

**Technical Appendix 8.5: Shadow Habitats Regulation
Appraisal for the Ailsa Craig Special Protection Area**

2026

Glenouther Wind Farm

Technical Appendix 8.5

Shadow Habitats Regulation Appraisal for the Ailsa Craig SPA

n r p NATURAL RESEARCH
PROJECTS LIMITED



Natural Research Projects
Brathens Business Park,
Hill of Brathens, Glassel,
Banchory
AB31 4BY

01330 826880

June 2026

Report Quality Assurance Log

Date	Version	Created by	Checked by
03/03/2026	1.0	Blair Urquhart	Rhodri Evetts
20/05/2026	1.2	Blair Urquhart	Rhodri Evetts
24/06/2026	Issue		

CONTENTS

Introduction	1
Description of the Proposed Development	1
Ailsa Craig Special Protection Area	1
Qualifying Interests	1
Effects on European Sites of Ornithological Importance	2
Assessment of Effects on Conservation Objectives	3
In Isolation Effects	4
In Combination Effects	5
Conclusion	5
References	6

Introduction

1. This Technical Appendix relates to the Proposed Development as defined in **Chapter 4: Development Description** of the Glenouther Wind Farm Environmental Impact Assessment (EIA) Report.
2. This shadow Habitats Regulations Appraisal (HRA) has been prepared to inform the competent authority's duties under the Conservation of Habitats and Species Regulations 2017 (as amended in Scotland) (hereafter "the Habitats Regulations") and is provided as a supporting document to the **Chapter 8** of the EIA Report.

Description of the Proposed Development

3. The Proposed Development comprises
 - Five onshore wind turbines, each with a tip height of up to 200 m, arranged across a commercial forestry site approximately 66 km north-east of the Ailsa Craig Special Protection Area (SPA).
 - Associated infrastructure including access tracks, crane hardstandings, substation and temporary construction compound.
 - Construction, operation (30 years), and decommissioning phases.
4. The Proposed Development site is entirely inland, dominated by commercial forest, with no coastal or marine habitats.

Ailsa Craig Special Protection Area

Qualifying Interests

5. A first stage is to establish the nature of the qualifying interests of the Ailsa Craig SPA, as this determines the scope of the assessment.
6. The Ailsa Craig SPA qualifies under Article 4 (2) of the EC Birds Directive as it regularly supports important numbers of breeding black-legged kittiwake, common guillemot, herring gull, lesser black-backed gull and northern gannet. Due to the foraging ecology of lesser-black backed and herring gull, using a mix of terrestrial and marine habitats, and the mean maximum foraging distance for these species, 236 km and 85.6 km respectively (Woodward *et al.*, 2019), only lesser black-backed gull and herring gull are pertinent with regard to the assessment. Black-legged kittiwake, common guillemot, and northern gannet are all marine species and were not recorded during baseline surveys (**Technical Appendix 8.1**). Given this, black-legged kittiwake, common guillemot and northern gannet are not considered further in this assessment.
7. The most recent site condition monitoring for lesser-black backed gull and herring gull, undertaken in 2019, suggests that the SPA populations of lesser-black backed and herring gull are considered as Unfavourable Recovering (NatureScot, 2024).
8. At the time of classification, the Ailsa Craig SPA populations of herring gull was 2,250 pairs and lesser black-backed gull was 1,800 pairs; however, recent population estimates are lower, with 179 pairs of herring gulls and 135 pairs of lesser black-backed gull in 2025 (SMP, 2026).

9. Lesser black-backed gull is predominantly present during the breeding season (March – September), and herring gull is present year-round. Although it is possible that birds of both species recorded during the winter in and around the Proposed Development were not part of the Ailsa Craig SPA interests, to ensure a robust assessment and provide a thorough exposition of all information to the competent authority it is assumed that all non-breeding season records involved the SPA interests.

