



Bloch Wind Farm

Technical Appendix 8.7: Habitats Regulations Assessment Report

Author	Steve Percival, Ecology Consulting
Date	October 2022
Ref	Final

This document (the “Report”) has been prepared by Renewable Energy Systems Ltd (“RES”). RES shall not be deemed to make any representation regarding the accuracy, completeness, methodology, reliability or current status of any material contained in this Report, nor does RES assume any liability with respect to any matter or information referred to or contained in the Report, except to the extent specified in (and subject to the terms and conditions of) any contract to which RES is party that relates to the Report (a “Contract”). Any person relying on the Report (a “Recipient”) does so at their own risk, and neither the Recipient nor any person to whom the Recipient provides the Report or any matter or information derived from it shall have any right or claim against RES or any of its affiliated companies in respect thereof, but without prejudice to the terms of any Contract to which the Recipient is party.

Contents

1. Background.....	1
2. Objectives of Technical Appendix.....	2
3. Parameters for the HRA.....	2
4. Consultation	2
5. Baseline Data	3
6. Habitats Regulations Appraisal - Screening (Likely Significant Effects Tests).....	4
7. References	7

1. Background

- 1.1 This technical appendix provides the information required pursuant to the Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2004 (as amended), specifically related to avian nature conservation issues raised by the proposed development. The information provided here is to support the competent authority in establishing, firstly, is the construction, operation and decommissioning of the proposed development, either alone or in combination with other plans or projects likely to have a significant effect on European sites, having had regard to the qualifying interests and the conservation objectives. This first stage analysis is completed without reference to mitigation.
- 1.2 Where a plan or project is not directly connected with or necessary to the management of the European site, and where it cannot be excluded, on the basis of objective information, that the plan or project will have a significant effect, the competent authority is duty bound to complete an Appropriate Assessment to determine whether the likely significant effect would have an adverse effect on the integrity of the European site(s). The integrity of the European Sites are considered with reference to best scientific knowledge and with regards to the conservation objectives of the European Sites, specifically the species for which the sites were designated and the habitat upon which they depend. This technical appendix should be read in conjunction with the accompanying chapter and figures.
- 1.3 This Technical Appendix provides information on the existing baseline for the designated populations (and that could be affected by the proposed development), and an assessment of the effects of the proposed development on those populations alone and in combination with other plans and projects in the area. The field studies, evaluation and assessment of effects of the proposed wind farm on the area's bird populations have been reported fully in the Chapter 8: Ornithology in Volume 2 of the EIA Report. The information presented in this report draws on that work but focuses on the key species that are qualifying features of the Special Protection Areas (SPA) sites.

2. Objectives of Technical Appendix

2.1 The purpose of this technical appendix is:

- To assess the potential for likely significant effects upon the European site(s) from the construction, operation and decommissioning of the proposed development, either alone or in combination with other plans or projects and in the absence of any mitigation (this assessment is known as the screening stage); and
- If any likely significant effects are identified through the screening stage, to consider whether the proposed development has the potential to have an adverse effect on the integrity of the European site(s), having had regard to their conservation objectives and the mitigation measures proposed.

3. Parameters for the HRA

3.1 The assessment presented here is based on the proposed development as described in Chapter 2 of the EIA Report. Specific parameters relevant to this assessment include using a turbine of 150m rotor diameter. Hub heights would range between 105m and 155m, so rotor height would be 30-180m for the lowest turbines, up to 80-230m for the highest ones.

3.2 Blade rotational speeds would be on average about 7.5 revolutions per minute. The development will include concrete bases for the 21 wind turbine foundations, the wind turbines themselves and associated electrical transformers, substation and battery energy storage system compounds, control buildings, and on-site infrastructure (underground cabling, access tracks, watercourse crossings and crane hardstands).

3.3 All of the on-site cabling will be under-grounded. Operation and minor maintenance of the proposed development will take place throughout the year, with additional annual servicing.

4. Consultation

4.1 NatureScot has advised in scoping that the proposed development has the potential to impact on hen harrier, a qualifying feature of the Langholm - Newcastleton Hills SPA, so a Habitats Regulations Appraisal (HRA) will be needed. This Technical Appendix provides that appraisal.

