

From: [Jacqui Miller](#)
To: norfolkvanguard@pins.gsi.gov.uk
Subject: RSPB Deadline 7 response
Date: 02 May 2019 17:24:11
Attachments: [RSPB response to Norfolk Vanguard Deadline 7.pdf](#)

Dear Sir/Madam

Please find attached the RSPB's submission for deadline 7.

I would be grateful if you could confirm receipt of this submission.

Kind regards

Jacqui Miller
Conservation Officer
RSPB Eastern England

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Re: Application by Norfolk Vanguard Limited for an Order Granting Development Consent
for the Norfolk Vanguard Offshore Wind Farm

RSPB Response Submitted for Deadline 7: 2nd May 2019

Introduction

We welcome the Applicant's submissions at and subsequent to Deadline 6, including the Offshore Ornithology Assessment Update (REP6-021) and the Deterministic Collision Risk Modelling for Revised Layout Scenarios report (AS-043), which provide collision risk modelling outputs based on the parameters preferred by Natural England and ourselves and incorporate mitigation in the form of a revised turbine layout. However, we still have concerns regarding the descriptions of precaution within these assessments, the apportioning values used for kittiwakes and lesser black-backed gulls and the implications of the levels of mortality predicted for SPA populations. We have therefore provided a discussion of these concerns below, along with presentation of Population Viability Analysis outputs in the form of Counterfactuals of Population Size (our preferred metric).

General Comments

Counterfactual of Growth Rate outputs

In order to reach their conclusions, the Applicant sets the Counterfactual of Growth Rate output metric against the recent SPA colony growth rate. This is a misapplication of this metric. A key justification of the use of counterfactual metrics (both population size and growth rate) is that they are not influenced by the uncertainty around future populations (Green *et al.*, 2016). We have no robust predictive method that can account for potential changes in population demographic due to unforeseen or unpredictable events, for example changes in discard policy or severe weather incidents. As the counterfactual approach is relatively insensitive to the assumptions made about the magnitude, variability and trends of demographic rates in the model from which it is calculated, because the same uncertainties apply to both the impacted and unimpacted scenarios, this is not a problem for the counterfactual approach. However, to compare the predicted *change* in population growth rate in 30 years' time against the current population growth rate does not account for the high probability that the future population growth rate will likely be considerably different from this and that if it were possible it would be this growth rate that should be compared to the predicted *change* in population growth rate. As it is impossible to determine what that growth rate will be we do not accept this as an adequate method for reaching conclusion of the significance of an effect.

Consented capacity of windfarms

The Applicant refers to projects in the in-combination assessment that have been built out to a lower capacity than that consented as a source of precaution within the assessments. As we have stated previously (see our Written Representations, REP1-112), this is an acceptable point for windfarms where the DCO has been amended and therefore there is legal certainty regarding the reduction, but where windfarms still have their original DCOs, it is not appropriate to do anything less than consider the full extent of those DCOs when considering in-combination/cumulative effects.

Precaution within the assessments

Throughout the Offshore Ornithology Assessment Update, the Applicant insists that the mortality rates they present are precautionary, implying that they are over precautionary. Notwithstanding the fact that it is entirely correct to apply precaution where there are such high levels of uncertainty, it is necessary to point out that these instances of precaution are far from proven, as discussed in our comments on individual species below.

Gannets of Flamborough and Filey Coast SPA

Avoidance rates

The Applicant cites Bowgen and Cook (2018) in para. 10 of the Offshore Ornithology Assessment Update as evidence of higher Avoidance Rates than those currently used. As discussed during Issue Specific Hearing 4, this paper and the report it draws from (neither are peer-reviewed), have acknowledged limitations that prevent conclusions being drawn from them. These include the fact that fishing vessels were present on the periphery of the wind farm during the study, thereby biasing the results, and that due to the wind farm being of some distance from breeding colonies, that gannets seen were non-breeders, or were recorded out with the breeding season.

As discussed at Issue Specific Hearing 4, the RSPB preferred avoidance rate for gannet during the breeding season has not been presented. The justification for the RSPB preferring this avoidance rate is that the evidence presented in the reviews from which the SNCB guidance are drawn (Cook *et al.* 2014 & 2018,) includes scant data for gannet during the breeding season, as acknowledged by the authors (for example Cook *et al.* (2014) under gannet macro-avoidance: “*Note the majority of data comes from the non-breeding season and it is unclear how applicable these findings may be to the breeding season*”) during which time birds undergo energetic constraints due to repeatedly having to return to the nest, which in turn is very likely to influence their avoidance behaviour.