Effects on European Sites of Ornithological Importance

10. The European Directive which is currently relevant in the context of Special Protection Areas (SPAs) is the Council Directive 2009/147/EC on the Conservation of Wild Birds (the Birds Directive). In Scotland, the Birds Directive has been transposed into the domestic legislation through the Habitats Regulations. Guidance for the implementation of the Habitats Regulations in Scotland is provided in Scottish Office Circular No. 6/1995 (revised by the Scottish Executive in June 2000) (SERAD, 2000).
11. The Habitats Regulations state that an assessment of the possible effects of a proposed development on an SPA is the responsibility of the competent authority – in this case, East Ayrshire Council. However, the Applicant seeking consent is obliged to provide such information as the East Ayrshire Council may reasonably require for the purposes of the assessment of the implications of the Proposed Development for the Ailsa Craig Special Protection Area (SPA) in light of the SPA's conservation objectives.
12. Regulation 63 of the Habitats Regulations refers to three assessment steps: the outcome of the first two steps determining whether or not the third step needs to be implemented. The three steps, set out below as questions, are:
- Step 1: Is the proposal directly connected with or necessary to the management of the site?
- Step 2: Is the proposal, alone or in combination, likely to have a significant effect on the site? If a significant effect is likely, then an appropriate assessment is necessary; and
- Step 3: Can it be demonstrated in light of the conservation objectives that the proposal will not adversely affect the integrity of the site?
13. In respect of the Proposed Development, the following comments are made in light of the three steps referred to above, to assist East Ayrshire Council with undertaking the appropriate assessment.

Step 1

14. The construction and operation of the Proposed Development is not directly connected with or necessary for the management of the Ailsa Craig SPA, and therefore the next step needs to be considered. This is because the assessment must consider all potential pathways, for example loss of foraging habitat or collision mortality, that link the proposal to the designated site's qualifying interests, even if the proposal is not physically on the designated site.

Step 2

15. Baseline studies recorded that herring gull and lesser black-backed gull are the only qualifying species of the Ailsa Craig SPA with sufficient use of the Proposed Development Site to warrant further consideration. Due to the likely potential for collision mortality to both species during operation of the Proposed Development it is considered that there is a likelihood of significant effects.
16. The Ailsa Craig SPA's conservation objectives (relevant to both Steps 2 and 3 of an assessment) are designed to achieve the obligations set out in Article 6.2 of the Habitats Directive (which applies to SPAs) by using the components of favourable conservation status for species as set out within Article 1(i) of the Habitats Directive. This approach is recommended by the EC in their Guidance on Managing Natura 2000 Sites, Section 2.3.2. The conservation objectives for SPAs are the same as for other SPAs in Scotland in having an overarching conservation objective to avoid deterioration of the habitats of the qualifying interest, or significant disturbance to the qualifying interest, thus ensuring that the integrity of the site (SPA) is maintained. The component conservation objectives which encapsulate the maintenance of site (SPA) integrity in the long-term are as follows:
 1. ensure for the qualifying species that there is no significant disturbance;
 2. ensure for the qualifying species that the structure, function and supporting processes of habitats supporting the species are maintained in the long term;
 3. ensure for the qualifying species that the distribution and extent of habitats supporting the species are maintained in the long term;
 4. ensure for the qualifying species that the distribution of the species within the site is maintained in the long term; and
 5. ensure for the qualifying species that the population of the species is maintained as a viable component of the site.

Step 3

17. As noted earlier, under Step 2 of the assessment process, it was considered reasonable to conclude that it was likely that the Proposed Development would have a significant effect on herring gull and lesser black-backed gull. Since this section is designed to provide the competent authority with the necessary information to undertake an assessment under the Habitats Regulations, subsequent sections therefore assume that, under Step 3, an appropriate assessment requires implementation, and hence subsequent sections place the Proposed Development's potential effects on site integrity under detailed scientific scrutiny, utilising evidence gathered from the Proposed Development site, and with explicit reference to the relevant conservation objectives of the Ailsa Craig SPA.

Assessment of Effects on Conservation Objectives

18. The information presented in **Chapter 8** and **Technical Appendices 8.1** and **8.2** of the EIA Report suggests that collision mortality is the potential adverse effect which could result from the Proposed Development, and such an effect, under either step 2 or step 3, are relevant to conservation objective 5 (*"Ensure for the qualifying species that the population of the species is maintained as a viable component of the site"*) listed above. If this effect was of a large enough magnitude, then objective 4 (*"Ensure for the qualifying species that the distribution of*

the species within the site is maintained in the long term") may also be impinged upon. The other three conservation objectives (1, 2 and 3) are therefore not relevant for consideration of any potentially adverse impact on the SPA interest as a consequence of the Proposed Development, since the Proposed Development will not compromise these objectives due to the distance between the SPA and the Proposed Development.

