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East Anglia ONE North Offshore Wind Farm

Planning Inspectorate Reference: EN010077

Secretary of State 2nd Additional Information Request
(30 December 2021)

**Appendix 2: Natural England's Advice to the EA1N/EA2 Alde-Ore
Estuary (AOE) SPA Lesser Black Backed Gull PVA and In-
Combination Assessments**

31st January 2022

Appendix 2: Natural England's Advice to the EA1N/ EA2 Alde-Ore Estuary (AOE) SPA Lesser Black Backed Gull PVA and In-Combination Assessments

1) PVA Assessment

1. An updated Alde-Ore Estuary (AOE) SPA lesser black backed gull (LBBG) PVA and in-combination assessment was submitted by the Norfolk Boreas Applicant in response to the Secretary of State (SoS) letter dated 22 September 2021 (MacArthur Green 2021).
2. We note that in the above Boreas document, the Applicant raises very similar comments on the method for applying density dependence in the online version of the PVA Tool as the East Anglia ONE North (EA1N) and East Anglia Two (EA2) Applicants' raise in their updated Flamborough and Filey Coast (FFC) SPA PVA and in-combination assessments in Royal Haskoning DHV et al. (2021). Our detailed comments on these assessments are set out in Appendix 3.
3. We welcome that both the counterfactuals of population size (CPS) and counterfactuals of growth rate (CGR) metrics from the updated AOE SPA PVAs are presented by the Norfolk Boreas Applicant in MacArthur Green (2021). We note our advice provided at Deadline 4 during the Norfolk Boreas examination regarding the use of both counterfactuals and around the use of density dependent vs density independent PVA models^{1,2}. We highlight that the counterfactual metrics are relative measures, and that using counterfactual metrics does make the metrics less sensitive to mis-specification of e.g. density dependence or density independence. Without having good evidence to support what form and strength of density dependence to add to a model there is no way of knowing whether the predictions from a density dependent model are robust or accurate, which is why Natural England advise use of the density independent models, or at least inclusion of a density independent option.

¹ Natural England (2020) Norfolk Boreas Offshore Wind Farm Deadline 4: Updated Ornithology Advice – Natural England's comments in relation to the Norfolk Boreas updated offshore ornithological assessment, submitted at Deadline 2 [REP2-035]. Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010087/EN010087-001629-DL4%20-%20Natural%20England%20-%20Updated%20Ornithology%20Advice.pdf>

² Natural England (2020) Norfolk Boreas Offshore Wind Farm: Natural England's Written Summary of Oral Representations made at Issue Specific Hearing 4 on offshore effects including the Draft Development Consent Order. Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010087/EN010087-001630-DL4%20-%20Natural%20England%20-%20Written%20Representation%20of%20Oral%20Case.pdf>

4. We also welcome that the outputs of the Norfolk Boreas updated AOE SPA LBBG PVA in MacArthur Green (2021) have been presented as the whole population, which reflects the advice that Natural England gave during the Norfolk Boreas examination in our Deadline 4 response¹.
5. We note that a starting population size for the AOE SPA LBBG colony of 3,022 breeding adults has been used in the Norfolk Boreas updated PVA in MacArthur Green (2021). No information is provided as to the source of this figure. However, we assume that it is based on the count data from 2021 of 1,511 Apparently Occupied Nests (AON) (i.e. 3,022 adults) at Havergate presented by RSPB in Table 2 of Annex 2 of their Norfolk Boreas response dated 20th August 2021³.
6. In the updated PVA and in-combination assessment (MacArthur Green 2021), the PVA models have been based on the precise impact levels from the in-combination assessments (these have been run to an impact level 0.1 of a bird). As we have noted in our advice on FFC SPA in Appendix 3, it would have been beneficial to also present some tables with the counterfactuals for a wider range of figures, e.g. for the LBBG in-combination collision assessment to present outputs against impacts of 45, 50 and 55 birds, rather than 48.2 and 51.4 only as was done by the Norfolk Boreas Applicant.

2) Alde-Ore Estuary (AOE) SPA: LBBG – Impacts from EA1N/EA2 In-Combination with other Plans and Projects: Operational Collision Risk

7. The Norfolk Boreas updated PVA in MacArthur Green (2021) presented an updated in-combination total for all projects at a 99.5% avoidance rate (which remains SNCB advice at present for LBBGs) of 48.2 LBBGs from AOE SPA. This predicted in-combination collision impact equates to more than 1% of baseline mortality of the AOE SPA colony.
8. As noted in our recent advice at Norfolk Vanguard (Natural England 2021), the in-combination totals presented by the Norfolk Boreas Applicant and hence that AOE

³ RSPB (2021) Norfolk Boreas Offshore Wind Farm: Written submission for the Royal Society for the Protection of Birds Annex 2 Alde-Ore Estuary SPA, 20 August 2021. Available from: [https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010087/EN010087-002857-Norfolk%20Boreas_RSPB%20response%20to%20BEIS%20consultation_August%202021_Annex%202_Alde-Ore%20Estuary%20SPA%20\(FINAL\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010087/EN010087-002857-Norfolk%20Boreas_RSPB%20response%20to%20BEIS%20consultation_August%202021_Annex%202_Alde-Ore%20Estuary%20SPA%20(FINAL).pdf)

LBBG PVAs have been run with have included Hornsea Project 3 and Norfolk Boreas in the totals, but appear to have excluded Norfolk Vanguard (contribution 2.7 collisions). Therefore, the in-combination total impact using a 99.5% avoidance rate for all projects that has been modelled in the PVA (i.e. 48.2) is too low. Natural England advises that the in-combination total including Hornsea Project 3, Norfolk Vanguard and Norfolk Boreas (as requested by the SoS) should actually be 51 LBBGs (rounded to whole birds) from the AOE SPA.

