



**SCOTTISHPOWER
RENEWABLES**

East Anglia ONE North and East Anglia TWO Offshore Windfarms

Offshore Ornithology Cumulative and In- Combination Collision Risk Update

Applicants: East Anglia ONE North Limited and East Anglia TWO Limited

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Applicable to East Anglia ONE North and East Anglia TWO



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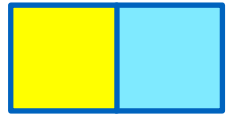
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Glossary of Acronyms

AEol	Adverse Effect on Integrity
AOE	Alde-Ore Estuary
CRM	Collision Risk Model
FFC	Flamborough and Filey Coast
GBBG	Great Black-Backed Gull
HRA	Habitats Regulations Assessment
LBBG	Lesser Black-Backed Gull
ISAA	Information to Support Appropriate Assessment Report
MHWS	Mean High Water Springs
MSL	Mean Sea Level
NE	Natural England
NMC	Non-material change
SNH	Scottish Natural Heritage
SPA	Special Protection Area



1 Introduction

1. This note provides updated cumulative and in-combination collision risk estimates for the East Anglia TWO and East Anglia ONE North projects (the Projects) for the following species:
 - Gannet;
 - Kittiwake;
 - Lesser Black-Backed Gull (LBBG)
 - Herring Gull;
 - Great Black-Backed Gull (GBBG); and
 - Little Gull.
2. The estimates for each of these species have been updated from those presented within the Environmental Statement, **Chapter 12 Offshore Ornithology** (APP-060) and the **Information to Support Appropriate Assessment Report** (ISAA) (APP-043) as a result of the following:
 - Changes to the collision risk estimates for LBBG resulting from changes to the apportioning methodology for the Alde-Ore Estuary Special Protection Area (SPA) as recommended by Natural England (NE) (see **section 2.1**)
 - Reductions in collision risk as a result of the Applicants' mitigation commitment to raise wind turbine draught height from 22 to 24m above mean high water springs (MHWS) together with reductions in cumulative collision risk as a result of the Non-Material Change (NMC) Applications at East Anglia THREE (accepted in July 2020) and East Anglia ONE (application to be submitted in early 2021)¹ (see **section 3**); and
 - Changes made to other developments included within the cumulative and in-combination assessment post-submission of the Projects' Applications and accompanying assessments (see **section 4**).
3. In summary, the updates presented are as follows:
 - NMC design revisions for East Anglia THREE and East Anglia ONE;
 - An increase in draught height of 2m at the Projects;

¹ Given that both NMCs are seeking reductions in the assessed envelopes, the Applicants consider that there is a reasonable expectation that these will be approved. Therefore, for simplicity this update assumes these are accepted.



- Updated collision estimates for Hornsea Project Three, Norfolk Vanguard and Norfolk Boreas and inclusion of Hornsea Project Four (using the numbers presented by Norfolk Boreas (Norfolk Boreas, 2020 (Deadline 8 submission (Norfolk Boreas, 2020)));
 - The predicted kittiwake collision estimate for Hornsea Three has been changed to the figure used by the SoS in the Hornsea Three HRA; and
 - Removal of predicted collisions at the Thanet Extension windfarm which was refused consent in June 2020.
4. Totals are presented both with Hornsea Project Three and Four included and excluded.
 5. A synthesis of all the aforementioned updates is provided in **section 4**.
 6. **Appendix 1** provides the cumulative collision risk tables per species which has been taken from the most recent Norfolk Boreas submission (Deadline 8) and has incorporated the above updates.
 7. Overall, the updates presented do not alter the conclusions of negligible to minor adverse significance for the EIA and no Adverse Effects on Integrity for the HRA within the assessments submitted (**Chapter 12 Offshore Ornithology** (APP-060) and the **Information to Support Appropriate Assessment Report** (APP-043)).
 8. This document is applicable to both the East Anglia ONE North and East Anglia TWO applications, and therefore is endorsed with the yellow and blue icon used to identify materially identical documentation in accordance with the Examining Authority's (ExA) procedural decisions on document management of 23rd December 2019. Whilst for completeness of the record this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it again.



