

10 Ornithology

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10. Ornithology

10.1. Summary

- 10.1.1. This Chapter considers the potential for likely significant effects resulting from the Proposed Varied Development. It also considers the potential for changes to ornithology effects resulting from an increase in turbine tip height from (predominantly) 150 m for the Consented Development to 220 m for the Proposed Varied Development, and the consequent alteration to the turbine layout and number.
- 10.1.2. This Chapter establishes the baseline ornithology conditions of the site using the survey results undertaken for the Consented Development and recent ornithological surveys from between April 2023 and March 2024, which were undertaken to update the baseline presented in Chapter 10: Ornithology of the 2018 Environmental Impact Assessment Report (2018 EIA Report), Chapter 10: Ornithology of the 2019 Additional Environmental Information Report (2019 AEI Report) and Section 4 of the AEI Report II (2021 AEI II Report). The surveys undertaken involved breeding and non-breeding season Vantage Point surveys between April 2023 and March 2024.
- 10.1.3. The assessment of ornithology impacts from the Proposed Varied Development has been undertaken using the same approach and methodology adopted for the Consented Development. The assessment focuses on the potential collision impacts to birds. Mitigation measures and conditions agreed for the Consented Development will be adopted for the Proposed Varied Development and no additional measures are required for the Proposed Varied Development.
- 10.1.4. No significant residual effects have been predicted for any bird species of moderate or high Nature Conservation Importance. Cumulative impacts have also been considered, and the assessment has resulted in no significant cumulative effect on any bird species. This represents no change from the conclusion given in the 2018 EIA Report, 2019 AEI Report and 2021 AEI II Report.
- 10.1.5. In conclusion the Proposed Varied Development would not have a significant effect on any bird species, either alone or cumulatively with other developments. This represents **no change** from the conclusion given in the 2018 EIA Report, 2019 AEI Report and 2021 AEI II Report.

Table 10.1 – Summary of Conclusions – Proposed Varied Development and Consented Development

2018 Section 36 Application, supported by Additional Environmental Information I (2019) and Additional Environmental Information II (2021) - the Consented Development	2026 Section 36C Application - the Proposed Varied Development
The EIA concluded that there were no significant adverse effects on all bird species under the terms of the EIA Regulations.	Effects on ornithology associated with the Proposed Varied Development are considered to be not significant . This represents no change to the conclusions drawn for the Consented Development.

10.2. Introduction

- 10.2.1. This Chapter provides an assessment of the potential effects on birds arising from the construction, operation and decommissioning of the Proposed Varied Development.
- 10.2.2. It supplements Chapter 10: Ornithology of the Environmental Impact Assessment (EIA) Report (Infinergy, 2018), Chapter 10: Ornithology of the Additional Environmental Information (AEI) Report (Infinergy, 2019), and Section 4 of the AEI Report II (Infinergy, 2021), and should be read in conjunction with these.
- 10.2.3. In response to the 2018 EIA Report and the 2019 and 2021 AEI Report's for the Consented Development, no objections were raised by NatureScot (formerly Scottish Natural Heritage [SNH]) or the Royal Society for the Protection of Birds (RSPB) Scotland in relation to ornithology, subject to conditions.
- 10.2.4. The reporters, appointed by Scottish Ministers to hold an inquiry into the application under section 36 of the Electricity Act 1989, stated that *"With the applicant's clarifications on the assessment methodology, we are satisfied that RSPB Scotland's concerns over effects on black grouse have been addressed. We note that RSPB Scotland offered no further comments on the AEI. We find that proposed condition 31 on a Breeding Bird Protection Plan, requiring agreement from the planning authority, in consultation with NatureScot and RSPB, would minimise impacts on birds during the construction phase. We note NatureScot, as the Scottish Government's adviser on ornithology, finds no significant impacts. As a result, we are content that no further mitigation is required."* The Scottish Ministers agreed with the reporters' recommendations and consent for the Shepherds' Wind Farm was granted subject to conditions in August 2023.
- 10.2.5. The principles of the 2018 EIA Report and 2019 AEI Report remain valid and appropriate and therefore have not been reassessed for this assessment, unless otherwise stated.
- 10.2.6. This Chapter is supported by the following appendices:
- **Appendix 10.1 - Ornithology Technical Report, and**

- **Appendix 10.2** - Collision Risk Modelling.

10.3. Consultation

- 10.3.1. As part of the Consented Development's application, nature conservation organisations were consulted (including SNH, RSPB, Dumfries & Galloway Raptor Study Group [DGRSG] and Dumfries & Galloway Environmental Resources Centre [DGERC]) in relation to bird species with a moderate or high nature conservation value. In response to the 2018 EIA Report and 2019 AEI Report, no objections were raised by NatureScot or RSPB Scotland in relation to ornithology.
- 10.3.2. **Table 10.2** provides details of consultations undertaken with relevant statutory bodies, together with action undertaken by the Applicant in response to consultation comments.