9. Natural England highlights that the in-combination total presented by the Norfolk Boreas Applicant and hence modelled in the PVA also excluded the EA1N and EA2 projects, as the SoS clarified to the Boreas Applicant that these projects (along with Hornsea Project 4, DEP and SEP) were to be excluded from the totals. Based on the figures presented by EA1N and EA2 in Table 3 of MacArthur Green & Royal Haskoning DHV (2021), EA1N contributes 0.3 LBBG collisions to the AOE SPA and EA2 contributes 1.6 collisions. This brings the in-combination AOE SPA LBBG collision total to 53 (rounded to whole birds) collisions per annum for all projects up to and including Hornsea Project 3, Norfolk Vanguard, Norfolk Boreas, EA1N and EA2. This is consistent with the in-combination total for all these projects presented by the EA1N and EA2 Applicants in Table 3 of their updated cumulative and in-combination assessment in MacArthur Green & Royal Haskoning DHV (2021). This predicted in-combination collision impact equates to more than 1% of baseline mortality of the AOE SPA colony.
10. The Conservation Objective for the LBBG population of the Alde-Ore Estuary SPA is to restore the size of the breeding population to a level which is above 14,074 pairs whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.
11. It is not known what the growth rate of the colony will be over the next 30 years, and this should be considered when judging the significance of predicted impacts against the conservation objectives for the feature. The AOE SPA LBBG population is at best currently stable and at present there seems considerable uncertainty regarding whether potential growth in the future can be achieved.
12. In our recent advice at Norfolk Vanguard (Natural England 2021), Natural England advised that as there is no evidence to suggest that the future population trend will be significantly different from the current trend, which is most likely to be stable, in

which case there is a risk that the population could decline due to predicted mortality levels. Furthermore, given that the population is likely to be hindered from restoration to target levels even when more optimistic assumptions about the population trend of the colony are made, Natural England also considers that it is not possible to rule out an adverse effect on integrity (AEol) even if the population starts to show modest growth.

13. As a result, we advised that based on the Boreas Applicant's in-combination total of 48.2 AOE SPA LBBG collisions per annum, we were unable to rule out an AEol on the LBBG feature of the AOE SPA. As noted above, this in-combination figure is too low, as it excludes the predicted mortalities from Norfolk Vanguard, EA1N and EA2. As we are unable to rule out an AEol on the LBBG feature of the AOE SPA based on an in-combination total of 48.2 as presented by the Norfolk Boreas Applicant in MacArthur Green (2021), our advice will remain unchanged when additional collisions are included in the total from Norfolk Vanguard, EA1N and EA2. These projects which bring the in-combination predicted total to 53 (rounded to whole birds) AOE SPA LBBG collisions per annum (as presented by the EA1N/EA2 Applicants in Table 3 of MacArthur Green & Royal Haskoning DHV 2021).

14. Therefore, as this feature has a restore conservation objective, and because there are indications that the population might even decline from current levels, Natural England's advice remains that it is not possible to rule out an AEol of the LBBG feature of the Alde-Ore Estuary SPA from in-combination collision impacts with other plans and projects.

REFERENCES

MacArthur Green (2021) Norfolk Boreas Offshore Wind Farm: Alde-Ore Estuary SPA Collision Risk Modelling and Population Viability Analysis. Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010087/EN010087-002890-SoS%20Deadline%20-%20Applicant%20-%20Alde%20Ore%20Estuary%20SPA%20Collision%20Risk%20Modelling%20and%20Population%20Viability%20Analysis.pdf>

MacArthur Green & Royal Haskoning DHV (2021) *East Anglia Two and East Anglia One North Offshore Windfarms Updated Offshore Ornithology Cumulative and In-Combination Collision Risk and Displacement Assessment*. Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010077/EN010077-007519-ExA.AS-3.SoSQ.V1%20Updated%20Offshore%20Ornithology%20Cumulative%20and%20In%20Combination%20Collision%20Risk%20and%20Displacement%20Assessment.pdf>

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Royal Haskoning DHV, Scottish Power Renewables & Shepherd and Wedderburn LLP (2021) *East Anglia One North and East Anglia Two Offshore Windfarms Applicants' Responses to the Secretary of State's Questions of 2nd November 2021 (Items 4-7)*. Available from: [https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010077/EN010077-007520-ExA.AS-1.SoSQ.V1%20Applicants'%20Responses%20to%20the%20Secretary%20of%20State's%200Questions%20of%202nd%20November%202021%20\(Items%204-7\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010077/EN010077-007520-ExA.AS-1.SoSQ.V1%20Applicants'%20Responses%20to%20the%20Secretary%20of%20State's%200Questions%20of%202nd%20November%202021%20(Items%204-7).pdf)