6.1 In accordance with NatureScot's standard advice (2025b) a buffer of at least 500 m between recorded black grouse lek locations and proposed turbine locations and additional key operational infrastructure (including met mast, substation and BESS locations), has been adopted for scheme design purposes.
- 9.6.2 The locating of key infrastructure has also been avoided within:
- 750 m of waterbodies for which red-throated and/or black-throated diver presence was recorded; and
 - 200 m of ptarmigan breeding locations.
- 9.6.3 Scheme design has also sought to avoid or otherwise reduce direct and indirect habitat losses from areas of blanket bog within the MDA, associated with the presence breeding waders, including greenshank and dunlin.
- 9.6.4 All cables linking turbines and the on-site substation, have also been undergrounded in trenches alongside proposed access tracks to avoid additional collision risks to all bird species.

- 9.6.5 Scheme design has also avoided the locating of turbines within any principal foraging flight corridors used by commuting red-throated divers identified to the north and south of the MDA during baseline surveys, and which align with those previously identified for the Glenmorrie Wind Farm.

Standard Mitigation Measures

- 9.6.6 This chapter has been prepared on the basis that the following industry standard good practice measures will form part of the Proposed Development:

- The implementation of a Construction Environmental Management Plan (CEMP) based on the Outline CEMP presented as **Appendix 4.2 Outline Construction Environmental Management Plan**. The CEMP will be finalised in consultation with relevant consultees and include all relevant measures, responsibilities and procedures to avoid, reduce or control potential construction-phase impacts on environmental receptors, including habitats and the water environment within and surrounding construction working areas.
- To ensure reasonable precautions are taken to avoid disturbance to birds and comply with environmental legislation, during construction (and decommissioning), and where relevant, during the operation of the Proposed Development, the Applicant (or subsequent operator of the Proposed Development) will appoint a suitably qualified ECoW who will advise its appointed contractors on all ornithological (and ecological) matters (with the assistance of a suitably qualified/licenced ornithologist as required). The ECoW will be present onsite during the construction and decommissioning periods where necessary, and will carry out monitoring of works and briefings with regards to any ornithological sensitivities to appointed contractors;
- Any habitat areas disturbed around permanent infrastructure and/or construction compounds during construction will be temporary and land will be reinstated or restored at the end of the construction period in accordance with the Proposed Development's CEMP, based on the Outline CEMP presented as **Appendix 4.2 Outline Construction Environmental Management Plan**;
- Borrow pits will be excavated as required during the construction period and will be reprofiled at the end of the construction period in accordance with the CEMP; and
- A Bird Disturbance Management Plan (BDMP) will be prepared and implemented for the Proposed Development, which will detail good practice and species-specific measures to be implemented during construction, decommissioning and where relevant during operation, to enable legislative compliance and safeguard all wild and sensitive bird species including those listed on Schedule A1, 1 and 1A of the Wildlife and Countryside Act 1981 (as amended). The BDMP shall be informed by information obtained during baseline studies, pre-commencement surveys following recommended methodologies set out in NatureScot guidance (2025f) and/or species-specific guidance (e.g. Gilbert *et al.*, 1998 and Hardey *et al.*, 2013), consultation third-party recording groups (as necessary) and require the implementation of suitable working restrictions defined in consultation with NatureScot (e.g. the adoption of recommended disturbance avoidance

buffers as per Goodship and Furness, 2022). The following minimum species-specific measures would be included within the BDMP, based on currently advised disturbance buffers (Goodship and Furness, 2022), NatureScot standard advice (2025b) and NatureScot site-specific advice (see **Table 9.1**):

- Black grouse; a 750 m buffer will be applied around identified lek locations, within which suitable working restrictions will be implemented before 9am in the months of April and May and overseen by the appointed ECoW. Additionally no blasting will be undertaken within the Development Site before 9am in the months of April and May.
- Dotterel (Schedule 1); a 400 m buffer will be applied around any identified active nest locations, within which working restrictions will be implemented and overseen by the appointed ECoW.

9.7 Identification of Important Ornithological Features (IOFs)

Scoped-out features

9.7.1 Following review of baseline information, reference to NatureScot guidance (2025b and 2025c) and the exercise of professional judgement, ornithological features summarised in **Table 9.7** have been scoped out of the assessment due to a lack of potential for significant effects.

9.7.2 This is on the basis of:

- Low levels of activity recorded and absence of potentially significant breeding disturbance, displacement and/or collision mortality risks;
- Species being common or of low conservation priority;
- Species not listed as a 'Priority bird species for assessment when considering the development of onshore wind farms in Scotland (NatureScot, 2025c); and/or
- Implementation of Standard measures as part of the Proposed Development to enable the protection of all wild breeding birds and legislative compliance during the construction, operation and decommissioning phase (see **Section 9.6**).

Table 9.7 Scoped-out Ornithological Features

Feature	Justification
Ben Wyvis SPA and SSSI Beinn Dearg SPA and SSSI	Designated for breeding dotterel but located sufficiently distant from the Proposed Development to preclude potential connectivity, based on comparative species typical foraging ranges. Information to inform a HRA is presented within Appendix 8.7 Information to Inform a Habitats Regulations Appraisal .
Novar Forest SPA Morangie Forest SPA	Designated for breeding capercaillie but located sufficiently distant from the Proposed Development to preclude potential connectivity, based on core foraging ranges recorded in Scotland. Information to inform a HRA is presented within Appendix 8.7 Information to Inform a Habitats Regulations Appraisal .

Feature	Justification
Strath Carnaig and Strath Fleet Moors SPA and SSSI	Designated for breeding hen harrier but located sufficiently distant from the Proposed Development to preclude potential connectivity, based on species core foraging ranges and alternative nesting ranges. Potential hydrological connectivity not otherwise specifically advised by NatureScot. Information to inform a HRA is presented within Appendix 8.7 Information to Inform a Habitats Regulations Appraisal.
Caithness and Sutherland Peatlands SPA and Ramsar site Grudie Peatlands SSSI	Located sufficiently distant from the Proposed Development to preclude connectivity based on qualifying feature core foraging ranges, alternative nesting ranges or comparative species typical foraging ranges. Information to inform a HRA is presented within Appendix 8.7 Information to Inform a Habitats Regulations Appraisal.
Comarty Firth SPA and Ramsar site Cromarty Firth SSSI	Located within the core foraging range of greylag goose (20km). Located sufficiently distant from the Proposed Development to preclude connectivity for all other qualifying features, based on core species foraging ranges or comparative species typical foraging ranges. Potential hydrological connectivity additionally advised by NatureScot which is covered in Chapter 13 Geology, Hydrology, Hydrogeology and Peat. The absence of significant effects upon the designations non-breeding greylag goose population and supporting habitats within the designation boundary, can however be concluded on the basis of the low level of importance of the development site for greylag goose, absence of collision mortality risks for such, and the implementation of standard mitigation measures to avoid habitat deterioration via hydrological pathways. Information to inform a HRA is presented within Appendix 8.7 Information to Inform a Habitats Regulations Appraisal.
Dornoch Firth and Loch Fleet SPA and Ramsar site Dornoch First SSSI Morrich More SSSI	Located within the regular foraging range of breeding osprey (20 km) and core foraging range of greylag goose (20km). Located sufficiently distant from the Proposed Development to preclude connectivity for all other qualifying features, based on core species foraging ranges or comparative species typical foraging ranges. Potential hydrological connectivity additionally advised by NatureScot which is covered in Chapter 13 Geology, Hydrology, Hydrogeology and Peat. The absence of significant effects upon the designations non-breeding greylag goose and breeding osprey populations and supporting habitats within the designation boundary, can however be concluded on the basis of the low level of importance of the development site for osprey and greylag goose, absence of collision mortality risks for such, and the implementation of standard mitigation measures to avoid habitat deterioration via hydrological pathways. Information to inform a HRA is presented within Appendix 8.7 Information to Inform a Habitats Regulations Appraisal.
Capercaillie	Capercaillie were not recorded during baseline surveys, and only a small number of records were found to exist within the study area, comprising historical sighting records of individual birds. No breeding or lekking records were identified within at least 2 km of the Proposed Development and the Ardross and Kildermorie Forestry Blocks,

Feature	Justification
	through which the Existing Forestry Access Track passes are not considered to support a resident population of the species. The potential for disturbance and displacement impacts, or collision mortality risks to capercaillie is therefore very limited.
Ptarmigan	A very low level of ptarmigan activity recorded during baseline surveys and the Development Site and wider study area is considered to be on the periphery of the species' higher elevation breeding range in Scotland (>750 m AOD). Scheme design has adopted a 200 m avoidance buffer of recorded potential breeding territories in accordance with industry guidance (see Section 9.6) to avoid (or otherwise minimise) potential disturbance and displacement within recorded breeding habitats. No collision mortality risk is predicted for the species. Standard mitigation measures as part of the Proposed Development will also enable the protection of any breeding birds from disturbance during construction, operation and decommissioning phases (see Section 9.6). The potential for any likely significant effects from disturbance, displacement or collision mortality risk can therefore be precluded. Peatland restoration measures outlined within Appendix 8.6: Outline Habitat Management Plan, are also considered likely to provide benefit for the species, at least at a local level, through improved foraging and potential nesting opportunities, including within areas away from operational infrastructure.
Black-throated diver	A very low level of black-throated diver activity was recorded during baseline surveys and no known breeding sites were identified within the study area. This suggests that the study area is likely only used on occasion by non-breeding birds. No collision mortality risk is predicted for the species. Scheme design has adopted a 750 m buffer from waterbodies recorded to support black-throated (and red-throated diver) and which will serve to avoid the potential disturbance and displacement to birds that continue to use such waterbodies within the study area. Standard mitigation measures as part of the Proposed Development will also enable the protection of any breeding birds from disturbance during construction, operation and decommissioning phases (see Section 9.6). The potential for any likely significant effects from disturbance, displacement or collision mortality risk can therefore be precluded.
Goshawk	No evidence of breeding goshawk was recorded during baseline surveys and a low overall level of activity recorded. Collision mortality risks are estimated as less than one collision over the operational lifetime of the Proposed Development, and which is unlikely to be significant alone or contribute materially to potentially significant cumulative risks for the species relevant regional population. Considering the species' limited known presence within the study area and implementation of standard mitigation measures as part of the Proposed Development to enable the avoidance of disturbance to any possible future breeding birds (primarily within suitable forested habitats along the Existing Forestry Access Track; see Section 9.6), the absence of any likely significant effects from disturbance, displacement or collision mortality risk can be concluded.

Feature	Justification
Hen harrier	No known hen harrier breeding or roosting sites were identified within the study area, and a very low incident of flight activity was recorded suggesting the MDA is of low importance to foraging birds. Less than one collision is predicted to occur over the operational lifetime of the Proposed Development (40 years) and which is unlikely to be significant for the species relevant regional population. Considering the species' limited known presence within the study area and implementation of standard mitigation measures as part of the Proposed Development to enable the avoidance of disturbance to any possible future breeding (or where relevant roosting birds) (see Section 9.6), the absence of any likely significant effects from disturbance, displacement or collision mortality risk can be concluded. Peatland restoration measures outlined within Appendix 8.6: Outline Habitat Management Plan, are also considered likely to provide benefit for the species, at least at a local level, through improved foraging and potential nesting opportunities, including within areas away from operational infrastructure.
Osprey	No osprey breeding sites were identified within the study area and on the basis of low levels of flight activity recorded, waterbodies within and adjacent to the MDA were not identified as providing important foraging opportunities for the species. No collision mortality risk is estimated for the species, Considering the species' limited known presence within the study area and implementation of standard mitigation measures as part of the Proposed Development to enable the avoidance of disturbance to any possible future breeding birds (see Section 9.6), the absence of any likely significant effects from disturbance, displacement or collision mortality risk can be concluded. A summary of information to inform an HRA in relation to the Cromarty Firth and Dornoch Firth SPAs and Ramsar sites (and under pinning SSSIs) breeding osprey population is however presented within Appendix 8.7 Information to Inform a Habitats Regulations Appraisal.
Peregrine	No peregrine breeding sites were identified within the study area and on the basis of low levels of flight activity recorded, habitats within the MDA were not identified as providing important foraging opportunities for the species. No collision mortality risk is estimated for the species, Considering the species' limited known presence within the study area and implementation of standard mitigation measures as part of the Proposed Development to enable the avoidance of disturbance to any possible future breeding birds (see Section 9.6), the absence of any likely significant effects from disturbance, displacement or collision mortality risk can be concluded. Peatland restoration measures outlined within Appendix 8.6: Outline Habitat Management Plan, are also considered likely to provide benefit for the species, at least at a local level, through improved foraging opportunities, including within areas away from operational infrastructure.
Red kite	No red kite breeding or roosting sites were identified within the study area and the overall low level of activity suggests that habitats within the MDA are of relatively low importance for foraging birds. Less than one collision is predicted to occur over the operational lifetime of the Proposed Development (40 years) and which is unlikely to be significant for the species relevant regional population.