Table 10.2 – Details of Consultations

Consultee	Key Consultee Comments	Application Action
NatureScot – Gatecheck 1 Response (06 May 2026)	[...] opportunities for enhancing the site for black grouse should be explored.	Habitat management measures, as described in Appendix 9.8: Outline Habitat Enhancement and Management Plan , will have direct and tangible benefits to the local black grouse population.
NatureScot – Scoping Response (29 August 2024)	We are supportive of the intentions to re-assess and update the previous collision risk modelling and are in agreement that it is the only impact requiring detailed consideration within the EIA with respect to this chapter.	Noted.
	We are in agreement that Loch Ken and River Dee Marshes Special Protection Area (SPA) can be scoped out of the EIA given the lack of connectivity.	Loch Ken and River Dee Marshes SPA has been scoped out of further assessment.
Dumfries & Galloway Council – Scoping Response (28 October 2024)	Provided no comments regarding ornithology.	Noted.

10.4. Assessment Methodology and Significance Criteria

10.4.1. This section takes into account the legislation, policy and guidance referred to in the 2018 EIA Report and 2019 AEI Report. While the fundamental legislative framework remains relevant, the assessment has been updated to include:

- NPF4, which replaces SPP and NPF3,
- The Scottish Biodiversity Strategy to 2045, and
- Updated NatureScot guidance (2025a, b and c) regarding bird assessment methods, avoidance rates and cumulative assessment.

10.4.2. To ensure consistency of approach, the same significance criteria and assessment methodology as referred to in the 2018 EIA Report and 2019 AEI Report I have been followed. Taking into account the relevant policy and guidance, baseline information, and assessment criteria, an assessment is presented below which details the effect of the Proposed Varied Development.

Field Surveys

10.4.3. Much of the baseline information relied upon in order to make an assessment of the effects of the Proposed Varied Development is that information which has been provided in the 2018 EIA Report. However, during baseline flight activity surveys to inform the Consented Development, flight height data was classified as <10 m, 10-30 m, 30-50 m, 50-100 m, 100-150 m or >150 m.

10.4.4. As the Proposed Varied Development involves increasing rotor diameter and the blade tip height of turbines, further baseline field surveys were undertaken between April 2023 and March 2024 (providing 12 months flight activity data) classifying flight height as <20 m, 20-50 m, 50-100 m, 100-150 m, 150-250 m or >250 m.

10.5. Baseline Conditions

10.5.1. This section summarises the baseline flight activity within and surrounding the Proposed Varied Development based on surveys undertaken in the period April 2023 to March 2024. The survey methods and detailed results are described in **Appendix 10.1**, with recorded flight activity and Vantage Points and viewshed locations illustrated on **Appendix 10.1 Figures 1-4**.

Wildfowl

10.5.2. Wildfowl records were limited to whooper swan, pink-footed goose and greylag goose. There are no swan or goose wintering areas in the vicinity and relatively little migratory traffic was recorded relative to the known volume of movements by these species. There were few records, and the numbers recorded were very low with a single flight by whooper swan (totalling 17 birds), three flights by pink-footed geese and seven flights of greylag geese (**Appendix 10.1**).

Raptors

- 10.5.3. Goshawk, red kite, hen harrier and merlin were recorded during baseline surveys. Goshawk was recorded in flight on nine occasions (totalling 1,865 seconds of flight) during the 12-month survey period. Red kite was observed more regularly during the survey period, with 45 flights, for a duration of 14,276 seconds. Hen harrier was recorded on five occasions, totalling 815 seconds of flight. Merlin was seen on one occasion, with a flight duration of 63 seconds (**Appendix 10.1**).

10.6. Potential Effects

Construction

- 10.6.1. While the Proposed Varied Development involves a reduction in the total number of turbines, the assessment of construction effects has been updated to account for the modified infrastructure layout. This includes the relocation of eight turbine positions, the revised access track network, the expanded footprint of the Battery Energy Storage System (BESS) compound, and the associated increase in permanent hardstanding and felling requirements.
- 10.6.2. Despite the increased scale of certain infrastructure components, the overall spatial extent of the wind farm is reduced. When compared against the 2018 EIA Report and 2019 AEI Report, the refined layout does not introduce new infrastructure into high-sensitivity ornithological areas or significantly increase the intensity of disturbance beyond the levels previously assessed. Consequently, it is concluded that the scale and magnitude of construction-phase effects remain consistent with previous findings, and no new or additional significant construction effects on ornithology will occur.