Nocturnal Activity Factors

The Applicant highlights Nocturnal Activity Factors for gannet as being precautionary in para. 10 of the Offshore Ornithology Assessment Update. While the RSPB acknowledge and welcome the Applicant’s presentation of the timings of surveys and also note that some attempt has been made to spread the surveys throughout the daylight hours, there remains very little survey effort at first and last light, thereby likely missing the peak foraging times, and thereby peak mortality risk for a number of species.

Breeding season definitions

The use of the full breeding season for gannet is not precautionary, rather it is the most evidentiary correct, based on the phenology of the birds present at the Flamborough and Filey Coast SPA.

Inconsistency in reporting of annual mortality estimates

Table 3 in the Offshore Ornithology Assessment Update shows the gannet annual avoidance rate apportioned to the Flamborough and Filey Coast SPA for the full and migration-free breeding seasons. These figures are also reported in Table 3 of the Deterministic Collision Risk Modelling for Revised Layout Scenarios report, however, the values given in these two reports do not match, with the figures for the full breeding season in the latter report being significantly less than those in the Offshore Ornithology Assessment Update. We would welcome clarification on this matter.

Kittiwakes of Flamborough and Filey Coast SPA

Avoidance rates

The Applicant cites Bowgen and Cook (2018) in para. 63 of the Offshore Ornithology Assessment Update as evidence of higher Avoidance Rates than those currently used. As discussed during Issue Specific Hearing 4, this paper and the report it draws from (neither are peer-reviewed), have acknowledged limitations that prevent conclusions being drawn from them. These include the fact that fishing vessels were present on the periphery of the wind farm during the study, thereby biasing the results, and that due to the wind farm being of some distance from breeding colonies, that kittiwakes seen were non-breeders, or were recorded out with the breeding season.

Nocturnal Activity Factors

The Applicant highlights Nocturnal Activity Factors for kittiwake as being precautionary in para. 63 of the Offshore Ornithology Assessment Update. While there now is peer-reviewed evidence for a revised NAF for gannet (Furness *et al.*, 2018) the reviewed data for kittiwake is extremely limited and patchy and cannot be relied upon as evidence.

Apportioning values for kittiwake

The RSPB welcome the more detailed apportioning of kittiwake that has been carried out for the Flamborough and Filey Coast SPA in response to the discussions had at and around the Issue Specific Hearing. However, we do not agree with the apportioning rates used in the assessment and note that they do not conform to the advice given by Natural England that a range of apportioning values should be used. The Applicant does not properly consider the evidence from RSPB tracking that clearly demonstrate that both Norfolk Vanguard East and West are within foraging range of kittiwake from the Flamborough and Filey Coast SPA colonies. They correctly point out that these data are from only one year, and whilst we agree that this means they should not be “overinterpreted”, it does mean, as discussed at the Issue Specific Hearing, that since even within this numerically and temporally limited sample clear connectivity can be established, it is extremely likely that subsequent tracking will

demonstrate an even greater usage of the development sites. The RSPB agree that the 100% maximum of the range suggested by Natural England is likely to be highly precautionary, but we argue that doubling the 26.1% breeding season apportioning value is reasonable and appropriate in the context of the considerable uncertainty associating with apportioning birds to colonies, and therefore base our conclusions on this value.

Apparent error in calculation of apportioned values

Table 6 in the Deterministic Collision Risk Modelling for Revised Layout Scenarios report gives kittiwake mortality for revised layout scenario b (WCS) as spring: 62, summer: 71 and autumn: 53. The Applicant's chosen apportioning rates are spring: 7.2%, summer 26.1% and autumn 5.4%. This gives calculations for spring of $62 * 7.2\% = 4.5$, summer of $71 * 26.1\% = 18.5$, and autumn of $53 * 5.4\% = 2.8$, which gives an annual total of 25.8. We therefore do not understand why Table 3 in the same report presents a figure of 9.1 for the annual mortality for the WCS revised project envelope based on the full breeding season. This appears to be an error, and we have therefore based our calculations of Counterfactuals of Population Size on the total of 25.8 (see below). Again, we would welcome clarification of this matter.