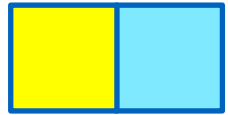
2 Alde-Ore SPA Lesser black-backed gull

2.1 Apportioning methodology

9. NE (2020) has provided the Applicants with the following advice on apportioning impacts on lesser black-backed gulls from the Alde-Ore Estuary (AOE) SPA:

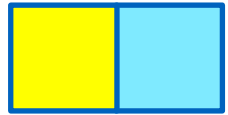
Natural England advises that a range of potential breeding season apportioning rates are considered for the project alone to reflect the uncertainty. This is consistent with that provided during the Norfolk Vanguard and Boreas examinations. For Norfolk Vanguard and Boreas the range advised by Natural England was 10%-30%. However given that EA2 and EA1N are located closer to the Alde-Ore colony than the Norfolk projects, we consider that the range of apportioning values needs to reflect the closer proximity of EA1N/EA2 and therefore potentially higher utilisation of the proposed area by LBBG from the SPA. Therefore, we would welcome discussions with the Applicant to identify an appropriate range for breeding season apportioning of predicted collision mortalities to the Alde- Ore Estuary SPA. We suggest that consideration is given to other LBBG breeding colonies also located within foraging range of the EA1N and EA2 sites (including town colonies), their proximity to the OWFs compared to the Alde-Ore and also the sizes of these colonies compared to the Alde-Ore colony (ideally data used on colony sizes should be contemporaneous with the baseline survey data). Consideration should also be given to foraging area segregation of colonies.

10. In the Projects' ISAA (APP-043), the SNH apportioning method (Scottish Natural Heritage (SNH), 2018) was used to calculate the project alone AOE SPA apportioning estimates (see Table 4.4 (APP-043)). This method allows the relative contribution from different colonies to be calculated, and although it makes assumptions regarding foraging distributions and behaviour, it is considered to be an appropriate method for such assessments.
11. The estimated AOE SPA proportions of lesser black-backed gull presented in the HRAs were 0.23 for East Anglia ONE North and 0.41 for East Anglia TWO (i.e. 23% of the breeding season collisions on East Anglia ONE North and 41% of the breeding season collisions on East Anglia TWO would be predicted to be birds from the AOE SPA). However, since adults comprise around 58% of the total population (Furness 2015), and since immature birds are more likely to visit areas distant from the main foraging areas, with locations close to colonies used by breeding adults (Wakefield et al. 2017), the overall proportion of birds at East Anglia TWO and East Anglia ONE North during the breeding season that are



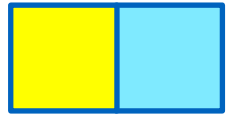
breeding adults is likely to be at most 58%, and possibly much less. Therefore, the proportion of birds at East Anglia TWO and East Anglia ONE North that are breeding adults from the AOE SPA are likely to be, at most, 58% of 41% of the total and 58% of 23% of the total (i.e. $0.58 \times 0.41 = 24\%$ and $0.58 \times 0.23 = 13\%$ overall). Furthermore, it was also noted in both ISAA Reports (APP-043) that tracking data indicated considerably lower connectivity rates for both windfarms, with estimates of no more than 2%. Thus, the above estimates, based on the SNH approach, appear to be highly precautionary when compared with the empirical tracking study data and when taking into account the presence of non-breeding birds.