Operation

- 10.6.3. Most of the operational effects identified within 2018 EIA Report and 2019 AEI Report would remain unchanged; the exception to this is collision risk which would be altered due to the reduction in the number of turbines and the change in rotor diameter. As a result, collision risk modelling (CRM), using the same methodology as laid out in the 2018 EIA Report: Appendix 10.2 and the 2019 AEI Report: Appendix 10.1, has been re-run. Detailed calculations are presented in **Appendix 10.2**.
- 10.6.4. **Table 10.3** shows the results of the re-run CRM. Estimated collision risks have increased from the estimates provided in the 2018 EIA Report and the 2019 AEI Report. No osprey flights were recorded during April 2023 to March 2024, and as such no CRM could be undertaken.

Table 10.3 – Collision Risk Estimates

Species	Proposed Varied Development		Consented Development (2019 AEI Report findings)		Consented Development (2018 EIA Report findings)	
	Estimated collisions per year	Number of years per collision	Estimated collisions per year	Number of years per collision	Estimated collisions per year	Number of years per collision
Goshawk	0.078	12.7	0.018	56.5	0.021	47.6
Red kite	0.058	17.3	0.020	49.0	0.028	36.0
Hen harrier	0.008	122.7	0.001	846.3	0.001	707.9
Osprey	N/A	N/A	0.003	361.1	0.014	73.8

- 10.6.5. An increase in goshawk, red kite and hen harrier collisions is predicted. However, the resultant change in predictions makes no material difference for the purpose of assessment, including cumulative assessment, and does not change the assessment as presented in the 2018 EIA Report and the 2019 AEI Report.
- 10.6.6. The goshawk population in Natural Heritage Zone (NHZ) 19 is estimated to be 31 breeding pairs (Wilson *et al.*, 2015). The population effect of the potential loss of one goshawk every 12.7 years would comprise one out of 787 adult goshawks ($31 \times 2 \times 12.7$) plus an unknown number of non-breeding birds. Therefore, the potential loss of one goshawk every 12.7 years is of negligible magnitude and the overall effect at the scale of the NHZ would be **negligible**. This effect is considered **not significant** in terms of the EIA Regulations, and the population would maintain favourable conservation status.
- 10.6.7. The red kite population in Natural Heritage Zone (NHZ) 19 is estimated to be 124 breeding pairs (Challis *et al.*, 2023). The population effect of the potential loss of one red kite every 17.3 years would comprise one out of 4,290 adult red kites ($124 \times 2 \times 17.3$) plus an unknown number of non-breeding birds. Therefore, the potential loss of one red kite every 17.3 years is of negligible magnitude and the overall effect at the scale of the NHZ would be **negligible**. This effect is considered **not significant** in terms of the EIA Regulations, and the population would maintain favourable conservation status.
- 10.6.8. The potential loss of one hen harrier every 122.7 years is of negligible magnitude and the overall effect at the scale of the NHZ would be **negligible**. This effect is considered **not significant** in terms of the EIA Regulations, and the population would maintain favourable conservation status.
- 10.6.9. As such, the identified collision risks remain a non-significant effect.

Decommissioning

- 10.6.10. Decommissioning effects would be similar to those described within the 2018 EIA Report and 2019 AEI Report. The extent of the wind farm is reduced, which in turn would reduce the scale and magnitude of spatial effects. As such, the impacts identified within the 2018 EIA Report and 2019 AEI Report remain unchanged and no significant effects would occur on ornithology as a result of the Proposed Varied Development.

10.7. Existing Planning Conditions

- 10.7.1. Annex 2 of the Shepherds' Rig Wind Farm (the Consented Development) Decision Letter outlines the Conditions attached to the Deemed Planning Permission. Condition 30 relates to ornithology, as follows:

30. Breeding Bird Protection Plan

(1) There shall be no Commencement of Development unless a breeding bird protection plan (BBPP) has been submitted to and approved in writing by The Planning Authority, in consultation with NatureScot and Royal Society for the Protection of Birds.

(2) The BBPP shall set out survey methods for the identification of sites used by protected and sensitive birds during construction and shall detail operational protocols to prevent or minimise disturbance of birds during construction of the Development.

(3) The BBPP approved under part (1) shall be implemented during construction works.

Reason: To minimise impacts on birds during the construction phase.

- 10.7.2. Since the Proposed Varied Development is limited to reducing the number of turbines and increasing rotor diameter and the blade tip height of turbines, all construction and decommissioning effects would be similar to those described within the 2018 EIA Report and 2019 AEI Report. As such, it is anticipated that Condition 30 will remain appropriate.