- 4.2 Natural England additionally advised that the proposed development may have the potential to impact the Upper Solway Flats and Marshes SPA/Ramsar site. This site has therefore also been included in this appraisal. The only two species that lie within the connectivity range of that SPA are pink-footed goose and barnacle goose, so these are the only two species included in this assessment.

5. Baseline Data

- 5.1 A comprehensive range of bird surveys have been undertaken at the site between November 2020 and August 2022. This has included surveys over two breeding seasons (2021 and 2022) and two winter periods (2020-21 and 2021-22). These surveys comprised:

- year-round vantage point surveys to quantify bird flight activity;
- breeding bird walkover mapping survey;
- species-specific breeding bird surveys; and
- autumn/winter walkover surveys.

- 5.2 Full details of the surveys, dates and weather conditions are given in Technical Appendices 8.1-8.4.

SPA Species' Baseline Conditions

- 5.3 Only one possible SPA species was recorded during the baseline surveys within the potential disturbance zone:

- Hen harrier.

- 5.4 SPA species recorded at risk of collision (i.e. flying through the site at rotor height) included:

- Pink-footed goose.
- Barnacle goose.
- Hen harrier.

Hen Harrier

- 5.5 No hen harriers were recorded breeding within 2km of the proposed development. There were only a very small number of flights recorded over the site during the breeding season VP surveys (4 flights in total over the two baseline breeding seasons), showing that use of the site at this time of year was negligible.

- 5.6 Hen harriers were seen more regularly flying over the site outside the breeding season (32 flights in total during the VP surveys), but only a very low number of flights were recorded at rotor height through the collision risk zone. No evidence was found of any night roost in the survey area.
- 5.7 There was no evidence of any important connectivity between the site and the Langholm-Newcastleton Hills SPA.

Pink-footed Goose

- 5.8 The only records of pink-footed goose from the site were of birds overflying, with no records on the ground within 2km of the site in either of the two baseline survey winters. There would be no risk of disturbance to this species.
- 5.9 Pink-footed geese were regularly recorded overflying the site, mainly during their autumn and spring migration (EIAR Figure 8.3), so would be at risk of collision.

Barnacle Goose

- 5.10 The only records of pink-footed goose from the site were of birds on migration, with no records of on the ground within 2km of the site in either of the two baseline survey winters. There would be no risk of disturbance to this species.
- 5.11 Barnacle goose flight activity over the site was lower than for pink-footed goose, but it would still be at risk of collision.

6. Habitats Regulations Appraisal - Screening (Likely Significant Effects Tests)

- 6.1 In this section each SPA that could possibly be affected by the proposed development is considered in terms of its qualifying features, to determine whether any Likely Significant Effects (LSE) under the Habitats Regulations could occur. SPAs that could possibly be affected by the proposed development, are identified and the designated species that could be affected.
- 6.2 The initial assessment for the LSE test was based on whether the proposed development falls within the core connectivity range of each qualifying species of each SPA (as set out in SNH 2016), and whether there was any possible pathway to a significant impact. Each SPA is considered in turn.

6.3 The potential connectivity of each of these SPAs to the proposed development is summarised in Table 8.5. This lists the qualifying features for each SPA, the distance from the site at its closest point and an initial assessment of whether the site falls within the core range of each (SNH 2016). As set out in this guidance, “*In most cases the core range should be used when determining whether there is connectivity between the proposal and the qualifying interests*”, so this has been used for this assessment (though with consideration of the maximum ranges too).

Langholm - Newcastleton Hills SPA

6.4 The Langholm - Newcastleton Hills SPA lies 2.6km north-east from the proposed development boundary. This SPA qualifies for designation under Article 4.1 by regularly supporting a breeding population of European importance of the Annex 1 species, Hen Harrier (13 breeding females, 3% of GB breeding population). NatureScot advised that this species should be considered in the HRA.

6.5 In assessing whether there would be any Likely Significant Effect on this species, the first consideration was the distance between the development and the SPA. As it lies outside the 2km core range distance for this species, it would be unlikely that the site would be important for any birds breeding on the SPA. This is further supported by the data from the baseline site surveys. Use of the site during the breeding season by hen harriers was negligible.

6.6 Furthermore, collision risk was shown to be negligible (only 0.04 collisions per year).

6.7 Overall, therefore, it was concluded that there would be no Likely Significant Effect on the langholm-Newcastleton Hills SPA hen harrier population.