Conservation status of kittiwake at Flamborough and Filey Coast SPA

The RSPB is concerned that the description of the conservation status of kittiwakes at the Flamborough and Filey Coast SPA in para. 72 of the Offshore Ornithology Assessment Update submitted by the Applicant at Deadline 6 does not reflect the long-term decline seen at this colony. The recently published draft Supplementary Advice on Conservation Objectives (SACO)¹ for this SPA states that the population has undergone a significant decline since 1987 along with a decline in productivity between 2009 and 2015. Due to this, the target for breeding population abundance has been set to restore the population to a level above 83,700 breeding pairs (rather than to maintain the population at current levels, as indicated in para. 72 of the Ornithology Assessment Update). As the population in 2017 was 51,535 pairs (as cited in the SACO), we do not agree that the population can be considered to be at favourable conservation status, as argued by the Applicant.

Kittiwake demographic rates

In determining their conclusions on population scale impacts, the Applicant has relied upon a Population Viability Model that was drafted for the Hornsea Project Three application. The demographic rates used for this model do not account for recent decline in the productivity of kittiwake at the Flamborough and Filey Coast SPA. As this is likely to have an influence on the outputs of the PVA, the RSPB would prefer if the models were rerun using the most recent site-specific demographic rates, including productivity.

Obligation to avoid deterioration

The SACO for the kittiwake feature of Flamborough and Filey Coast SPA also notes the obligation to avoid deterioration of the site and the need to avoid plans or projects that may affect the site giving rise

¹<https://designatedsites.naturalengland.org.uk/Marine/SupAdvice.aspx?SiteCode=UK9006101&SiteName=flamb&SiteNameDisplay=Flamborough+and+Filey+Coast+SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=>

to the risk of deterioration. A target has also been set to restore connectivity with supporting habitats; the supporting notes for this target state that Natural England have advised that in-combination collision mortality at offshore windfarms could adversely affect the integrity of the SPA.

Lesser Black-backed Gulls of the Alde-Ore Estuary SPA

Apportioning values for lesser black-backed gull

The RSPB welcome the detail around the method for apportioning impacts on lesser black-backed gull to the Alde-Ore Estuary SPA, although the approach does not conform to the advice given by Natural England that a range of apportioning values should be used. The RSPB also welcome the use of the apportioning method developed by SNH (SNH 2018) to determine apportioning rates, although due to the considerable uncertainties implicit in this process, these rates must always be considered as approximate and the actual values may be quite different, either lower or higher. However, the RSPB do not agree with the subsequent apportioning out of juveniles. The proportion of juveniles should have been identified during site surveys and if removed from the analysis, the proportion from survey should be used. It is also important to note that most juveniles will go on to breed with a significant proportion doing so at the SPA. As such they should be considered in the assessment and not simply scoped out in apportioning. Furthermore, the use of Wakefield *et al.*, (2017) as evidence that lesser black-backed gull juveniles are likely to forage further from breeding colonies than adult is inappropriate, as that paper only deals with four bird species; kittiwake, guillemot, razorbill and shag, and as such if applied to other species should be heavily caveated.

The RSPB agree with Natural England that in the context of considerable uncertainties that a range of apportioning values are used. We agree that the 100% maximum of the range suggested by Natural England is likely to be highly precautionary, but we argue that doubling the 17% breeding season apportioning value is reasonable and appropriate in the context of the uncertainty associating with apportioning birds to colonies, and therefore base our conclusions on this value.

Use of marine habitats by urban gull colonies

In the discussion on the use of marine habitats by lesser black-backed gulls from urban colonies (para. 98 of the Offshore Ornithology Assessment Update) there is a reliance on personal communications for evidence. While this is clearly necessary due to lack of published evidence it does not allow for full review of the information presented. As such any conclusions from these should be viewed with caution.

BTO tracking data

In the discussion of the BTO tracking data (Thaxter *et al.*, 2015) in paras. 101-102 of the Offshore Ornithology Assessment Update, the Applicant is incorrect in claiming that the tracking data are for the chick rearing period only. The tagging method used by the BTO not only relied on catching the birds during early incubation, but the attachment method allowed for year-long tracking data.