Feature	Justification
	Considering the species' limited known presence within the study area and implementation of standard mitigation measures as part of the Proposed Development to enable the avoidance of disturbance to any possible future breeding (or where relevant roosting) birds (see Section 9.6), the absence of any likely significant effects from disturbance, displacement or collision mortality risk can be concluded.
White-tailed eagle	No white-tailed eagle breeding or roosting sites were identified within the study area and the overall low level of activity suggests that habitats within the MDA are of relatively low importance for foraging birds. Less than one collision is predicted to occur over the operational lifetime of the Proposed Development (40 years) and which is unlikely to be significant for the species relevant regional population. Considering the species' limited known presence within the study area and implementation of standard mitigation measures as part of the Proposed Development to enable the avoidance of disturbance to any possible future breeding (or where relevant roosting) birds (see Section 9.6), the absence of any likely significant effects from disturbance, displacement or collision mortality risk can be concluded.
Common sandpiper	Small number of breeding territories recorded and species is not considered a priority during the assessment of onshore wind farms in Scotland (NatureScot, 2025b). No collision mortality risk predicted. Standard mitigation measures as part of the Proposed Development will enable the protection of any breeding birds from disturbance during construction, operation and decommissioning phases (see Section 9.6). The potential for any likely significant effects from disturbance, displacement or collision mortality risk can therefore be precluded. Peatland restoration measures outlined within Appendix 8.6: Outline Habitat Management Plan, are also considered likely to provide benefit for the species, at least at a local level, through improved foraging and potential nesting opportunities, including within areas away from operational infrastructure.
Curlew	A limited presence of curlew was recorded within the study area and no collision mortality risk predicted. Standard mitigation measures as part of the Proposed Development will enable the protection of any breeding birds from disturbance during construction, operation and decommissioning phases (see Section 9.6). The potential for any likely significant effects from disturbance, displacement or collision mortality risk can therefore be precluded. Peatland restoration measures outlined within Appendix 8.6: Outline Habitat Management Plan, are also considered likely to provide benefit for the species, at least at a local level, through improved foraging and potential nesting opportunities, including within areas away from operational infrastructure.
Dotterel	A limited presence of dotterel was recorded during baseline surveys, likely due to the study area being on the periphery of the species altitudinal breeding range (>800 m AOD). No collision mortality risk is predicted and the implementation of standard mitigation measures as part of the Proposed Development will enable the protection of any (unlikely) breeding birds from disturbance during construction, operation and decommissioning phases (see Section 9.6).

Feature	Justification
	Peatland restoration measures outlined within Appendix 8.6: Outline Habitat Management Plan are also considered likely to provide benefit for the species, at least at a local level for transient birds, through improved foraging opportunities, including within areas away from operational infrastructure.
Snipe	Small number of breeding territories recorded and species is not considered a priority during the assessment of onshore wind farms in Scotland (NatureScot, 2025b). No collision mortality risk predicted. Standard mitigation measures as part of the Proposed Development will enable the protection of any breeding birds from disturbance during construction, operation and decommissioning phases (see Section 9.6). The potential for any likely significant effects from disturbance, displacement or collision mortality risk can therefore be precluded. Peatland restoration measures outlined within Appendix 8.6: Outline Habitat Management Plan, are also considered likely to provide benefit for the species, at least at a local level, through improved foraging and potential nesting opportunities, including within areas away from operational infrastructure.
Pink-footed goose and greylag goose	The upland moorland habitats within the MDA and afforested habitats along the Existing Forestry Access Track are unsuitable for foraging geese and there was no evidence of lochans within the survey area being utilised for roosting. In relation to pink-footed goose, it is NatureScot's current advice¹⁹ that in light of the high avoidance rate recommended for pink-footed goose (99.8%; NatureScot, 2025c), the estimation of collision mortality risks for the species is only required where a development has connectivity with a designated site, where the species is a qualifying interest. The Proposed Development has no potential for connectivity with any such designated site therefore the assessment of collision mortality risks for pink-footed goose is not required. Predicted risks are however very small (less than one collision over the Proposed Developments operational lifetime), and very unlikely to be significant for the species. No collision risk is predicted for greylag goose, with a very low level of flight activity recorded. Considering the limited importance of the study area for both species, a detailed assessment of potentially significant disturbance, displacement and collision mortality risks is not required. A summary of information to inform an HRA in relation to the Cromarty Firth and Dornoch Firth SPAs and Ramsar sites (and under pinning SSSIs) greylag goose population is presented within Appendix 8.7 Information to Inform a Habitats Regulations Appraisal.
Gulls (incl. herring and common gull)	Two species of gull, herring gull and common gull, were recorded over the course of baseline surveys. Overall a very low level of activity was recorded, largely limited to observations of single or small groups of birds in flight or landing on lochans in the study area. There was no evidence of breeding or roosting, and the absence of any high or regular activity does not suggest the MDA comprises an important foraging area for these species locally. No collision mortality risk is predicted for herring gull, on the basis of the low level of flight activity recorded. Collision risks for common gull

¹⁹ NatureScot general guidance on wind farm impacts on birds (updated 30th June 2025). Available at: <https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/renewable-energy/onshore-wind-energy/wind-farm-impacts-birds>.

Feature	Justification
	would similarly likely be very small based on the level of activity recorded. Considering the limited importance of the study area for both species, a detailed assessment of potentially significant disturbance, displacement and collision mortality risks is not required. .
Additional Species (incl. wryneck)	No potentially significant effects are considered likely to occur upon wryneck given relatively small amounts of potentially suitable woodland habitat for the species that may be impacted along the Existing Forestry Access Track. No other species considered to be a priority for assessment was recorded during baseline surveys. Providing the implementation of standard mitigation measures as part of the Proposed Development this will enable the protection of any breeding birds from disturbance during construction, operation and decommissioning phases (see Section 9.6). The potential for any likely significant effects from disturbance, displacement or collision mortality risk can therefore be precluded.

Scoped-in features

- 9.7.3 The assessment therefore considers the potential for significant effects upon the following IOFs listed in **Table 9.8** – each of which are considered to be of ‘medium’ or ‘high’ Nature Conservation Interest (NCI) (in accordance with the criteria set out in **Appendix 9.3 Ornithology Assessment Methodology**), and as confirmed through baseline studies.
- 9.7.4 Overall sensitivity is based on combination of a features NCI (**Table 9.8**) and conservation status (**Table 9.9**).
- 9.7.5 On the basis of the very low level of collision mortality risk estimated for red-throated diver, dunlin and greenshank i.e. less than one birds over the operational lifetime of the Proposed Development, collision risk effects are not assessed in detail for these species and can be concluded as being of negligible significance and therefore not significant in the context of the EIA Regulations.

Table 9.8 Summary of scoped-in IOFs.

Feature	NCI	Justification
Black grouse	Medium	BoCC Red list. Priority bird species for assessment (NatureScot, 2025b) and site-specific NatureScot advice (Table 9.1). Impacts of disturbance, displacement and collision mortality risk assessed.
Red-throated diver	Medium	Annex I, Schedule 1, BoCC Green list. Priority bird species for assessment (NatureScot, 2025b). Impacts of disturbance and displacement assessed.
Golden eagle	Medium	Annex I, Schedule 1, BoCC Green list. Priority bird species for assessment (NatureScot, 2025b) and site-specific NatureScot advice (Table 9.1). Impacts of disturbance, displacement and collision mortality risk assessed.
Merlin	Medium	Annex I, Schedule 1, and BoCC Red listed. Priority bird species for assessment (NatureScot, 2025b). Impacts of disturbance, displacement and collision mortality risk assessed.

Feature	NCI	Justification
Dunlin	Medium	Annex I, BoCC Red list. Priority bird species for assessment (NatureScot, 2025b). Impacts of disturbance and displacement assessed.
Golden plover	Medium	Annex I, BoCC Green list. Priority bird species for assessment (NatureScot, 2025b). Impacts of disturbance, displacement and collision mortality risk assessed.
Greenshank	Medium	Schedule 1, BoCC Amber list. Priority bird species for assessment (NatureScot, 2025b) and site-specific NatureScot advice (Table 9.1). Impacts of disturbance and displacement assessed.

Table 9.9 Conservation status of Scoped in IOFs.

Feature	Conservation Status	Justification
Black grouse	Unfavourable	Black grouse features on the BoCC Red list due to historical population declines in the UK, without substantial recent recovery. It also qualifies due to a severe decline in the UK breeding population size of >50 % over 25 years. In 2005 Sim <i>et al.</i> (2008) estimated there to be 5,078 male black grouse in the UK, with approximately two-thirds of these occurring in Scotland. Forrester <i>et al.</i> (2012) has subsequently estimated that in Scotland there are around 3,550 to 5,750 lekking males, representing about 71 % of the British population. The most recent Great Britain population published by the Avian Population Estimates Panel (APEP; Woodward <i>et al.</i> 2020), was 4,850 males based on a bespoke calculation by N. J. Aebischer for the 2016 population. Assuming Scotland still supports the majority of the British lekking male population (between 60-70%), a current estimate for Scottish population may be in the region of 3,395 lekking males. The long-term decline in Scotland (1994-2023), as reported within official statistics published by NatureScot in February 2025, is - 63%²⁰. The rate of decline has however been reported to vary regionally, being higher in southwestern Scotland (-49 %) compared to north Scotland (-16 %) (Sim <i>et al.</i>, 2008). Evidence therefore suggests that the national and regional populations are likely in an unfavourable conservation status. The most recently estimated regional NHZ 7 population presented by Wilson <i>et al.</i> (2015) is 473 displaying males based on the national survey in 2005 (range 307 to 638) and which may be conservative based on continued declines in the British and Scottish population.
Red-throated diver	Unfavourable	The British breeding population of red-throated divers in 2006 was estimated by Dillon <i>et al.</i> (2009) to be 1,143 breeding pairs, significantly up from the previous survey in 1994, although this may be in part due to differences in recording methods. In the Scottish population as a whole, there has been considerable regional variation in trends between 1994 and 2006, with an apparent increase in numbers away from the Northern Isles. The NHZ 7 population was estimated by Wilson <i>et al.</i> (2015) to be 39 (range 19-64) pairs in 2006 and is considered to be in unfavourable

²⁰ Available at: <https://www.nature.scot/doc/official-statistics-scottish-terrestrial-breeding-birds-1994-2023>

Feature	Conservation Status	Justification
		conservation status due to its relatively low size, albeit this is likely in part to be a reflection of much of the NHZ's distance from the coast and availability of suitable feeding areas.
Golden eagle	Favourable	The Scottish golden eagle population has been relatively stable over the last few decades but has more recently shown signs of increasing, from a total of 442 breeding pairs estimated at the 2003 Scottish national census (Eaton <i>et al.</i>, 2007) to 508 territories following the 2015 Scottish national census (Hayhow <i>et al.</i>, 2017). The NHZ 7 golden eagle population was previously determined by Whitfield <i>et al.</i> (2008) to be in unfavourable conservation status, failing the Level 1 test for territory occupancy, with only of only 43 ranges out of 90 known occupied in 2003 (active target of 60). Formal updates to regional conservation status' following the 2015 census have not yet been published. In consultation with the HRSG, it is since understood that there are 63 occupied territories in NHZ 7 (K. Duncan and S. Benn <i>Pers Comms</i>, August 2025). The population may therefore now likely meet the criteria for favourable condition (at least at the lower end).
Merlin	Unfavourable	The last national merlin survey, carried out in 2008, suggested a UK breeding population of around 1,162 breeding pairs with about 733 pairs in Scotland (Ewing <i>et al.</i>, 2011). In comparison with the previous 1993-94 survey, this suggests an overall stable population, albeit with regional differences in success. The NHZ 7 population was last estimated to be 30 pairs (range 19-38) pairs in 2008 (Wilson <i>et al.</i>, 2015). A review of the various Scottish Raptor Monitoring Scheme (SRMS) regions identifies that NHZ 7 is most comparable in extent to the 'Highland' monitoring region. The most recent published Scottish raptor monitoring report (Challis <i>et al.</i>, 2023) for this region reports 13 ranges respectively occupied by pairs in 2023 (of the 26 ranges respectively checked). The latest analysis of SRMS data (for the period 2009-2018, Challis <i>et al.</i> 2022b) did not produce any national trends in the breeding number or productivity of merlin, but estimates were produced for five of the 12 SRMS regions (including the Highlands) and for six of the 20 NHZ regions (not including NHZ 7). For the Highlands the analysis suggested that the number of breeding merlin did not change significantly, although a downwards trend is illustrated. The conservation status of the regional/NHZ breeding merlin population is therefore unknown, but possibly declining or under-recorded outside of national census surveys.
Dunlin	Unfavourable	Dunlin was recently moved to the BoCC Red list owing to a decline in the non-breeding population; there was no robust information available to determine a trend in breeding population size. Woodward <i>et al.</i> (2020) estimated the national breeding population to be 8,600–10,500 pairs, based on 2005-07 data. The BTO BirdTrends²¹ website states that UK population estimates have suggested stability, however, there is evidence that declines may have occurred and its overall status as a breeding species is uncertain. The NHZ 7 population was estimated by Wilson <i>et al.</i> (2015) to be 90 (range 26-236) pairs, based on surveys carried out between 1980

²¹ For dunlin available at: <https://www.bto.org/learn/about-birds/birdfacts/dunlin>

Feature	Conservation Status	Justification
		and 2000, suggesting that the Northern Highlands is not a particular stronghold for the species. Overall, due to a lack of sufficient data, the national and regional breeding populations are considered likely to be in unfavourable conservation status.
Golden plover	Favourable	The UK golden plover breeding population was estimated to be 32,500-50,500 pairs in 2016 (Woodward <i>et al.</i>, 2020), although Forrester <i>et al.</i> (2012) give a Scottish breeding population estimate of 15,000 pairs, stating that this represents 80% of the British breeding population. The NHZ 7 population was estimated by Wilson <i>et al.</i> (2015) to be 3,009 (range 2,762-3,255) pairs in 2005. The BTO BirdTrends website²² states that there has been stability in Scotland and in the UK as a whole (1995–2023), following earlier declines, and so the Wilson <i>et al.</i> (2015) estimate is likely to reflect the current the regional NHZ 7 population, and which is thought to have some of the highest breeding densities in the UK. Overall, the national and regional breeding populations are considered to be in favourable conservation status.
Greenshank	Favourable	The UK greenshank breeding population was estimated to be 1,100 pairs in 1995 (Woodward <i>et al.</i>, 2020). The Scottish breeding population has more recently been estimated as 1,297 pairs (range 851-1,792) by Wilson <i>et al.</i> (2015), although it was considered by the authors that this may be a significant underestimate. Humphreys <i>et al.</i> (2017) reported an apparent increase in the Scottish breeding population, with a moderate increase in winter numbers, suggesting that the species' national population is on balance, likely to be stable or favourable. The NHZ 7 population was given as 148 (range 92-210) pairs by Wilson <i>et al.</i> (2015), who stated that between the last two breeding bird atlases, occupancy rates of greenshank within its range increased by 5.2% which is equivalent to a numerical increase of approximately 20%. The national and NHZ 7 populations are therefore considered to be in favourable conservation status.