Table 8.7.1: Langholm - Newcastleton Hills SPA: Determining Potential for Likely Significant Effects (LSE)

Qualifying Interest	Summary Condition	Likely Significant Effect
Hen Harrier	Favourable	No. The development lies outside the 2km core range for this species (but within maximum range of 10km). Negligible collision risk.

Upper Solway Flats and Marshes SPA

- 6.8 The Upper Solway Flats and Marshes SPA lies 13km south from the site. It is an extensive inter-tidal habitat with an internationally important wintering waterfowl community including bar-tailed godwit, barnacle goose, golden plover, whooper swan, ringed plover, curlew, dunlin, knot, oystercatcher, pink-footed goose, pintail and redshank.
- 6.9 The only potential for a Likely Significant Effect is for pink-footed goose and barnacle goose. These are the only species for which the development lies within their core range (15-20km for pink-footed goose, 15km for barnacle goose).
- 6.10 Neither species was recorded on the ground within the potential impact zone of the development and this zone is predominantly unsuitable habitat for these species.
- 6.11 The only impact that could potentially lead to a Likely Significant Effect would therefore be collision risk.
- 6.12 The annual collision risk was predicted to be 1.0 for pink-footed goose and 0.03 for barnacle goose. These would be effects of negligible magnitude that would not result in any Likely Significant Effect in the context of the Upper Solway Flats and Marshes SPA population.

Table 8.7.2: Upper Solway Flats and Marshes SPA: Determining Potential for Likely Significant Effects (LSE)

Qualifying Interest	Summary Condition	Likely Significant Effect
Internationally important wintering waterfowl community including bar-tailed godwit, barnacle goose, golden plover, whooper swan, ringed plover, curlew, dunlin, knot, oystercatcher, pink-footed goose, pintail and redshank	Favourable	No. Though within connectivity range for Pink-footed goose (15-20km) and barnacle goose (15km) only possible impact (collision risk) would be negligible.

Castle Loch, Lochmaben SPA/Ramsar site

- 6.13 Potential effects on this SPA were also considered, though this was not identified by any consultees during scoping, as the proposed development

does lie within the pink-footed goose foraging range distance of this SPA (19km west from the site).

- 6.14 The SPA is designated for its internationally important wintering population of pink-footed geese. The SPA citation cites a population of 8,300 pink-footed geese (4% of the international population), though numbers have been rather lower in more recent years, probably as a result of more geese roosting on the Solway Firth rather than at this site (Mitchell 2012, Frost *et al.* 2021). It also supports a nationally important wintering population of goosander (winter peak mean of 66, 1% of the British population).
- 6.15 As for the Upper Solway Flats and Marshes SPA, the only impact that could potentially lead to a Likely Significant Effect would be collision risk.
- 6.16 The annual collision risk was predicted to be 1.0 for pink-footed goose. This would be an effect of negligible magnitude that would not result in any Likely Significant Effect in the context of the Castle Loch, Lochmaben, SPA population.

Table 8.7.3: Castle Loch, Lochmaben SPA: Determining Potential for Likely Significant Effects (LSE)

Qualifying Interest	Summary Condition	Likely Significant Effect
Wintering pink-footed goose	Favourable	No. Though within connectivity range for Pink-footed goose (15-20km) only possible impact (collision risk) would be negligible

7. Conclusion

- 7.1 The proposed development would not result in any Likely Significant Effects under the Habitats Regulations, and there would be no need for the proposed development to be taken forward for Appropriate Assessment.

8. References

Scottish Natural Heritage. 2016. Assessing Connectivity with Special Protection Areas (SPAs) - Version 3. SNH Guidance.

Mitchell, C. 2012. Mapping the distribution of feeding Pink-footed and Iceland Greylag Geese in Scotland. Wildfowl & Wetlands Trust / Scottish Natural Heritage Report, Slimbridge.

Frost, T.M., Calbrade, N.A., Birtles, G.A., Hall, C., Robinson, A.E., Wotton, S.R., Balmer, D.E. and Austin, G.E. 2021. Waterbirds in the UK 2019/20: The Wetland Bird Survey. BTO/RSPB/JNCC. Thetford.