'Offsetting' of impacts

We are extremely disappointed to note the statement in para. 130 of the Applicant's Offshore Ornithology Assessment Update, that efforts with regard fox predation at the Alde-Ore Estuary SPA could 'readily offset the in-combination collision mortality' to lesser black-backed gulls. We have set out our concerns about these statements in full in our responses at earlier deadlines (see for example Q3.3m in our Comments on the Applicant's Response to Written Questions, REP2-034) and had thought this issue resolved when the Applicant stated clearly in their updated Statement of Common Ground with the RSPB (REP5-008) that 'such management measures have never been identified as potential mitigation options by the Applicant and in this respect should not be considered as mitigation for the Norfolk Vanguard project.' We consider that the continued reference to 'offsetting' of impacts is unclear and unhelpful in that it implies that predation management could be considered in some way to mitigate impacts, which has already been agreed to be inappropriate.

Conclusions regarding Adverse Effects on the Integrity of SPAs

Based on the Applicant's submissions at Deadline 6 and subsequently, it is now possible to assess the effects of collision risk on the SPAs of concern. Throughout the Offshore Ornithology Assessment Update, the Applicant uses a threshold of 1% of background mortality to determine whether adverse effect on the integrity of the SPAs can be excluded given the level of impact predicted. While acknowledging historical precedent for this use, the RSPB consider this value to be completely arbitrary with any scientific evidence to underpin it. As such our conclusions are based on the Counterfactual of Population Size outputs of density independent Population Viability Models (see Table 1), as specifically recommended in the literature (Green *et al.*, 2016 and Cook and Robinson, 2015). These outputs indicate the percentage difference between the SPA population with and without additional mortality at the end of the lifetime of the wind farm.

The column for RSPB mortality in Table 1 incorporates the following amendments to the calculations (all are discussed in detail in the individual species sections above):

- Gannet – use of 98% avoidance rate for the breeding season
- Kittiwake – doubling of the breeding season apportioning rate
- Lesser black-backed gull – inclusion of juveniles

Table 1. Comparison of the Applicant’s mortality figures for key species with those calculated by RSPB, with presentation of Counterfactuals of Population Size (CPS) as percentage reduction in population after 30 years

	Project alone				In-combination			
	Applicant		RSPB		Applicant		RSPB	
	Mortality	CPS	Mortality	CPS	Mortality	CPS	Mortality	CPS
Gannet of FFC SPA	33	4.4	52	6.5	244	27.4	263	29.5
Kittiwake of FFC SPA	26 ¹	0.9	44	1.4	406	12.3	424	12.8
Lesser black-backed gull of Alde-Ore Estuary SPA	4	4.5	8	6.7	38 ²	22.9	42	25.0

¹Based on corrected apportioning calculations – see discussion above

²Based on 141km foraging range, without removal of juveniles, see discussion above

The Counterfactuals of Population Size in Table 1 indicate that the in-combination collision mortality has the potential to cause significant declines in these SPA populations (whether using the Applicants’ or RSPB’s preferred calculations). We therefore consider that adverse effects on the integrity of the following sites and features exist as a result of predicted collision mortality from this project in-combination with other plans and projects:

- The kittiwake population of the Flamborough and Filey Coast SPA;
- The gannet population of the Flamborough and Filey Coast SPA;
- The lesser black-backed gull population of the Alde-Ore Estuary SPA.

The project can only be granted consent if the Secretary of State is convinced that it will not have an adverse effect on the integrity of the European sites and their species concerned, having applied the precautionary principle and taken account of the conservation objectives for those sites and their habitats and species. *Waddenzee* confirmed that where doubt remains as to the absence of adverse effects on the integrity of the site, approval should be refused², subject to the considerations of alternative solutions, imperative reasons of overriding public interest and the provision of compensatory measures as set out in regulations 64 and 68 of the Conservation of Habitats and Species Regulations 2017.

Requirement for mitigation

The Applicant has, irrespective of any case under regulations 64 and 68 of the Conservation of Habitats and Species Regulations 2017, a responsibility to minimise the impacts of its own project as far as

² CJEU Case-127/02; [2004] ECR-7405 at [56]-[57].

possible. We therefore welcome the proposals within the Applicant's submissions following Deadline 6 to mitigate collision risk through altering the balance of turbine numbers in Norfolk Vanguard East and West. However, we reiterate the need to also consider raising the draught height of the turbines. This would provide additional mitigation of collision risk by reducing the number of birds flying at potential collision height, thus reducing predicted collision mortality. We request that a range of draught heights are considered, from the current 22m up to 35m (as agreed for Hornsea Project Three).

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