12. While the project alone assessment used the SNH method, the in-combination collision assessments did not. Instead, the in-combination total was calculated as the sum of the breeding season collisions for windfarms within 141km of the SPA (the agreed mean-maximum foraging range for the species used at the time of the assessment, Thaxter *et al.* 2012) and the total was then multiplied by 30%, since it was calculated that this is the percentage of the regional lesser black-backed gull population which breeds at AOE (for further details see paragraph 277 of East Anglia TWO (APP-043) and paragraph 291 of East Anglia ONE North (APP-043).
13. In this note the Applicants have refined the in-combination assessment and applied the SNH apportioning tool to all windfarms with potential breeding season connectivity to the AOE SPA, to obtain windfarm specific apportioning estimates for use in the in-combination assessment. This brings the Projects' assessment method in-line with the approach used for the consented Norfolk Vanguard project and the Norfolk Boreas project (which has not yet been determined; Vattenfall 2020a, 2020b) and which NE agreed was appropriate (NE, 2020b).
14. The apportioning method uses the distance between each windfarm in the in-combination assessment and the colony population sizes. Although this method does not use the foraging range in the calculations, it is appropriate to limit the spatial extent of colonies included to those for which there is the realistic potential for connectivity.
15. The previous estimates of foraging range for this species, from Thaxter *et al.* (2012) were a maximum 181km and mean-maximum 141km. A recent review (Woodward *et al.* 2019) has produced revised figures of 533km and 127km respectively. The largest colony to windfarm distance in the current analysis was 181km (i.e. the previous maximum). While the revised maximum has been increased considerably to 533km, the mean-maximum is slightly reduced at 127km. Therefore, it was considered that a maximum distance of 181km would be retained as this represents a reasonable balance of the current evidence.



16. It should be noted however that, because colony weight is divided by distance squared², the contribution of each colony to the overall score for each windfarm decreases exponentially with increasing distance, with the consequence that the results are relatively insensitive to the maximum distance applied and more remote colonies have comparatively little influence on the overall scoring, making little difference to the results obtained. For example, the AOE SPA apportioned estimates for the Projects are very little affected (<0.1%) if the most distant colony (Outer Trial Bank) is removed.
17. The distances and colony sizes used in these calculations are set out in **Table 1**, together with the AOE SPA breeding season apportioned value calculated for each windfarm.
18. To calculate the breeding season proportion for each windfarm from the AOE SPA the following steps were taken:
 - a. For each windfarm and colony combination, a weight score was calculated as the colony size divided by the squared distance between the windfarm and colony.
 - b. The colony weights for each windfarm were summed. The proportion from each individual colony was then calculated as that colony's weight divided by the summed weight. Thus, for any given windfarm, to obtain the AOE SPA proportion, the AOE SPA weight was divided by the summed weight across all colonies for that windfarm. This yielded the proportion of all lesser black-backed gulls on the windfarm estimated to originate from AOE SPA.
 - c. For example, the weight score for the Greater Gabbard windfarm and Great Yarmouth colony was calculated as $750 / 73^2 = 0.14$, for the Southtown colony as $450 / 72^2 = 0.09$, etc. (by this method the other colony weights were: Lowestoft = 0.57, AOE SPA = 2.55, Felixstowe = 0.44, Ipswich = 0.1 and Outer Trial Bank = 0.06).
 - d. The sum of the colony weights for Greater Gabbard was 3.95, of which AOE SPA was 2.55, therefore the proportion of lesser black-backed gulls on Greater Gabbard estimated to originate from the AOE SPA was calculated as $2.55 / 3.95 = 0.65$ (i.e. 65%).
19. The updated estimated proportions of AOE SPA birds on East Anglia ONE North and East Anglia TWO were 0.24 and 0.39, respectively (note these are slightly

² The weight given to colony decreases with distance, this effect is expressed in terms of area.



different from those presented in the ISAA (APP-043) due to updated colony to windfarm distances³).

20. As noted above, NE advised the Norfolk Vanguard and Norfolk Boreas projects to use AOE SPA apportioning rates of 10%-30%, and have advised that the rates for the Projects may need to be higher due to the shorter distances to the AOE SPA. As can be seen in **Table 1**, the Norfolk Vanguard (17%) and Norfolk Boreas (21%) estimates are lower than for East Anglia TWO (39%), but quite similar to East Anglia ONE North (24%), which reflects the relative distances of these windfarms to the AOE SPA. Accordingly, the breeding season apportioning ranges which the Applicants consider would be appropriate are 10%-30% for East Anglia ONE North (i.e. the same as for the Norfolk projects) and 20%-50% for East Anglia TWO. However, the updated collision estimates provided in **section 3** below are only presented using the central values for both windfarms (i.e. 0.24 and 0.39, respectively). While it could be argued that the upper values noted above (0.3 and 0.5) ought to be used in this assessment (in order to reflect uncertainty), it is clear from a consideration of the very small collision estimates for this species at both projects, that assessing East Anglia ONE North on the basis of apportioning 30% rather than 24% and East Anglia TWO with 50% rather than 39% will amount to very small additions (of <0.1 individuals at East Anglia ONE North and <0.4 individuals at East Anglia TWO) to the totals. Therefore, since this is not considered to have any material effect on the conclusions it has been omitted in order to simplify the results presented in **Table 2**.