Conservation objective 5 - Ensure for the qualifying species that the population of the species is maintained as a viable component of the site

19. The Proposed Development may cause direct mortality to herring gull and lesser black-backed gull as a result of collision with rotating turbine blades. Herring gull and lesser black-backed gull killed through turbine collisions must be considered part of the Ailsa Craig SPA populations, as determining beyond doubt that they were not would be almost impossible. As a result, there is potential for the integrity of the Ailsa Craig SPA to be compromised as a result of direct mortality to the qualifying interest.
20. Flight activity surveys conducted between September 2023 and August 2025 recorded 66 flights (52 flights at collision risk height) by herring gull and 168 flights (132 flights at collision risk height) by lesser black-backed gull. Hence, it is clear that some potential for collision by herring gull and lesser black-backed gull with turbines at the Proposed Development does exist.
21. The Predictable Flight Method (PFM) of the Collision Risk Model (CRM) (Band *et al.*, 2007) was used to estimate predicted collision mortality for herring gull and lesser black-backed gull during the two years of baseline surveys. Parameters and values in the modelling process are shown in **Technical Appendix 8.2: Collision Risk Modelling**.
22. Collision risk modelling predicted 0.04 herring gulls, and 0.11 lesser black-backed gulls would collide per year (**Technical Appendix 8.2**). This modelled mortality would be barely detectable at SPA level. Given that background annual mortality within the SPA populations will account for the deaths of around 12 % of the herring gull population and 9 % of the lesser black-backed gull population annually (Wanless *et al.*, 1996), there is no realistic prospect of collision mortality affecting the trajectory of either SPA population. Hence, without recourse to further analyses it is considered beyond scientific doubt that collision mortality would not adversely affect the qualifying interests at Ailsa Craig SPA and objective 5 would not be compromised by the Proposed Development.

Conservation objective 4 - Ensure for the qualifying species that the distribution of the species within the site is maintained in the long term

23. It follows from the conclusions arrived at in respect of conservation objective 5 above, that the distribution of the species within the SPA will be unaffected by the Proposed Development and, therefore, conservation objective 4 would not be impinged upon.

In Isolation Effects

24. In evaluating the impact of the Proposed Development in isolation, therefore, there is no prospect that the Proposed Development could affect the integrity of the Ailsa Craig SPA.

In Combination Effects

25. As noted above, it is necessary that the competent authority considers, within the assessment steps, the potential effect of the Proposed Development alone or “in combination” with other projects.
26. However, as noted above, there is no prospect of significant disturbance effects upon the lesser black-backed gull and herring gull populations, and collision mortality is so low it would not be detectable against a background of natural mortality. As such, the predicted in-isolation effects of the Proposed Development are considered to have no potential to contribute to in-combination effects. Therefore, there is no prospect that the Proposed Development in combination with other plans or projects could affect the integrity of the SPA.

Conclusion

27. In conclusion, none of the SPA’s conservation objectives would be compromised by the Proposed Development alone, or in combination with other developments, and the Proposed Development would, therefore, not affect the integrity of the Ailsa Craig SPA.

References

- Band, W., Madders, M., & Whitfield, D.P. (2007). Developing field and analytical methods to assess avian collision risk at wind farms. In: de Lucas, M., Janss, G.F.E. & Ferrer, M. (Eds.) *Birds and Wind Farms: Risk Assessment and Mitigation*, pp. 259- 275. Quercus, Madrid.
- NatureScot. (2024). Conservation and Management Advice. Ailsa Craig SPA; December 2024. Available at: <https://www.nature.scot/sites/default/files/special-protection-area/8463/conservation-and-management-advice.pdf>
- SERAD (Scottish Executive Rural Affairs Department). (2000). Habitats and Birds Directives, Nature Conservation: Implementation in Scotland of EC Directives on the Conservation of Natural Habitats and of Wild Flora and Fauna and the Conservation of Wild Birds ('The Habitats and Birds Directives'). Revised Guidance Updating Scottish Office Circular No 6/1995.
- Seabird Monitoring Programme (SMP). (2026). Data sourced from website, available at: <https://app.bto.org/seabirds/public/index.jsp>. Accessed February 2026.
- Wanless, S., Harris, M.P., Calladine, J. & Rothery, P. (1996). Modelling responses of herring gull and lesser black-backed gull populations to reduction of reproductive output: implications for control measures. *Journal of Applied Ecology*, 33 (6). 1420-1434.
- Woodward, I., Thaxter, C.B., Owen, E. & Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. BTO Research Report 724.