9.8 Potential Significant Effects

- 9.8.1 The criteria for determining magnitude of change as well as overall significance within this assessment, is detailed in **Appendix 9.3 Ornithology Assessment Methodology**.

Black Grouse

Construction Phase

- 9.8.2 **Impact:** Direct habitat loss and disturbance to lekking, breeding and/or foraging black grouse resulting from construction works. Potentially impacting on breeding success, productivity and/or survival rates.

²² For golden plover available at: <https://www.bto.org/learn/about-birds/birdfacts/golden-plover#tooltip-source-link>

- 9.8.3 **Sensitivity:** Medium NCI (**Table 9.8**) and likely unfavourable conservation status (**Table 9.9**). Overall, **medium-high** sensitivity.
- 9.8.4 **Impact Magnitude:** Black grouse are established to be present within the MDA and wider Development Site throughout the year. A total of seven lekking locations were identified, and although females were recorded no evidence of nesting was found. Nesting behaviour is however difficult to observe, and research does suggest the importance of habitats within 1.5-2 km of lek sites for nesting and brood rearing (e.g. Warren *et al.*, 2012 and White *et al.*, 2013). It is therefore possible that the Development Site, including moorland habitats within the MDA, may be used by some females for these purposes.
- 9.8.5 Goodship & Furness (2022) determined black grouse to be of medium sensitivity to disturbance and suggest protection distances of 100-150 m around nest sites, and 500-750 m around lek locations to avoid the potential for disturbance impacts.
- 9.8.6 NatureScot's standard advice in relation to onshore wind farm developments (2025b) is that scheme design should therefore:
- provide a buffer of at least 500 m between black grouse lek sites and wind turbines/ associated infrastructure; and
 - during construction, apply a 750 m buffer around lek sites where no construction activity is permitted before 9am in the months of April and May.
- 9.8.7 The design of the Proposed Development has therefore avoided any direct land take from any identified lek location and further incorporated a 500 m set back distance between all lek locations, turbines and key operational infrastructure (including met mast, substation and BESS locations). No direct habitat loss during the construction of the Proposed Development will therefore occur at any identified lek location.
- 9.8.8 There is also limited additional infrastructure within the MDA located within 2 km of any identified lek site, including no turbine locations (see **Table 9.5**). Use of the MDA for nesting and foraging would also likely be limited based on species observations made during baseline surveys, and which were largely restricted to lower altitude areas of the MDA, in the southeast, and in closer proximity to woodland habitats. The majority of the remaining MDA ranges above 500 m AOD, and therefore towards the edge of the general altitudinal range of the species in Scotland (e.g. Hancock *et al.*, 1999 and Sim *et al.*, 2008). The direct temporary or permanent loss of moorland habitats within the MDA due to the construction of infrastructure is therefore considered to be small, relative to the extent of remaining and otherwise available habitats for nesting and foraging black grouse. Forestry habitat losses resulting from upgrading and widening works along the Existing Forestry Access Track and the potential use of within 2km of identified lek site, can also be considered to be small relative to similar habitat extents in the immediate surrounding area.
- 9.8.9 The incorporation of set back distances between identified lek locations, turbines and other key infrastructure has also inherently minimised the requirement for construction activities within recommended protection distances for the black grouse (up to 750 m for lekking males).

Infrastructure located within 750m of identified lek locations is limited to parts of the Existing Forestry Access Track along which upgrades and widening (to the existing track) will occur (BK_2, BK_3 and BK_4; see **Confidential Figure 9.2.2 of Confidential Appendix 9.2 Confidential Ornithology**) and a single borrow pit search area (BK_2 and BK_3; see **Confidential Figure 9.2.2 of Confidential Appendix 9.2 Confidential Ornithology**) which may or may not be utilised.

- 9.8.10 In accordance with NatureScot's standard advice (2025b) species-specific measures to avoid the potential for disturbance to lekking black grouse during construction are set out in **Section 9.6** for inclusion within a BDMP that would be prepared for the Proposed Development. This would include for pre-commencement surveys and the suitable restriction of construction activities within 750 m of identified lek locations before 9am during the lekking season (March to May), and which would serve to avoid disturbance to birds attending lek locations during the peak spring lekking period.
- 9.8.11 Additionally, where nesting females are found during pre-construction surveys as part of the Proposed Developments BDMP, suitable restrictions would also be imposed upon construction activities (as for all wild birds), to avoid or otherwise minimise disturbance and enable compliance with the Wildlife and Countryside Act 1981 (see **Section 9.6**).
- 9.8.12 Overall, habitat losses and disturbance resulting from the construction of the Proposed Development are therefore considered to be short-term (less than five years, see **Appendix 9.3 Ornithology Impact Methodology**), of **negligible** magnitude, and unlikely to affect the ability of the local black grouse population to attend identified lek sites, or nest and forage successfully.
- 9.8.13 **Significance of Effect:** The effect on the regional NHZ 7 black grouse population as a result of construction is concluded as no more than **minor** significance and **not significant** in the context of the EIA Regulations.

Operation Phase

Displacement and Barrier Effects

- 9.8.14 **Impact:** Displacement and therefore indirect habitat loss for lekking, breeding and/or foraging black grouse due to the presence and operation of turbines or other infrastructure. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.15 **Sensitivity:** Medium-high.
- 9.8.16 **Impact Magnitude:** As set out for the assessment of construction phase effects, the design of the Proposed Development has incorporated a 500 m set back distance from identified lek sites, turbine and key infrastructure as advised in NatureScot guidance (2025b).
- 9.8.17 This will serve to inherently minimise the potential for operational displacement impacts to black grouse attending these lek sites.
- 9.8.18 Additionally, and also for reasoning discussed for construction phase impacts, the potential for operational displacement impacts upon nesting and foraging black grouse is also very small, due to the higher altitude locations of turbines and associated infrastructure within the

MDA. There are no turbine locations positioned between lek locations and areas of activity recorded (i.e. in the south/east of the MDA), and which may otherwise present a potential barrier effect to movement for the species.

- 9.8.19 The implementation of the BDMP would also continue throughout the operational period of the Proposed Development, enabling the avoidance of disturbance to lekking males and nesting females (see **Section 9.6**).
- 9.8.20 Overall, within the context of the NHZ 7 population, displacement impacts whilst of **long-term** temporal magnitude would be of **negligible** spatial magnitude.
- 9.8.21 **Significance of Effect:** the effect on the local and regional NHZ 7 black grouse population as a result of operational displacement is concluded to be no more than **minor** and **not significant** in the context of the EIA Regulations.

Collision Mortality Risk

- 9.8.22 **Impact:** Black grouse may be subject to collision mortality risk with turbines, thereby increasing the annual mortality rate of the population above background levels.
- 9.8.23 **Sensitivity:** Medium-high.
- 9.8.24 **Impact Magnitude:** Due to the low level and nature of flight activity recorded (outside of the CRAA), no collision mortality risk for black grouse is predicted with the rotor blades of the Proposed Development. Black grouse typically take short flights, low to the ground (mean flight height of 3m as reviewed by Bright *et al.*, 2009), and which would largely occur below the rotor sweep height for the Proposed Development (lowest rotor sweep of 10 m, based on a 180 m to tip and 95 m hub height specification). A black grouse collision event with rotor blades during the operational period of the Proposed Development is therefore considered to be unlikely.
- 9.8.25 Black grouse are however thought to be susceptible to collision with turbine bases (e.g. as reviewed by Bright *et al.*, 2009), as they commute between lekking locations and across nesting and foraging habitat. In this case, given the low level of black grouse activity recorded within the MDA (within which turbines are located) and likely low importance of the MDA for the species, due to elevation (discussed above) and distance from lek sites (turbine locations >2 km from any identified lek sites; see **Table 9.5**), collision events with turbine bases are also similarly considered unlikely.
- 9.8.26 The overall predicted impact of collisions for black grouse whilst **long term**, is considered to be of **negligible** magnitude.
- 9.8.27 **Significance of Effect:** The effect on the regional NHZ 7 black grouse population as a result of potential operational collision risks is concluded to be no more than **minor** and **not significant** in the context of the EIA Regulations.

Red-throated Diver

Construction Phase

- 9.8.28 **Impact:** Direct habitat loss and disturbance to breeding and/or foraging red-throated divers resulting from construction works. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.29 **Sensitivity:** Medium NCI (**Table 9.8**) and likely unfavourable conservation status (**Table 9.9**). Overall, **medium-high** sensitivity.

- 9.8.30 **Magnitude of Impact:** Red-throated divers are present within the study area during the breeding season only, where pairs nest on or adjacent to lochs and lochans, and forage within larger lochs, or coastal areas further afield.
- 9.8.31 Goodship & Furness (2022) determined red-throated diver to be of high sensitivity to disturbance and subsequently advised a buffer zone of 500-750 m around breeding sites to avoid the potential for disturbance impacts. The design of the Proposed Development has therefore incorporated a 750 m infrastructure set back distance from all waterbodies recorded to support breeding red-throated diver over the course of baseline surveys (see **Section 9.6**). As such, there will be no direct habitat loss for breeding red-throated divers as a result of the Proposed Development and the potential for disturbance during construction has also been inherently avoided.
- 9.8.32 As red-throated diver is listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), measures to avoid the potential for disturbance to breeding pairs during construction works (and ensure legislative compliance), are also set out in **Section 9.6** for inclusion within the Proposed Developments BDMP. These measures would include for the undertaking of pre-construction surveys where works are proposed during the red-throated diver breeding season (April to mid-September; as per SNH, 2014), and the implementation of suitable working restrictions to be overseen by the appointed ECoW.
- 9.8.33 Overall, on the basis of scheme design and implementation of a BDMP, the potential impact of construction disturbance to red-throated divers is considered to be **short-term** and of **negligible** magnitude.
- 9.8.34 **Significance of Effect:** The effect on the regional NHZ 7 red-throated diver population as a result of construction is concluded to be **negligible** and **not significant** in the context of the EIA Regulations.

Operation Phase

Displacement and Barrier Effects

- 9.8.35 **Impact:** Displacement and therefore indirect habitat loss for breeding and/or foraging red-throated divers due to the presence of turbines or other infrastructure. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.36 **Sensitivity:** Medium-high.
- 9.8.37 **Impact Magnitude:** On the basis of scheme design, no waterbody recorded supporting breeding red-throated diver is located within 750 m of any proposed development infrastructure. The BDMP as finalised for the Proposed Development would also remain in place over the Proposed Development's operational phase (see **Section 9.6**). The potential for disturbance to red-throated divers as a result of operational maintenance activities would therefore be avoided.
- 9.8.38 Flight activity of red-throated diver, including that obtained from focal loch watches (see **Confidential Figures 9.2.1** and **9.2.3** of **Confidential Appendix 9.2 Confidential Ornithology**), did not identify any regularly used corridors of flight activity between breeding lochs and foraging areas intersecting the MDA, where turbine locations may otherwise present a barrier to movement.
- 9.8.39 Operational disturbance and barrier effects to red-throated divers, whilst **long term**, are considered to be **negligible**.

- 9.8.40 **Significance of Effect:** The effect on the regional NHZ 7 red-throated diver population as a result of operational impacts is concluded to be **negligible** and **not significant** in the context of the EIA Regulations.