³ The distances have been checked in GIS and calculations revised.

Cumulative and In-Combination Collision Risk Update

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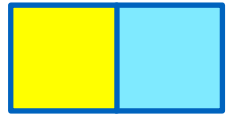
Table 1 Lesser black-backed gull Alde-Ore Estuary breeding season apportioning estimates for windfarms included in the in-combination assessment, calculated using the SNH apportioning tool (SNH, 2018). The colony population sizes (pairs) used were; Great Yarmouth 750, Southtown 450, Lowestoft 2,000, Alde-Ore Estuary 2000, Felixstowe 700, Ipswich 250 and Outer Trial Bank 1,300.

Wind farm	Distance to lesser black-backed colony (km)							Alde-Ore Estuary SPA breeding season proportion
	Great Yarmouth	Southtown	Lowestoft	Alde-Ore Estuary SPA	Felixstowe	Ipswich	Outer Trial Bank	
Greater Gabbard	73	72	59	28	40	50	148	0.65
Gunfleet Sands	101	100	89	46	25	35	143	0.35
Kentish Flats	134	132	119	77	56	64	166	0.38
Kentish Flats Extension	134	132	119	77	56	64	166	0.38
London Array	101	100	88	43	31	45	153	0.46
Scroby Sands	3	4	15	55	80	76	105	0.01
Sheringham Shoal	62	64	76	107	124	115	67	0.15
Thanet	127	126	114	74	64	74	181	0.43
Dudgeon	67	68	80	120	136	130	84	0.15
Galloper	73	72	59	28	40	50	148	0.65
East Anglia ONE	62	60	53	53	77	85	158	0.37
East Anglia THREE	70	70	69	91	118	123	169	0.24

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Wind farm	Distance to lesser black-backed colony (km)							Alde-Ore Estuary SPA breeding season proportion
	Great Yarmouth	Southtown	Lowestoft	Alde-Ore Estuary SPA	Felixstowe	Ipswich	Outer Trial Bank	
Thanet Extension	127	126	114	74	64	74	181	0.43
Norfolk Vanguard	51	55	60	92	120	120	140	0.17
Norfolk Boreas	75	76	80	111	140	143	170	0.21
East Anglia TWO	43	42	34	34	57	63	150	0.39
East Anglia ONE North	41	40	37	52	78	85	143	0.24



3 Collision modelling update

3.1 Non-material change applications for East Anglia ONE and East Anglia THREE

21. East Anglia THREE submitted a non-material change (NMC) on 21st July 2020 (SPR, 2020). With respect to collision risk estimates, the key features of this NMC comprised a reduction in the maximum number of turbines from 172 to 121 and an increase in draught height such that all turbines now have a minimum draught height of 24m above mean high water springs (MHWS). The NMC application also incorporated revised turbine parameters, and therefore updated collision risk modelling was conducted (East Anglia THREE, 2020). The revised collision estimates were between 11% and 18% lower than for the consented design. The consented and revised collisions are presented in **Table 2**.
22. An NMC will also be submitted in early 2021 for East Anglia ONE. This will revise the number of turbines from the consented maximum of 150 to 102, the latter being the number which have been installed. No other turbine parameters will be amended and therefore revised collision estimates can be calculated by simply multiplying the estimate for 150 turbines by 102/150 (this adjustment method is appropriate since the Band collision model calculates collision risk for a single turbine which is then multiplied by the total number of turbines). This will reduce the collision estimates by 32%. Collision estimates for the previous NMC for East Anglia ONE made in 2016 and the planned one taking this turbine reduction into account are presented in **Table 2**.