10.8. Summary of Residual Effects

- 10.8.1. The Proposed Varied Development will result in no change in the magnitude of effects on ornithological receptors overall. The assessment of significance of effects remains unchanged from that detailed within the 2018 EIA Report and 2019 AEI Report, which concluded that there will be no significant effects in terms of the EIA Regulations.

10.9. Cumulative Assessment

- 10.9.1. In isolation, no significant effects are predicted to arise from the construction or operation of the Proposed Varied Development on ornithology. All construction and operational effects were deemed negligible and not significant under the EIA Regulations.

- 10.9.2. The potential for cumulative impacts with other proposals has been assessed following NatureScot guidance (NatureScot, 2025). This part of the assessment focuses on those bird species where there is considered to be a realistic potential for cumulative effects to occur. The assessment includes consideration of operational projects; projects under construction; consented projects which are not yet under construction; and projects for which planning applications have been submitted and for which sufficient information is therefore publicly available.
- 10.9.3. On the basis that all in-isolation findings were negligible and where negligible has been defined as *"No or non-detectable changes in the conservation status of regional populations of Nature Conservation Importance"* (2018 EIA Report Chapter 10, Table 10.6), the predicted in-isolation effects will have no potential to contribute to cumulative effects, and therefore for all bird species, the cumulative effects of the Proposed Varied Development in-combination with other projects in the NHZ are likely to be negligible and not significant under the EIA Regulations.
- 10.9.4. Other projects of immediate relevance to the consideration of cumulative effects include the Lorg Wind Farm Grid Connection, due to its location through the centre of the Proposed Varied Development's site. However, given that no significant effects of the Proposed Varied Development were identified, and all effects on all bird species were deemed to be of negligible significance, the predicted in-isolation effects of the Proposed Varied Development are considered to have no potential to contribute to cumulative effects and are, therefore, negligible across all species. This is the same conclusion reached in Section 4 of the AEI II (Infinergy, 2021) and is further supported by the Lorg Wind Farm Grid Connection EIA Report Chapter 11: Cumulative Assessment (SPEN, 2025) where cumulative effects on all bird species were scoped out of assessment as all residual effects had been concluded as negligible.
- 10.9.5. Therefore, the cumulative effects identified within the 2018 EIA Report, the 2019 AEI Report and the 2021 AEI Report II, would remain unchanged; the predicted in-isolation effects of the Proposed Varied Development are considered to be so small that it is unlikely to make any meaningful contribution to cumulative mortality within the NHZ for any bird species. It is therefore expected that there would be negligible cumulative impacts on all bird species and therefore the cumulative assessment from the EIA and AEI Reports for the Consented Development remains unchanged which identified cumulative effects as **not significant**.

10.10. Summary

- 10.10.1. The revisions to the Consented Development will result in no change to the magnitude of effects on ornithological receptors overall, including cumulative effects. The assessment of significance of effects remains unchanged from that outlined within the 2018 EIA Report and 2019 and 2021 AEI Reports.

10.11. Statement of Significance

- 10.11.1. Effects on ornithology associated with the Proposed Varied Development are considered to be **not significant**. This represents **no change** to the conclusions outlined in the 2018 EIA Report and the 2019 and 2021 AEI Reports.

Table 10.4 – Summary of Effects

Description of Effect	Significance of Potential Effect		Mitigation and/or Enhancement Measure	Significance of Residual Effect		Change to Consented Development Conclusion
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse	
Construction						
Loss of habitat	Negligible	Adverse	None	Negligible	Beneficial	None
Disturbance	Negligible	Adverse	Implementation of Breeding Bird Protection Plan.	Negligible	Beneficial	None
Operation						
Disturbance	Negligible	Adverse	None	Negligible	Adverse	None
Collision risk	Negligible	Adverse	None	Negligible	Adverse	None
Decommissioning						
Disturbance	Negligible	Adverse	None	Negligible	Adverse	None
Cumulative						
Loss of habitat	Negligible	Adverse	None	Negligible	Adverse	None
Disturbance	Negligible	Adverse	None	Negligible	Adverse	None
Collision risk	Negligible	Adverse	None	Negligible	Adverse	None

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Abbreviations

Abbreviations	Definition
AEI	Additional Environmental Information
CRM	Collision risk model
EIA	Environmental Impact Assessment
DGRSG	Dumfries & Galloway Raptor Study Group
DGERC	Dumfries & Galloway Environmental Records Centre
NHZ	Natural Heritage Zone
RSPB	Royal Society for the Protection of Birds
SNH	Scottish Natural Heritage

SPA

Special Protection Area