Golden eagle

Construction Phase

- 9.8.41 **Impact:** Direct habitat loss and disturbance to breeding, roosting and/or foraging golden eagles resulting from construction works. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.42 **Sensitivity:** Medium NCI (**Table 9.8**) and likely favourable conservation status (**Table 9.9**). Overall, **medium** sensitivity.
- 9.8.43 **Impact Magnitude:** No crag habitat suitable for golden eagle nesting locations will be directly lost due to the construction of the Proposed Development. Construction works for the Proposed Development will also occur over 2 km from any known golden eagle nest site, which is beyond the currently advised disturbance avoidance buffer for the species (1 km; as per Goodship and Furness, 2022). No records of golden eagle roosting have been identified within the study area.
- 9.8.44 Through its listing on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), measures to avoid the potential for disturbance to golden eagles (and ensure legislative compliance), are set out in **Section 9.6** for inclusion within the Proposed Developments BDMP. These measures will include for the undertaking of pre-construction surveys (and/or consultation with third-party recording groups), and the implementation of suitable working restrictions to be overseen by the appointed ECoW.
- 9.8.45 As golden eagles often roam relatively widely in search of mobile prey and carrion, the relatively small temporary and permanent direct loss of moorland foraging habitats within the MDA due to the construction and installation of infrastructure, is unlikely to limit foraging potential or success for any individual or breeding pair.
- 9.8.46 Construction works within the MDA may however restrict birds from foraging over areas of open moorland habitats close to human and other construction related activity. This would likely be of more significance to any range-holding breeding birds whose ranges may overlap with the MDA. The duration and spatial extent of construction disturbance is however unlikely to undermine any future breeding attempt for any known adjacent breeding range, based on the distance to known nest sites and the extent of alternative suitable foraging habitats available locally.
- 9.8.47 Given the very large areas non-breeding dispersing golden eagles in the Scottish Highlands can cover (e.g. Whitfield and Fielding, 2017; Fielding *et al.*, 2024b) any impact of reduction in available foraging habitat during the construction phase would be very small.
- 9.8.48 Overall, construction disturbance to golden eagles is considered to be of **short-term** and no more than **negligible** magnitude at the regional NHZ 7 regional level.
- 9.8.49 **Significance of Effect:** The effect on the NHZ 7 golden eagle population as a result of construction works is concluded to be **negligible** and **not significant** in the context of the EIA Regulations.

Operation Phase

Displacement and Barrier Effects

- 9.8.50 **Impact:** Displacement and therefore indirect habitat loss for breeding and/or foraging golden eagle due to the presence and operation of turbines or other infrastructure. Potentially impacting on breeding success, productivity or survival rates.
- 9.8.51 **Sensitivity:** Medium.
- 9.8.52 **Impact Magnitude:** As assessed for the construction phase, the potential for operational disturbance at any known golden eagle nest site, will be avoided. This is based on the known locations of nests being sufficiently beyond the currently advised disturbance avoidance buffer for the species (1 km; as per Goodship and Furness, 2022) and the implementation of a finalised BDMP throughout the Proposed Development's operational phase (see **Section 9.6**).
- 9.8.53 Research into the movements of golden eagles in Scotland provides evidence that golden eagles display a high degree of avoidance from onshore wind farms (Haworth Conservation, 2015, Fielding *et al.*, 2021, 2022, 2023 and 2024a), with early studies suggesting a decrease in use of habitats within 500 m of operational wind turbines (Haworth Conservation, 2015). More recent research, involving the analysis of data from GPS-tagged golden eagles has however, concluded that 500 m is likely a too conservative distance within which to assess potential indirect habitat losses to golden eagles from onshore wind farms, with minimum displacement distances of 70-75 m from turbines observed in such studies (Fielding *et al.*, 2021, 2022 and 2023).
- 9.8.54 More recent studies also identify that mean displacement distances are not the same for all turbines, with distances seemingly dependent on the suitability of habitat (Fielding *et al.*, 2021, 2022, 2023 and 2024a). Turbine rotor size, blade motion status and wind speed diameter has not been demonstrated as a clear prediction of how close golden eagles will approach operational turbines (Fielding *et al.*, 2021 and 2022), although there is some evidence of closer approach distances at higher wind speeds (Fielding *et al.*, 2024a). Fielding *et al.* (2023) also found no evidence of territorial birds' habituation in their responses to operational turbines and that territorial birds were generally more wary of turbines than non-territorial dispersing birds.
- 9.8.55 The presence of turbines within the MDA, should they fall within an occupied golden eagle breeding range, therefore has the potential to displace resident range holding birds, as well as other non-breeding dispersing birds, from otherwise suitable foraging habitats. NatureScot currently advises²³ that the GET model (Fielding *et al.*, 2019) should therefore be used to inform the assessment of potentially significant effects of habitat displacement to golden eagles resulting from wind farm (and forestry) proposals.
- 9.8.56 Adopting a likely precautionary 300 m displacement buffer from the outer turbines of the Proposed Development (as per Fielding *et al.*, 2021 and 2022), this comprises an area of approximately 4.38 km², which in review of the GET model supports approximately 2.92 km² (66%) of 'good' golden eagle habitat i.e. that with a GET model score of 6 or more (6+) and which is not already lost to forestry or other operational or consented wind turbines and is therefore otherwise available (or open) for foraging golden eagles (see **Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**).

²³ NatureScot statement on modelling to support the assessment of forestry and wind farm impacts on golden eagles (August 2021). Available at: <https://www.nature.scot/doc/naturescot-statement-modelling-support-assessment-forestry-and-wind-farm-impacts-golden-eagles> [Accessed 28th July 2025].

- 9.8.57 In relation to non-breeding dispersing golden eagles, birds in the Scottish Highlands can cover very large areas, including across regional boundaries (e.g. Whitfield and Fielding, 2017; Fielding *et al.*, 2024b). Potential habitat losses to dispersing birds at a regional NHZ scale can therefore be reasonably concluded as negligible, without the requirement for further detailed analysis.
- 9.8.58 For breeding range holding birds, actual habitat loss from a breeding range, and the significance of such for any individual pair, would depend on the extent to which range boundaries overlap with the displacement buffer around the Proposed Development turbine locations, how large current (baseline) range boundaries of impacted pairs are, and the importance of habitats within the displacement buffer for foraging. Generally, habitat losses would likely be of more significance if only a single pair's range overlaps the displacement buffer. It may therefore be of less significance for individual pairs where multiple ranges overlap the displacement buffer. In the absence of GPS-tag data, the above parameters cannot be accurately known for any individual breeding range. A worst-case scenario to adopt for this assessment, would therefore be to assume that all of the Proposed Development displacement buffer is located within a single occupied range.
- 9.8.59 Recent research has shown that there is considerable inter-regional variation in golden eagle mean range sizes across Scotland; Argyll 58.9 km², Northwest Highlands 61.7 km², Northeast Highlands 89.3 km² and South of Scotland 91.9 km² (Fielding *et al.*, 2024c). Ranges in the isolated Outer Hebrides region, where ranges are tightly packed, were exceptionally small, at 24.0 km² (Fielding *et al.*, 2024c). Estimated mean range area was also found to be usually reduced to 70–80% of the planar area when restricted to 'good' golden eagle habitat, as estimated by the GET model.
- 9.8.60 Adopting a very precautionary assessment, the Proposed Development may result in a 17.4% habitat loss from an individual range, assuming a nominal range boundary of 24.0 km² with 16.8 km² of 'good' useable golden eagle habitat estimated for ranges in the Outer Hebrides. A more appropriate, yet still reasonably precautionary habitat loss estimate and based on a possible mean range size for the Northwest and Northeast Highlands regions (75.5 km² with area of 52.9 km² of 'good' golden eagle habitat), would be a 5.5% loss.
- 9.8.61 In this case, the MDA is known to lie adjacent to four golden eagle ranges, with nest sites of at least two of these ranges located within a 6 km radii of the MDA. Within the wider area (shown within 20km of the Proposed Development on **Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**), GET habitat within the displacement buffer for the Proposed Development is not shown to form part of any large or isolated area of continuous GET habitat, but appears as a more fragmented area of 'good' habitat to the periphery of such. The largest connected local areas of 'good' eagle habitat include to the south of the MDA extending to the south of Loch Morie, to the west of the MDA over Carn Chuinneag and into Glen Diebdale, and to the north of the MDA over Carn Salachaid and into Glencalvie (see **Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**).
- 9.8.62 The overall level of golden eagle flight activity within the displacement buffer recorded during baseline surveys can also be seen as relatively low and variable (**Figure 9.7** and **Figure 9.11**), and it is reasonable to conclude that the MDA and displacement buffer for the Proposed Development is unlikely to form a core area within any established golden eagle range (but likely lies at the periphery of ranges known locally given distances from known nest sites). Areas of more concentrated golden eagle activity, including over Carn Cas nan Gahbhar and Bad a, between Garbhan Beag and Sron na Saibhaidhe to Garbhan Mor (lower slopes of Meall Bhenneit) and over Glac Seileach (see **Figure 9.7**), primarily occur outwith the displacement buffer. Areas of concentrated activity identified within the wider area, including

over the upper and westerly slopes Meall Bhenneit to the northeast of the MDA and over Cairn Maire are also sufficiently distant from turbine locations to be impacted by displacement (see **Figure 9.11**).

- 9.8.63 Overall, although some potential foraging habitat within at least one, but up to four golden eagle ranges, may be lost, displacement from the Proposed Development turbines is unlikely to affect the viability or productivity of a breeding attempt for any range in any year. Based on the number and likely mean size of known adjacent breeding ranges in the area together with distance to known nest sites, the loss of 'good' golden eagle habitat from any range is likely to be less than 5.5%, and around 1.4% if split equally across the four ranges known to occur locally.
- 9.8.64 On a precautionary basis, a **long term** impact, of **low** magnitude within the context of any local breeding range of the regional NHZ 7 population is predicted.
- 9.8.65 **Significance of Effect:** The effect on the regional NHZ 7 golden eagle population as a result of operational displacement is concluded to be no more than **minor** and **not significant** in the context of the EIA Regulations.

Collision Mortality Risk

- 9.8.66 **Impact:** Golden eagles may be subject to a collision risk with turbines, thereby increasing the annual mortality rate of the population above background levels.
- 9.8.67 **Sensitivity:** Medium.
- 9.8.68 **Impact Magnitude:** A mean annual collision risk predicted for golden eagle is 0.0362, or one every 27.65 years (**Table 9.4**). Evidence presented in Fielding *et al.* (2021, 2022, 2023 and 2024) suggests that the general risk of collisions to golden eagles in Scotland is also low due to their strong avoidance behaviour of turbines (assessed above), and reported collisions are understood to be uncommon²⁴.
- 9.8.69 With estimated collision mortality risk being no more than one (unlikely) potential collision event over the operational lifetime of the Proposed Development, the impact on the regional NHZ 7 population whilst permanent is considered to be of **negligible** magnitude.
- 9.8.70 **Significance of Effect:** the effect on the regional NHZ 7 golden eagle population as a result of potential collision risk is concluded to be **negligible** and **not significant** in the context of the EIA Regulations.

Merlin

Construction Phase

- 9.8.71 **Impact:** Direct habitat loss and disturbance to breeding and/or foraging merlin resulting from construction works. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.72 **Sensitivity:** Medium NCI (**Table 9.8**) and likely unfavourable conservation status (**Table 9.9**). Overall, **medium-high** sensitivity.
- 9.8.73 **Magnitude of impact:** Baseline surveys indicate that the study area supports at least one merlin territory in some years (**Confidential Figure 9.2.5** of **Confidential Appendix 9.2 Confidential Ornithology**), with the potential for nest locations to occur within 500 m of

²⁴ Seven reported golden eagle fatalities reported to NatureScot in the most recent 10 year published period (2014-20124). Available at: <https://www.nature.scot/doc/freedom-information-request-deaths-birds-prey-scotland-windfarms#:~:text=From%20the%20information%20in%20the,which%20was%20launched%20in%202013.>

Proposed Development turbine locations. Another merlin territory was also recorded during baseline surveys, but which is located over 3 km from the nearest Proposed Development turbine location (**Confidential Figure 9.2.5 of Confidential Appendix 9.2 Confidential Ornithology**) and upon which potential construction phase impacts are unlikely to occur on account of spatial separation

- 9.8.74 As merlin are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), measures to avoid the potential for disturbance to breeding pairs during construction works (and enable legislative compliance), are set out in **Section 9.6** for inclusion within the Proposed Developments BDMP. These measures will include the undertaking of pre-construction surveys where works are proposed during the merlin breeding season, and the implementation of suitable working restrictions, to be overseen by the appointed ECoW.
- 9.8.75 Habitat loss and construction activity is not considered likely to directly affect merlin nesting at any potential breeding locations identified, and whilst some foraging habitat may be lost/unavailable during construction overall impacts of construction are considered to be of **short-term** and **low** magnitude.
- 9.8.76 **Significance of effect:** The effect on the regional NHZ 7 merlin population as a result of construction is considered to be no more than **minor adverse** and **not significant** in the context of the EIA regulations.

Operational Phase

Displacement and Barrier Effects

- 9.8.77 **Impact:** Displacement and therefore indirect habitat loss for breeding or foraging merlin due to the presence and operation of turbines or other infrastructure. Potentially impacting on breeding success, productivity, and/or survival rates.
- 9.8.78 Sensitivity: Medium-high.
- 9.8.79 **Magnitude of impact:** According to expert review (Goodship & Furness, 2022), breeding merlin may be actively disturbed at 300 m to 500 m from source.
- 9.8.80 One recorded territory (ML_1) is located within the study area, and which may in some years adopt nesting locations within 500 m of the Proposed Development turbine locations (see **Confidential Figure 9.2.5 of Confidential Appendix 9.2 Confidential Ornithology**). As the BDMP for the Proposed Development would remain in place over the Proposed Development's operational phase (see **Section 9.6**), the potential for disturbance to breeding merlin would however be avoided.
- 9.8.81 There is also little evidence as to whether foraging merlin are affected by the presence of turbines, or a wind farm development as a whole, although some studies have shown that merlin prey species such as skylark are largely unaffected, meaning that reduction in food availability due to displacement is unlikely to be a relevant factor (e.g. Pearce-Higgins *et al.* 2012).
- 9.8.82 As per NatureScot guidance (SNH, 2016b), merlin foraging ranges may extend out to 5 km from breeding sites, and so two territories may at least in some years, overlap with MDA (see ML_1 and ML_2 on **Confidential Figure 9.2.5 of Confidential Appendix 9.2 Confidential Ornithology**). Like other ground-nesting raptors, the majority of hunting during the breeding season is however, likely to take place close to nest sites. A possible displacement buffer of 500 m around Proposed Development turbine locations would therefore likely mean that foraging would be able to continue relatively extensively within a pair's typical foraging radius, should breeding areas continue to be in similar locations in future years.

- 9.8.83 It is therefore unlikely that any merlin territory will be lost as a result of the Proposed Development, particularly the more distant recorded territory (ML_2; on **Confidential Figure 9.2.5 of Confidential Appendix 9.2 Confidential Ornithology**). Foraging activity would most likely continue or shift to nearby alternative habitats. Assuming a worst case and the displacement (and loss) of a single territory (ML_1; on **Confidential Figure 9.2.5 of Confidential Appendix 9.2 Confidential Ornithology**), this would represent 3.3% of the NHZ 7 population (30 pairs) and which would be considered to be a **long term** impact of **low** magnitude.
- 9.8.84 **Significance of effect:** The operational displacement effect on the regional NHZ 7 merlin population is considered to be no more than **minor adverse** and therefore **not significant** in the context of the EIA regulations.

Dunlin

Construction Phase

- 9.8.85 **Impact:** Direct habitat loss and disturbance to breeding and/or foraging dunlin. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.86 **Sensitivity:** Medium NCI (**Table 9.8**) and likely unfavourable conservation status (**Table 9.9**). Overall, **medium-high** sensitivity.
- 9.8.87 **Impact Magnitude:** Small numbers of dunlin are likely to breed within and in proximity to the MDA each year, as evidenced from surveys in 2022 and 2023 (up to five pairs recorded within 500 m of proposed turbine locations in 2022; **Table 9.6**). Breeding registrations are broadly aligned with areas of blanket bog and small lochan systems, within which scheme design has sought to avoid direct land take. Direct habitat losses for dunlin are also likely to be localised given the extent of otherwise potentially suitable habitat remaining within the MDA and wider study area.
- 9.8.88 Due to relatively small disturbance distances advised for the species (200 m; as per Goodship and Furness, 2022) and the distribution of pairs within the MDA including to the south and west of the extent of construction work areas, it is likely that most pairs should be able to continue to breed and forage unaffected.
- 9.8.89 Where nesting birds are found during pre-construction surveys as part of a finalised BDMP for the Proposed Development, suitable working restrictions would be imposed (as for all wild birds), to enable legislative compliance and avoid or otherwise minimise the potential for disturbance (see **Section 9.6**).
- 9.8.90 An overall **short-term, negligible** impact is therefore predicted.
- 9.8.91 **Significance of effect:** The effect on the regional NHZ 7 dunlin population as a result of construction works is concluded to be no more than **minor** and **not significant** in the context of the EIA regulations.

Operation Phase

Displacement and Barrier Effects

- 9.8.92 **Impact:** Displacement and therefore indirect habitat loss for breeding and/or foraging dunlin due to the presence and operation of turbines or other infrastructure. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.93 **Sensitivity:** Medium-high.

- 9.8.94 **Impact Magnitude:** Fielding & Haworth (2015) found no decline in the number of dunlin territories and no systematic or significant changes in distribution due to the presence of the operational Farr Wind Farm, with mean distances to the nearest turbines in 2002 (before construction) and 2015 (operational since 2006) being 257 m and 260 m respectively.
- 9.8.95 With a core foraging range of around 500 m (SNH, 2016b), displacement impacts on dunlin are likely to be very localised. Up to five dunlin territories were recorded during baseline surveys in 2022, which would represent up to 5.6% of the most recently estimated NHZ 7 population (90 pairs). However, it is unlikely that all these pairs would be displaced from the study area, given currently advised disturbance distances for the species (200 m as per Goodship and Furness, 2022) and the species would likely continue to utilise suitable habitats within and around operational infrastructure without any substantial barrier effects. An impact of **long term** but **low** magnitude is therefore predicted.
- 9.8.96 **Significance of Effect:** The effect on the regional NHZ 7 dunlin population as a result of operational displacement is concluded to be no more than **minor adverse** and **not significant** in the context of the EIA regulations.

Golden Plover

Construction Phase

- 9.8.97 **Impact:** Direct habitat loss and disturbance to breeding and/or foraging golden plover resulting from construction works. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.98 **Sensitivity:** Medium NCI (**Table 9.8**) and likely favourable conservation status (**Table 9.9**). Overall, **medium** sensitivity.
- 9.8.99 **Magnitude of Change:** Goodship & Furness (2022) rate golden plover as being of medium overall likely sensitivity to disturbance and recommend a disturbance buffer of 200-500 m during the breeding season. Golden plovers can be sensitive to human disturbance, although during the breeding season, their response to disturbance varies between individuals depending on a number of factors, including habituation to disturbance, breeding stage, how conspicuous the disturbance is and the predictability of the source of disturbance (e.g. Finney *et al.*, 2005 and Yalden and Yalden, 1989).
- 9.8.100 Breeding golden plover were recorded as being widely distributed within the MDA during baseline surveys and so it is likely that some pairs may be affected during construction works. Many of the construction activities within the MDA will however be largely predictable in nature, and restricted to particular locations, and so disturbance impacts are reasonably likely to be at the lower end of the distance range estimated by Goodship & Furness (2022). Direct habitat losses for golden plover are likely to be small, given scheme design has sought to minimise overall habitat losses, and localised given the extent of otherwise potentially suitable habitat remaining within the MDA and wider study area.
- 9.8.101 With the NHZ 7 breeding population being relatively large (3,009 pairs as per Wilson *et al.*, 2015) in the national context (**Table 9.9**), a **short-term** impact on a relatively small number of pairs (up to eight as recorded in 2023; 0.3% of the NHZ 7 breeding population) is considered to be **negligible**. In addition, where nesting birds are found during pre-construction surveys as part of a finalised BDMP for the Proposed Development, suitable working restrictions would be imposed (as for all wild birds), to enable legislative compliance and avoid or otherwise minimise the potential for disturbance impacts (see **Section 9.6**).

- 9.8.102 **Significance of effect:** The effect on the NHZ 7 golden plover population as a result of construction is concluded to be **negligible** and **not significant** in the context of the EIA regulations.

Operation Phase

Displacement and Barrier Effects

- 9.8.103 **Impact:** Displacement and therefore indirect habitat loss for breeding and/or foraging golden plover due to the presence and operation of turbines or other infrastructure. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.104 **Sensitivity:** Medium.
- 9.8.105 **Magnitude:** Whilst Goodship & Furness (2022) rate golden plover as being of medium sensitivity to disturbance, the likelihood and extent of any displacement on breeding pairs due to the operation of the Proposed Development is uncertain.
- 9.8.106 In a study by Sansom *et al.* (2016), breeding golden plover abundance was found to be reduced by 79% up to 400 m away from operational turbines, although hatching and fledging success were not affected by proximity to turbine locations. However, a study by Pearce-Higgins *et al.* (2012) in contrast found population densities of golden plover were not affected by the presence of wind farms. A lack of displacement effects for breeding golden plovers has also been reported for the nearby Beinn Tharsuinn (Douglas *et al.* 2011) and Farr Wind Farms (Fielding & Haworth, 2013).
- 9.8.107 In 2023, seven to eight pairs of golden plover were estimated to be located within the study area. A 79% reduction in abundance (as per Sansom *et al.*, 2016) would result in the displacement of five to seven pairs from the study area. It is however likely that some pairs would move onto adjacent moorland habitats without being lost to the regional population. As a worst case, the loss of up to seven out of an estimated 3,009 pairs estimated for the NHZ 7 population would represent and impact on 0.23% of the population. A **long term** yet **negligible** impact is therefore predicted.
- 9.8.108 **Significance of Effect:** The effect on the regional NHZ 7 golden plover population as a result of operational displacement is concluded to be **negligible** and **not significant** in the context of the EIA regulations.

Collision Mortality Risk

- 9.8.109 **Impact:** Golden plover may be subject to a collision risk with turbines, thereby increasing the annual mortality rate of the population above background levels.
- 9.8.110 **Sensitivity:** Medium.
- 9.8.111 **Magnitude of Change:** An annual collision mortality risk of 0.0595 is predicted for golden plover, or one collision every 16.8 years. As flight activity can be considered largely associated with breeding territories recorded during baseline studies, predicted collision risks for the purposes of assessment can be attributed to regional breeding population, most recently estimated at 3,009 pairs (or 6,018 adult breeding birds).
- 9.8.112 The additional predicted annual mortality due to potential collision with operational turbines would result in an increase of 0.0037% over the calculated annual baseline mortality rate (0.27 mortality rate; BTO BirdFacts²⁵) and which is very small.

²⁵ Based on a 0.73 adult survival rate. Available at: <https://www.bto.org/learn/about-birds/birdfacts/golden-plover>.

- 9.8.113 The increase in annual baseline mortality for golden plover is therefore considered to be a **long term** impact but of **negligible** magnitude.
- 9.8.114 **Significance of effect:** the effect on the regional NHZ 7 golden plover population from collision mortality risk is concluded to be **negligible** and **not significant** in the context of the EIA regulations.

Greenshank

Construction Phase

- 9.8.115 **Impact:** Direct habitat loss and disturbance to breeding and/or foraging greenshank resulting from construction works. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.116 **Sensitivity:** Medium NCI (**Table 9.8**) and likely favourable conservation status (**Table 9.9**). Overall, **medium** sensitivity.
- 9.8.117 **Magnitude:** The distribution of greenshank activity recorded during baseline surveys was mainly associated with areas of blanket bog and small lochan systems (see **Confidential Figure 9.2.6 of Confidential Appendix 9.2 Confidential Ornithology**), from which scheme design has sought to avoid direct land take from.
- 9.8.118 Studies have shown that greenshank foraging usually takes place within 1.5 km of the nest, with birds occasionally foraging up to between 2.5 km (Nethersole-Thompson & Nethersole-Thompson, 1979) and 3.0 km (Cramp & Simmons, 1983), indicating that breeding adults may travel some distance to feed within the moorland habitats of the MDA and wider study area. It is therefore possible that construction activities could affect birds within their feeding ranges, which can be separate from their breeding territories.
- 9.8.119 Goodship & Furness (2022) rate greenshank as being of medium/high overall likely sensitivity to disturbance and recommend a disturbance buffer of 300-500 m during the breeding season. In this case, only a small proportion of territorial birds within the study area (up to seven pairs were recorded in 2023) would likely be affected at any one time depending on the location of proposed construction activities during the breeding season.
- 9.8.120 As greenshank is listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), measures to avoid the potential for disturbance to breeding birds during construction works (and enable legislative compliance) are set out in **Section 9.6** for inclusion within the Proposed Developments BDMP. These measures will include for the undertaking of pre-construction surveys to be carried out where works are proposed during the greenshank breeding season (April to July; SNH, 2014), and the implementation of suitable working restrictions to be overseen by the appointed ECoW.
- 9.8.121 An overall **short-term** and **negligible** impact is therefore predicted.
- 9.8.122 **Significance of Effect:** The effect on the regional NHZ 7 greenshank population as a result of construction works is concluded to be **negligible** and **not significant** in the context of the EIA regulations.

Operation Phase

Displacement and Barrier Effects

- 9.8.123 **Impact:** Displacement and therefore indirect habitat loss for breeding and/or foraging greenshank due to the presence and operation of turbines or other infrastructure. Potentially impacting on breeding success, productivity and/or survival rates.
- 9.8.124 **Sensitivity:** Medium.
- 9.8.125 **Magnitude:** There is a lack of scientific certainty as to how tolerant greenshank may be around operational turbines, although in a review by Humphreys *et al.* (2017), it is suggested that greenshank do not show a high level of behavioural displacement around wind turbines.
- 9.8.126 During the Public Inquiry for the Achany Wind Farm in Sutherland, where impacts to greenshank were discussed, a 200 m potential displacement zone was set out on the basis of scientific evidence provided by Professor Des Thompson (SNH, 2007). Post-construction monitoring of the Bhlaraidh Wind Farm, Highlands (2018-20) also report breeding activity within 500 m of operational turbines (SSE Renewables, 2021). The Lochluichart Extension II Wind Farm EIA Report similarly references evidence from post-construction monitoring for the Lochluichart Extension, which suggests that birds were not displaced by the presence of operational turbines, with four to five territories in the area around the Lochluichart and Corriemoillie Wind Farms.
- 9.8.127 Operational displacement impacts to greenshanks, if they occur, are therefore likely to be at distances of less than 500 m.
- 9.8.128 Because greenshank may also have separate breeding and feeding territories, the number of breeding pairs estimated within the study area during baseline surveys for the Proposed Development (up to in seven in 2023) may not be accurate, and estimated ranges of two to seven over the baseline survey period reflects this uncertainty. With an NHZ 7 population estimated to be 148 pairs, this would represent 1.4% to 4.7% of the regional breeding population. Evidence suggests that complete displacement of greenshank is unlikely, although use of the MDA may be reduced due to the presence of operational turbines near nesting or feeding areas. The BDMP as finalised for the Proposed Development would also remain in place over the Proposed Development's operational phase to avoid the potential for disturbance to greenshank during operational maintenance works and enable legislative compliance (see **Section 9.6**).
- 9.8.129 Overall, whilst some extent of measurable displacement may occur, habitat losses resulting from displacement effects are likely to be at the lower end of the estimated range, and whilst **long term**, would be of no more than **low** magnitude.
- 9.8.130 **Significance of Effect:** The effect on the NHZ 7 greenshank population as a result of potential operational displacement is concluded to be no more than minor and not significant in the context of the EIA regulations.

Decommissioning Phase

- 9.8.131 As set out in **Section 9.4** potential impacts and likely significant effects on ornithological features associated with the decommissioning the Proposed Development can be reasonably concluded as being comparable, but of equal or lesser significance to construction disturbance effects, over a reduced timeframe.
- 9.8.132 The BDMP as finalised for the Proposed Development would remain in place over the Proposed Development's decommissioning phase, updated as necessary through pre-

commencement surveys, to avoid or otherwise minimise the potential for disturbance to all bird species and enable legislative compliance (see **Section 9.6**).

- 9.8.133 Potential impacts and likely significant effects from decommissioning works are therefore concluded to be of **short term** and **negligible** or low **magnitude** for any IOFs assessed, of no more than **minor** significance for any species and **not significant** in the context of the EIA Regulations.

Summary of Effects

- 9.8.134 A summary of the assessment of effects, taking account of the embedded mitigation is provided in **Table 8.9**.

Table 9.1 Summary of Effects

Phase	Potential Impacts	Sensitivity	Magnitude of Impact	Significance of Effect (taking into account Embedded Mitigation)
Black grouse				
Construction	Habitat Loss, Disturbance	Medium-high	Short-term, Negligible	Minor
Operation	Displacement	Medium-high	Long-term, Negligible	Minor
Operation	Collision Mortality Risk	Medium-high	Long-term, Negligible	Minor
Red-throated diver				
Construction	Habitat Loss, Disturbance	Medium-high	Short-term, Negligible	Negligible
Operation	Displacement	Medium-high	Long-term, Negligible	Negligible
Golden eagle				
Construction	Habitat Loss, Disturbance	Medium	Short-term, Negligible	Negligible
Operation	Displacement	Medium	Long-term, Low	Minor
Operation	Collision Mortality Risk	Medium	Long-term, Negligible	Negligible
Merlin				
Construction	Habitat Loss, Disturbance	Medium-high	Short-term, Low	Negligible
Operation	Displacement	Medium-high	Long-term, Low	Minor
Dunlin				
Construction	Habitat Loss, Disturbance	Medium-high	Short-term, Negligible	Negligible
Operation	Displacement	Medium-high	Long-term, Low	Minor
Golden plover				
Construction	Habitat Loss, Disturbance	Medium	Short-term, Negligible	Negligible
Operation	Displacement	Medium	Long-term, Negligible	Negligible

Operation	Collision Mortality Risk	Medium	Long-term, Negligible	Negligible
Greenshank				
Construction	Habitat Loss, Disturbance	Medium	Short-term, Negligible	Negligible
Operation	Displacement	Medium	Long-term, Low	Minor

9.9 Additional Mitigation Measures

- 9.9.1 No likely significant effects are predicted for any IOF scoped into the assessment, and therefore no specific mitigation other than standard mitigation measures outlined in **Section 9.6** are required.

9.10 Enhancement measures

- 9.10.1 Outline peatland restoration measures that will form part of the Proposed Development, are set out within **Appendix 8.6 Outline Habitat Management Plan**. Such measures, once finalised into a detailed Habitat Management Plan (HMP) in consultation with relevant consultees, will serve to enhance foraging and nesting habitats for the assemblage of moorland birds recorded during baseline surveys, including in areas away from operational infrastructure.
- 9.10.2 The success of peatland restoration proposals and uptake by bird species, including breeding waders, black grouse and raptors would be monitored in accordance with protocols set out within the finalised HMP, with modifications to management prescriptions undertaken as required to ensure the aims of the HMP are achieved over the Proposed Developments operational lifetime.
- 9.10.3 Such measures whilst providing overall enhancement of local peatland and moorland biodiversity, would also be considered to offset predicted effects of operational displacement for IOFs assessed within this chapter (at least to some extent) and ensure the long-term favourable management of habitats within and adjacent to the MDA for moorland bird species.

9.11 Residual Effects

- 9.11.1 As no additional mitigation measures are required and peatland restoration measures would only likely offset potential displacement effects to IOFs to some extent, residual effects remain consistent with the conclusions of assessment presented **Section 9.8** and which are considered to be **not significant** in the context of the EIA regulations.

9.12 Cumulative Effects

- 9.12.1 The potential and/or likelihood of significant cumulative effects to assessed IOFs are considered here with reference to NatureScot guidance (2025c and 2025e), as set out in **Section 9.4**.
- 9.12.2 The potential for significant effects is considered at the regional NHZ 7 level and has been informed by review of NatureScots current cumulative mortality risk spreadsheet for NHZ 7 (see **Table 9.1**). The list of relevant cumulative wind farm developments considered is presented within **Appendix 9.3 Ornithology Assessment Methodology**.
- 9.12.3 Based on the conclusions of the project-alone assessment presented above, standard mitigation outlined in **Section 9.6**, including the implementation of a BDMP, together with habitat enhancement measures set out in **Appendix 8.6 Outline Habitat Management Plan**, the Proposed Development is not predicted to have a significant effect on the respective

regional populations of any assessed IOFs as a result of the following, and for which the potential for significant cumulative effects are scoped-out of the cumulative assessment:

- Cumulative construction effects – given the relatively small overall direct footprint of the development relative to the regional NHZ 7 area and that disturbance effects will be avoided or otherwise minimised through the implementation of a BDMP for the Proposed Development;
- Cumulative operational effects for black grouse – based on negligible effects from the project-alone arising from turbine (and other key infrastructure) spatial separation from identified lek sites and low suitability of the MDA for the species (on account of elevation);
- Cumulative operational effects for red-throated diver – based on negligible effects from the project alone arising from scheme design and absence of infrastructure locations within flight movement corridors;
- Cumulative construction and operational collision mortality risks for golden eagle – based on negligible effects from the project alone and considering the low collision mortality risk for the species together with evidence for displacement (Fielding et al., 2021, 2022, 2023 and 2024a).

- 9.12.4 The potential for significant cumulative operational displacement effects for golden eagle, merlin, dunlin, golden plover and greenshank and significant cumulative operational collision mortality risks for merlin, golden plover and greenshank are therefore assessed in further detail with reference to NatureScot guidance (2025c and 2025e) and as set out in **Appendix 9.3**, at the regional NHZ 7 geographical scale.
- 9.12.5 It is clarified that wind farm developments not subject to a formal planning submission (i.e. being at or before EIA scoping stage) have been scoped out of the cumulative assessment because they do not have sufficient information on potential effects to be included, because the final layout of infrastructure remains uncertain, because the baseline survey period is ongoing and/or because the baseline surveys of such have not been published.
- 9.12.6 In accordance with NatureScot guidance (NatureScot 2025c and 2025e) and general established precedence in the assessment of impacts on ornithological features both for onshore and offshore wind farm developments, it will therefore be the duty of developments not yet subject to a formal planning submission to assess the potential for significant cumulative effects in-combination with the Proposed Development and other relevant plans/projects submitted before it.
- 9.12.7 Projects that have been refused (and no longer capable of appeal) or withdrawn have also been scoped out of the cumulative assessment, as there is reasonable certainty these projects will not proceed. Small wind farm projects with three or fewer turbines have also been scoped out from the cumulative assessment as such projects are not generally subject to the same level of detail of ornithological assessment, and so have no directly comparable data, or effects on bird species are likely to be negligible.

Golden Eagle

Potential Cumulative Operational Effects (Displacement and Barrier Effects)

- 9.12.8 **Sensitivity:** Medium.
- 9.12.9 Cumulative operational displacement effects to golden eagle have been, in part, inherently considered in the quantification of the loss of 'good' golden eagle habitat (GET 6+) due to the Proposed Development i.e. that not already lost to existing operational and consented wind farms or forestry (see **Section 9.8**).
- 9.12.10 With regards displacement to non-breeding dispersing golden eagles, any impacts resulting from the Proposed Development would occur over a very limited spatial extent, relative to the very large areas such birds can cover both regionally and nationally (see **Section 9.8**). As such, when potential habitat losses are considered alongside other wind farm developments, cumulative effects for these birds (at least currently) are unlikely to be significant.
- 9.12.11 For breeding range-holding birds in this case, there is some uncertainty regarding the extent to which the range boundary of any local established breeding golden eagle pair overlaps with displacement buffers for the Proposed Development and any other formally proposed wind farm (or existing operational and consented wind farms or forestry). The cumulative magnitude of indirect habitat loss for any individual range cannot therefore be accurately quantified.
- 9.12.12 Instead, the potential for significant cumulative effects at a local level can be examined when considering the GET model outputs in relation to other application stage developments within various distance bands from the Proposed Development, e.g. 5 km, 10 km, 15 km and 20 km from the MDA (see **Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**).
- 9.12.13 Within 5km of the MDA, there are currently no additional application stage wind farms, and so potential cumulative effects are considered within 10 km and 15 km distance bands, which are likely to encompass the majority of the foraging ranges of the four golden eagle pairs identified as being closest to the Proposed Development (see **Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**).
- 9.12.14 Within the 10 km distance band the GET model predicts that there is around 250 km² of 'good' golden eagle habitat (i.e. that not already lost to existing operational and consented wind farms or forestry), of which an estimated 0.24 km² would be lost to other current application stage developments (i.e. part of the proposed Ceislein turbine array, see **Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**). Together with the Proposed Development, a cumulative loss of around 3.16 km² of 'good' golden eagle habitat is estimated, and which would result in a small reduction in overall current 'good' habitat availability for range holding birds at this scale (c.1.26%). Adopting a reasonably precautionary approach, and assuming all losses would occur to one breeding range (e.g. EA_3, see **Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**), within an area of 52.9 km² of 'good' golden eagle habitat (based on mean range size of 75.5 km² for the Northwest and Northeast Highlands regions and ranges comprised of 70% 'good' golden eagle habitat, see **Section 9.8**), this would represent a c. 6% loss. However, given both the Proposed Development and current application stage developments are most likely to be towards the periphery of any identified ranges (based on distance from known nest sites), it is unlikely that cumulative effects would be entirely attributable to just one range.

- 9.12.15 Within 15 km there is around 457 km² of 'good' golden eagle habitat, of which around 3 km² of such is estimated to be lost to other current application stage developments (i.e. the proposed Ceislein and Abhainn Dubh turbine arrays, see **Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**). Together with the Proposed Development, a cumulative loss of around 6 km² of 'good' habitat is estimated, and which would again result in a small reduction in overall habitat availability for range holding birds at this level (c.1.3 % of 'good' habitat). Adopting a reasonably precautionary approach, and assuming all losses would occur to one breeding range (e.g. EA_3 or EA_4, see **Confidential Figure 9.2.4 of Confidential Appendix 9.2 Confidential Ornithology**), with an area of 52.9 km² of 'good' golden eagle habitat (based on mean range size for the Northwest and Northeast Highlands regions, see above), this would represent a c. 11% loss of 'good' habitat. However again, given both the Proposed Development and current application stage developments are most likely to be towards the periphery of any identified ranges, it is unlikely that cumulative effects would be entirely attributable to just one range. An 11% cumulative loss of any single identified golden eagle range would therefore be a clear overestimate.
- 9.12.16 It can therefore be concluded that whilst cumulative habitat losses to range holding golden eagles have the potential to occur at increasing distances from the Proposed Development, effects are likely be spread over a number of ranges identified locally. It is therefore unlikely that habitat losses would affect the viability of any individual range, resulting in the risk of range abandonment.
- 9.12.17 Putting this in a regional context, potential cumulative operational displacement effects to golden eagle, adopting a precautionary approach, therefore remain of no more than **minor** significance and which is **not significant** in the context of the EIA Regulations.
- 9.12.18 No additional mitigation is therefore considered to be required and residual effects can therefore also be concluded as being **not significant** in the context of the EIA regulations.

Merlin

Potential Cumulative Operational Effects (Displacement and Barrier Effects)

- 9.12.19 **Sensitivity:** Medium-high.
- 9.12.20 Of the 30 identified cumulative wind farm developments within NHZ 7 (see **Appendix 9.3 Ornithological Assessment Methodology**), four developments were identified as having the potential for displacement impacts on breeding merlin as summarised in **Table 9.10**.
- 9.12.21 Combined, the operational and approved developments may have potential displacement effects on up to two pairs of merlin, representing 6.66% of the most recently estimated NHZ 7 breeding population (30 pairs, as per **Table 9.8**). Together with application stage developments (including the Proposed Development), potential displacement effects may occur on up to five pairs of merlin, representing 16.66% of the most recently estimated NHZ 7 breeding population (30 pairs; see **Table 9.9**).
- 9.12.22 As detailed in **Section 9.8**, there is little evidence for the displacement of breeding merlin from wind farm developments. In most cases, nesting locations for any individual pair would likely move locally and birds would adapt their foraging areas, but birds would not be lost to the population. Other developments would also be reasonably expected to implement standard measures to avoid the potential for operational disturbance to merlin and ensure legislative compliance given its inclusion on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended),

9.12.23 Potential cumulative operational displacement effects upon the regional NHZ 7 merlin population are therefore considered to be no more than of **low** yet **permanent** magnitude, of **minor adverse significance** and **not significant** effect in the context of the EIA Regulations.

9.12.24 No additional mitigation is considered to be required and residual effects can therefore also be concluded as being **not significant** in the context of the EIA regulations.

Table 9.10 Summary of cumulative displacement effects on merlin

Wind Farm Development	Planning Status	Displacement Effects (No. of pairs with the potential for impact upon)
Beinn nan Oighrean	Operational	No information available
Beinn Tharsuinn	Operational	No information available
Beinneun	Operational	Not predicted (no nest sites within 2km).
Beinneun Extension	Operational	Not assessed.
Bhlaraidh	Operational	Not predicted (no nest sites within 2km)
Coire na Cloiche	Operational	Not predicted.
Corriemoillie	Operational	Not predicted.
Corrimony	Operational	Not predicted.
Fairburn	Operational	One pair.
Lochluichart	Operational	No information available.
Lochluichart Extension	Operational	Not recorded.
Millennium	Operational	No information available.
Millennium Extension I	Operational	No information available.
Millennium Extension II	Operational	No information available.
Novar	Operational	No information available.
Novar Extension	Operational	No information available.
Bunloinn	Consented	Not predicted.
Chràthaich	Consented	Not predicted.
Kirkan	Consented	Not recorded.
Millennium South	Consented	No activity recorded.
Lochluichart Extension II	Consented	No breeding recorded.
Meall Buidhe	Consented	No activity recorded.
Strathoykel	Consented	No breeding/roosting activity recorded.
Strathrory	Under Construction	No activity recorded.
Tomchrasky	Consented	One pair.
Abhainn Dubh	Application	One pair.
Bhlaraidh Extension	Application	Not predicted.
Carn Fearna	Application	Not predicted.
Loch Laith	Application	One pair (within 2km)

Wind Farm Development	Planning Status	Displacement Effects (No. of pairs with the potential for impact upon)
Ceislein	Application	Not predicted.
	Existing Cumulative	4
	Proposed Development	1
	Total	5

Dunlin

Potential Cumulative Operational Effects (Displacement and Barrier Effects)

- 9.12.25 **Sensitivity:** Medium-high.
- 9.12.26 Of the 30 identified cumulative wind farm developments within NHZ 7 (see **Appendix 9.2**), six developments were identified as having the potential for displacement impacts on breeding dunlin as summarised in **Table 9.11**.
- 9.12.27 Combined, the operational and approved developments predict potential displacement effects on up to six pairs of dunlin, representing 6.66% of the most recently estimated NHZ 7 breeding population (90 pairs; see **Table 9.9**). Together with application stage developments (including the Proposed Development), potential displacement effects are estimated for up to 17 pairs of dunlin, representing 18.9% of the most recently estimated NHZ 7 breeding population (90 pairs, as per **Table 9.8**).
- 9.12.28 The quantitative assessment presented above and in **Table 9.11** below is however considered to represent an unlikely scenario for the regional NHZ 7 dunlin population. In most cases, the available information presented within this chapter and for the various cumulative projects considered relates to the number of breeding dunlin territories located within 500 m of proposed infrastructure, and therefore beyond currently recommended buffers to avoid the potential for disturbance to the species (200 m; Goodship and Furness, 2022). The assessment conclusion does also not take into account that actual displacement may be variable between developments, on account of individual pair tolerance of disturbance sources, and so is precautionary.
- 9.12.29 Worst-case predicted losses presented will therefore almost certainly exceed reality.
- 9.12.30 Potential cumulative operational displacement effects upon the regional NHZ 7 dunlin population are therefore considered to be no more than of **low yet long term** magnitude, of **minor adverse significance** and **not significant** effect in the context of the EIA Regulations.
- 9.12.31 No additional mitigation is required and residual effects can therefore also be concluded as being **not significant** in the context of the EIA regulations.

Table 9.11 Summary of cumulative displacement effects on dunlin

Wind Farm Development	Planning Status	Displacement Effects (No. of pairs with the potential for impact upon)
Beinn nan Oighrean	Operational	No information available.

Wind Farm Development	Planning Status	Displacement Effects (No. of pairs with the potential for impact upon)
Beinn Tharsuinn	Operational	No information available.
Beinneun	Operational	One pair (within 200 m).
Beinneun Extension	Operational	One pair (within 200 m).
Bhlaraidh	Operational	One pair (within 200 m).
Coire na Cloiche	Operational	Not predicted.
Corriemoillie	Operational	Not predicted.
Corrimony	Operational	Not recorded
Fairburn	Operational	Not recorded/reported.
Lochluichart	Operational	No information available.
Lochluichart Extension	Operational	Not recorded.
Millennium	Operational	No information available.
Millennium Extension I	Operational	No information available.
Millennium Extension II	Operational	No information available.
Novar	Operational	No information available.
Novar Extension	Operational	No information available.
Bunloinn	Consented	Up to two pairs.
Chràthaich	Consented	Not predicted
Kirkan	Consented	Not recorded
Lochluichart Extension II	Consented	Not recorded.
Meall Buidhe	Consented	Not predicted.
Millennium South	Consented	One pair (along existing access track)
Strathoykel	Consented	Not recorded.
Strathrory	Under Construction	No activity recorded.
Tomchrasky	Consented	No activity recorded.
Abhainn Dubh	Application	Not predicted.
Bhlaraidh Extension	Application	Not predicted.
Carn Fearna	Application	Not predicted.
Loch Laith	Application	Six pairs (within 500 m of Proposed Development)
Ceislein	Application	Not recorded.
	Existing Cumulative	12 pairs
	Proposed Development	Five pairs (within 500 m of Proposed Development)
	Total	17 pairs

Golden Plover

Potential Cumulative Operational Effects (Displacement and Barrier Effects)

- 9.12.32 **Sensitivity:** Medium.
- 9.12.33 Of the 30 identified cumulative wind farm developments within NHZ 7 (see **Appendix 9.2**), 17 developments were identified as having the potential for displacement impacts on breeding golden plover as summarised in **Table 9.12**.
- 9.12.34 Combined, the operational and approved developments identify the potential for displacement effects upon an estimated 53-55 pairs of golden plover, representing up to 1.83% of the most recently estimated NHZ 7 breeding population (3,009 pairs; see **Table 9.9**). Together with application developments (including the Proposed Development), potential displacement effects are identified for a total estimate of 61-63 pairs of golden plover representing up to 2.09% of the most recently estimated NHZ 7 breeding population (3,009 pairs; see **Table 9.9**).
- 9.12.35 As similarly set out for dunlin, this assessment conclusion does not take into account that actual displacement may be variable between developments (and development components), on account of individual pair tolerance of disturbance source (e.g. 200-500 m as set out within Goodship and Furness, 2022). Predicted displacement effects are therefore a likely overestimate and considered to be of **negligible** but **permanent** magnitude, of **negligible significance** and **not significant** effect in the context of the EIA Regulations.
- 9.12.36 No additional mitigation is considered to be required and residual effects can therefore also be concluded as being **not significant** in the context of the EIA regulations.

Table 9.12 Summary of cumulative displacement effects on golden plover

Development	Planning Status	Displacement Effects
Beinn nan Oighrean	Operational	No information available.
Beinn Tharsuinn	Operational	No information available.
Beinneun	Operational	Up to four pairs (within 200 m).
Beinneun Extension	Operational	Up to two pairs (within 200 m).
Bhlaraidh	Operational	Four-five pairs susceptible to habitat loss.
Coire na Cloiche	Operational	Up to five territories (recorded during survey).
Corriemoillie	Operational	Up to one pair.
Corrimony	Operational	Two-three pairs (in turbine area).
Fairburn	Operational	Up to seven pairs (within 250 m of turbine locations).
Lochluichart	Operational	No information available.
Lochluichart Extension	Operational	Up to two pairs.
Millennium	Operational	No information available.
Millennium Extension I	Operational	No information directly available. ²⁶
Millennium Extension II	Operational	No information directly available. ²⁷

²⁶ Within Millennium South EIA documentation 24 territories were recorded, 13 probable and 11 confirmed.

²⁷ Within Millennium South EIA documentation 27 territories recorded within survey area, four confirmed, 15 probably and eight possible.

Development	Planning Status	Displacement Effects
Novar	Operational	No information available.
Novar Extension	Operational	No information available.
Bunloinn	Consented	Up to five pairs.
Chràthaich	Consented	Up to two pairs.
Kirkan	Consented	Up to three pairs (within 500 m of turbine locations).
Lochluichart Extension II	Consented	Up to three pairs (within 500 m of the site).
Meall Buidhe	Consented	Up to two territories (within 500 m).
Millennium South	Consented	Up to three pairs.
Strathoykel	Consented	Not predicted.
Strathrory	Under Construction	Not recorded breeding.
Tomchrasky	Consented	Up to one pair.
Abhainn Dubh	Application	Not predicted.
Bhlaraidh Extension	Application	Up to three pairs.
Carn Fearna	Application	Not predicted.
Loch Laith	Application	Up to two pairs (within 500 m of development).
Ceislein	Application	Up to two pairs.
	Existing Cumulative	53-55 pairs
	Proposed Development	Up to 8 pairs (within 500 m of turbine locations)
	Total	61-63 pairs.

Potential Cumulative Operational Effects (Collision Mortality Risks)

9.12.37 **Sensitivity:** Medium.

9.12.38 Of the 30 identified cumulative wind farm developments within NHZ 7 (see **Appendix 9.3**), three developments quantified the potential for collision mortality risks on golden plover as summarised in **Table 9.13**.

9.12.39 Overall, including the Proposed Development, a combined estimated annual mortality risk of at least 0.1815 birds (one collision every 5.5 years) is predicted, representing up to 0.003% of the most recently estimated NHZ 7 breeding population (3,009 pairs, 6,018 adult breeding birds; **Table 9.9**) and a 0.011% increase in background mortality²⁸.

9.12.40 Predicted collision mortality risks can therefore be readily concluded as being of **permanent** yet **negligible** magnitude, and which is a **negligible** and **not significant** effect in the context of the EIA Regulations.

²⁸ Background mortality of 1,624.86 birds, based on a 0.73 survival rate (BTO Bird Facts) for the 6,018 adult breeding NHZ 7 population.

9.12.41 No additional mitigation is therefore considered to be required and residual effects can therefore also be concluded as being **not significant** in the context of the EIA regulations.

Table 9.13 Summary of cumulative collision mortality risks on golden plover

Wind Farm Development	Planning Status	Collision Mortality Risk (98% avoidance rate)
Beinn nan Oighrean	Operational	No information available.
Beinn Tharsuinn	Operational	No information available.
Beinneun	Operational	Not quantified.
Beinneun Extension	Operational	Not quantified.
Bhlaraidh	Operational	Not quantified.
Coire na Cloiche	Operational	Not quantified.
Corriemoillie	Operational	0.04
Corrimony	Operational	Not predicted.
Fairburn	Operational	Not quantified.
Lochluichart	Operational	No information available.
Lochluichart Extension	Operational	Not quantified.
Millennium	Operational	No information available.
Millennium Extension I	Operational	Not quantified. ²⁹
Millennium Extension II	Operational	Not predicted. ³⁰
Novar	Operational	No information available.
Novar Extension	Operational	No information available.
Bunloinn	Consented	Not predicted.
Chràthaich	Consented	0.002
Kirkan	Consented	Not predicted.
Lochluichart Extension II	Consented	Not quantified.
Meall Buidhe	Consented	0.08
Millennium South	Consented	Not predicted.
Strathoykel – (NHZ 5 and 7)	Consented	Not quantified.
Strathrory	Under Construction	Not quantified.
Tomchrasky	Consented	Not quantified.
Abhainn Dubh	Application	Not predicted.
Bhlaraidh Extension	Application	Not predicted.
Carn Fearna	Application	Not quantified.
Loch Laith	Application	Not quantified.
Ceislein	Application	Not quantified.
Existing Cumulative		0.122 (8.2 years per collision)

²⁹ Within Millennium South EIA documentation it states three minutes of flight activity was recorded during baseline surveys for Extension I, but no regular flight pattern observed.

³⁰ Within Millennium South EIA documentation it states two flights recorded but not at risk height.

Wind Farm Development	Planning Status	Collision Mortality Risk (98% avoidance rate)
	Proposed Development	0.0595 (16.8 years per collision)
	Total	0.1815 (5.5 years per collision)

Greenshank

Potential Cumulative Operational Effects (Displacement and Barrier Effects)

9.12.42 **Sensitivity:** Medium.

9.12.43 Of the 29 identified cumulative wind farm developments within NHZ 7 (see **Appendix 9.2**), 11 developments were identified as having the potential for displacement impacts on breeding greenshank as summarised in **Table 9.14**.

9.12.44 Combined, the operational and approved developments may result in potential displacement effects on an estimated 16-19 pairs of greenshank, representing up 10.81-12.84% of the most recently cited NHZ 7 breeding population (148 pairs; see **Table 9.9**). Together with application developments (including the Proposed Development), an estimated 23-31 pairs may be impacted, representing approximately 15.54-20.95% of the most recently cited NHZ 7 breeding population (148 pairs; see **Table 9.9**).

9.12.45 The above estimates do however include for the potential for displacement of pairs beyond 200 m from operational turbines, and which based on expert opinion and operational monitoring is unlikely to be representative of actual displacement effects. The estimates may also include for some degree of overlap between displacement effects for adjacent developments and therefore double counting.

9.12.46 Additionally, and as set out above for dunlin and golden plover, this assessment conclusion does not take into account the provision of any positive habitat management measures that may be realised for breeding waders away from operational infrastructure. Summed displacement effects presented in **Table 9.14** are therefore very likely an overestimate.

9.12.47 Potential cumulative operational displacement effects upon greenshank are subsequently considered to be of no more than **low-medium** and **permanent** magnitude, and which is of **minor adverse** significance and a **not significant** effect in the context of the EIA Regulations.

9.12.48 No additional mitigation is therefore considered to be required and residual effects can therefore also be concluded as being **not significant** in the context of the EIA regulations.

Table 9.14 Summary of cumulative operational displacement effects on greenshank

Wind Farm Development	Planning Status	Displacement Effects
Beinn nan Oighrean	Operational	No information available.
Beinn Tharsuinn	Operational	No information available.
Beinneun	Operational	Not predicted.
Beinneun Extension	Operational	Not predicted.
Bhlaraidh	Operational	Up to one pair

Wind Farm Development	Planning Status	Displacement Effects
Coire na Cloiche	Operational	Not predicted.
Corriemoillie	Operational	Up to two pairs.
Corrimony	Operational	Up to three-six pairs (within 2 km).
Fairburn	Operational	Not predicted.
Lochluichart	Operational	No information available.
Lochluichart Extension	Operational	Up to three pairs.
Millennium	Operational	No information available.
Millennium Extension I	Operational	No information available.
Millennium Extension II	Operational	No information available.
Novar	Operational	No information available.
Novar Extension	Operational	No information available.
Bunloinn	Consented	Up to one pair
Chràthaich	Consented	Not predicted.
Kirkan	Consented	Up to one pair (within 500 m of turbine locations)
Lochluichart Extension II	Consented	Up to two pairs (within 500 m of development)
Meall Buidhe	Consented	Up to two pairs.
Millennium South	Consented	Not recorded.
Strathoykel – (NHZ 5 and 7)	Consented	Not predicted.
Strathrory	Under Construction	No activity recorded.
Tomchrasky	Consented	Likely up to one pair.
Abhainn Dubh	Application	Not predicted.
Bhlaraidh Extension	Application	Up to three pairs
Carn Fearna	Application	Not predicted.
Loch Laith	Application	Up to two pairs (within 500 m of development).
Ceislein	Application	Not recorded.
	Existing Cumulative	21-24 pairs
	Proposed Development	2-7 pairs
	Total	23-31 pairs

9.13 Monitoring

Construction/Decommissioning Phase Monitoring

- 9.13.1 During the construction, and where relevant during the decommissioning of the Proposed Development, ornithological monitoring will be undertaken as part of the BDMP by the

appointed ECoW (or qualified ornithologist) to determine the scope and effectiveness of mitigation measures.

Operation Phase Monitoring

HMP

- 9.13.2 During the operational phase, monitoring will be undertaken to measure the effectiveness of peatland restoration measures and updated by moorland breeding birds, as set out in the Proposed Development's finalised HMP.
- 9.13.3 Monitoring would be used to ensure that habitat management measures remain effective, respond to change in emerging research, stakeholder advice and available technology, and meet the aims and objectives of the HMP over the operational lifetime of the Proposed Development.
- 9.13.4 Protocols for monitoring would be set out within the HMP and submitted for approval by THC, in consultation with NatureScot and other relevant consultees.

Collision mortality

- 9.13.5 In accordance with considered industry good practice, a protocol for the reporting and removal of all confirmed or suspected bird collision fatalities from within the MDA will be submitted to and approved in writing by THC, in consultation with NatureScot.
- 9.13.6 In addition, it is proposed that where black grouse collision fatalities are recorded, a scheme of trial measures aimed at reducing potential collision risks with turbine bases and to inform future industry good practice would be undertaken in consultation with NatureScot, such as the painting or marking of bases. The scheme would subsequently include monitoring of the efficacy of such over a period agreed.

9.14 Summary and Conclusion

- 9.14.1 This chapter considers the potential for likely significant effects upon IOFs associated with the construction, operation and decommissioning of the Proposed Development.
- 9.14.2 Baseline conditions to inform the design and assessment of the Proposed Development have been established through desk study and ornithological field surveys following industry standard guidance, and consultations with nature conservation bodies and specialist species recording groups.
- 9.14.3 The Development Site does not form part of any statutory designated site for nature conservation with qualifying ornithological interests, but the Proposed Development has potential connectivity with the Cromarty Firth and the Dornoch Firth and Loch Fleet European sites.
- 9.14.4 Baseline studies have established that the MDA and adjacent habitats are used by Schedule 1 raptors, divers, an assemblage of breeding ground nesting, waders, ptarmigan and black grouse. The Development Site and immediate surrounding area are not identified as being of importance for migratory waterfowl. The commercial plantation forestry habitats along the

Existing Forestry Access Track are overall, of relatively low importance for ornithological species.

- 9.14.5 Collision mortality risks to the proposed turbine locations have been estimated using the NatureScot CRM, with risks predicted as negligible for all species and not significant in the context of the EIA regulations. Disturbance and displacement effects for black grouse, dunlin, golden eagle, golden plover, greenshank, merlin and red-throated diver are also assessed in detail and concluded as not significant.
- 9.14.6 It can also be concluded that the Proposed Development would have no adverse effect on integrity of the Cromarty Firth or Dornoch Firth and Loch Fleet European sites and information to inform a HRA is presented as part of the EIAR.
- 9.14.7 Embedded standard mitigation, including the appointment of an Ecological Clerk of Works, completion of pre-commencement surveys and implementation of a BDMP, will enable the protection of breeding birds during construction, decommissioning and operational maintenance works associated with the Proposed Development.
- 9.14.8 In addition to habitat reinstatement following the cessation of construction works, the Proposed Development will also provide for peatland habitat restoration and enhancement measures within a HMP. This will serve to benefit the recorded moorland bird assemblage over the operational lifetime and the Proposed Development, including in areas away from operational infrastructure, offsetting to some extent predicted operational displacement effects.
- 9.14.9 A protocol for the reporting of collision fatalities will also be agreed in consultation with NatureScot and will include for the implementation of measures to reduce potential collision risks to black grouse where required.
- 9.14.10 Residual effects upon all IOFs are predicted to be not significant as a result of the Proposed Development alone, or cumulatively with other relevant developments.
- 9.14.11 **Table 9.15** provides a summary of the likely significant effects on receptors and the residual effects following the implementation of the mitigation measures.

Table 9.15 Potential Construction and Operational Impacts and Residual Effects

Phase	Predicted Impacts	Embedded Mitigation	Significance of Effect	Additional Mitigation Measures	Residual Effect
Black Grouse					
Construction	Habitat Loss, Disturbance	Design of Proposed Development avoids direct land take from any identified lek location and incorporates a 500 m set back distance between all lek locations, turbines and key operational infrastructure (including met mast, substation and BESS locations). The BDMP will detail species-specific measures to be implemented during construction, decommissioning and where relevant during operation. Potential construction impacts managed through CEMP. To be monitored on site by an ECoW.	Minor	Not required	Minor
Operation	Displacement	Design of Proposed Development avoids direct land take from any identified lek location and incorporates a 500 m set back distance between all lek locations, turbines and key operational infrastructure (including met mast, substation and BESS locations). The BDMP will enable the avoidance of disturbance to lekking males and nesting females.	Minor	Not required	Minor
Operation	Collision Mortality Risk	All cables linking turbines and the on-site substation, have been undergrounded in trenches alongside proposed access tracks to avoid additional collision risks to all bird species.	Minor	Not required	Minor
Red-throated diver					
Construction	Habitat Loss, Disturbance	The design of the Proposed Development has incorporated a 750 m infrastructure set back distance from all waterbodies recorded to support breeding red-throated diver over the course of baseline surveys. Implementation of a BDMP will detail species-specific measures to be implemented during construction, decommissioning and where relevant during operation.	Negligible	Not required	Negligible

Phase	Predicted Impacts	Embedded Mitigation	Significance of Effect	Additional Mitigation Measures	Residual Effect
		Potential construction impacts managed through CEMP. To be monitored on site by an ECoW.			
Operation	Displacement	On the basis of scheme design, no waterbody recorded supporting breeding red-throated diver is located within 750 m of any proposed development infrastructure. Scheme design has avoided the locating of turbines within any principal foraging flight corridors used by commuting red-throated divers identified to the north and south of the MDA during baseline surveys, and which align with those previously identified for the Glenmorrie Wind Farm. The BDMP will remain in place over the operational phase.	Negligible	Not required	Negligible
Golden eagle					
Construction	Habitat Loss, Disturbance	Construction works for the Proposed Development will occur over 2 km from any known golden eagle nest site. The BDMP will detail species-specific measures to be implemented during construction, decommissioning and where relevant during operation. Potential construction impacts managed through CEMP. To be monitored on site by an ECoW.	Negligible	Not required	Negligible
Operation	Displacement	The known locations of nests are sufficiently beyond the advised disturbance avoidance buffer for the species (1 km). The BDMP will remain in place over the operational phase.	Minor	Not required	Minor
Operation	Collision Mortality Risk	All cables linking turbines and the on-site substation, have been undergrounded in trenches alongside proposed access tracks to avoid additional collision risks to all bird species.	Negligible	Not required	Negligible
Merlin					
Construction	Habitat Loss, Disturbance	The BDMP will detail species-specific measures to be implemented during construction, decommissioning and where relevant during operation.	Negligible	Not required	Negligible

Phase	Predicted Impacts	Embedded Mitigation	Significance of Effect	Additional Mitigation Measures	Residual Effect
		Potential construction impacts managed through CEMP. To be monitored on site by an ECoW.			
Operation	Displacement	The BDMP will remain in place over the operational phase.	Minor	Not required	Minor Adverse
Dunlin					
Construction	Habitat Loss, Disturbance	Scheme design has sought to avoid or otherwise reduce direct and indirect habitat losses from areas of blanket bog within the MDA, associated with the presence breeding waders, including greenshank and dunlin. The BDMP will detail species-specific measures to be implemented during construction, decommissioning and where relevant during operation. Potential construction impacts managed through CEMP. To be monitored on site by an ECoW.	Negligible	Not required	Negligible
Operation	Displacement	Scheme design has sought to avoid or otherwise reduce direct and indirect habitat losses from areas of blanket bog within the MDA, associated with the presence breeding waders, including greenshank and dunlin.	Minor	Not required	Minor
Golden plover					
Construction	Habitat Loss, Disturbance	The BDMP will detail species-specific measures to be implemented during construction, decommissioning and where relevant during operation. Potential construction impacts managed through CEMP. To be monitored on site by an ECoW.	Negligible	Not required	Negligible
Operation	Displacement	The BDMP will remain in place over the operational phase.	Negligible	Not required	Negligible
Operation	Collision Mortality Risk	All cables linking turbines and the on-site substation, have been undergrounded in trenches alongside proposed access tracks to avoid additional collision risks to all bird species.	Negligible	Not required	Negligible
Greenshank					

Phase	Predicted Impacts	Embedded Mitigation	Significance of Effect	Additional Mitigation Measures	Residual Effect
Construction	Habitat Loss, Disturbance	Scheme design has sought to avoid or otherwise reduce direct and indirect habitat losses from areas of blanket bog within the MDA, associated with the presence breeding waders, including greenshank and dunlin. The BDMP will detail species-specific measures to be implemented during construction, decommissioning and where relevant during operation. Potential construction impacts managed through CEMP. To be monitored on site by an ECoW.	Negligible	Not required	Negligible
Operation	Displacement	The BDMP will remain in place over the operational phase.	Minor	Not required	Minor

9.15 References

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