3.2 Draught height increases at East Anglia ONE North and East Anglia TWO

23. Following detailed design reviews, the minimum draught height for both East Anglia ONE North and East Anglia TWO will be increased by 2m, to 24m above MHWS.
24. This increase in the minimum draught height will reduce the collision risk estimates at the two windfarms by up to 15% in some cases (see **Table 2**).



4 Updated cumulative and in-combination collisions

25. The cumulative and in-combination collision totals for gannet, kittiwake, herring gull, lesser black-backed gull and great black-backed gull have been revised to accommodate the following changes since the original application (see **Table 2**):
- NMC design revisions for East Anglia THREE (accepted in July 2020) and East Anglia ONE (application to be submitted in early 2021);
 - An increase in draught height of 2m at the Projects;
 - Updated lesser black-backed gull apportioning rates (as presented in **section 1**);
 - Removal of predicted collisions at the Thanet Extension windfarm which was refused consent in June 2020.
 - In addition, the Norfolk Boreas Deadline 8 collision risk estimates have been taken as the new common position for all other projects. This therefore takes into account all post-application changes made to Norfolk Vanguard and Norfolk Boreas and includes the numbers submitted in the preliminary environmental information for Hornsea Four; and
 - The predicted kittiwake collision estimate for Hornsea Three has been changed to the figure used by the SoS in the Hornsea Three HRA.
26. To assist understanding of the changes in the context of the Projects, the values submitted in the original project applications are presented alongside the revised values, noting that great black-backed gull and herring gull are included for EIA purposes but are not linked to any SPA as agreed through the HRA screening process (see the **HRA screening Report** (APP-044)). **Table 2** shows the changes to the East Anglia projects and the removal of Thanet Extension outlined above and **Table 3** applies these changes to the in-combination assessment by updating the Norfolk Boreas Deadline 8 collision risk estimates.



Table 2 Changes to windfarm collision estimates used in the cumulative and in-combination collision assessment since the Projects were submitted*

Windfarm	Version	Gannet		Kittiwake		LBBG		GBBG	Herring gull
		EIA	HRA (FFC SPA)	EIA	HRA (FFC SPA)	EIA	HRA (AOE SPA)	EIA	EIA
East Anglia ONE North	Application (22m draught height)	27.2	11.8	58	2.6	1.6	0.2	5.2	0
	Revised (24m draught height)	24.1	10.4	51.8	2.4	1.4	0.19	4.9	0
East Anglia TWO	Application (22m draught height)	47	14.4	50	2	5.2	1.8	7.6	0.5
	Revised (24m draught height)	39.6	12.2	42.3	1.7	4.7	1.6	6.9	0.2
East Anglia ONE	NMC 2016	140.7	10.1	209	12	39.7	3.6	46	28
	NMC 2021	96	6.8	142	8.3	27	2.5	31	19
East Anglia THREE	Consented	49	8.3	112.7	6.4	10	0.7	39	23
	NMC 2020	41.8	7.1	92.3	6.1	8.5	0.6	34.4	21.4
East Anglia OWFs total at Projects' Application submission		263.9	44.6	429.7	23	56.5	6.3	97.8	51.5
East Anglia OWF revised total		201.5	35.9	328.4	18.5	41.6	4.9	77.2	40.6
Reduction for East Anglia OWFs		62.4	8.1	101.3	4.5	14.9	1.4	20.6	10.9
Reduction from Thanet Extension refusal		34	2	22.9	1.4	5	1.4	42	25



Windfarm Version	Gannet		Kittiwake		LBBG		GBBG	Herring gull
	EIA	HRA (FFC SPA)	EIA	HRA (FFC SPA)	EIA	HRA (AOE SPA)	EIA	EIA
Total Reductions	96.4	10.1	124.2	5.9	19.9	2.8	62.6	35.9

* The estimates for the Projects have been updated to account for a 2m increase in draught height. The estimates for East Anglia ONE and East Anglia THREE have been updated to align with non-material change application design revisions. The values for the refused Thanet Extension project have been included here (and subtracted from the totals).

27. Compared with the collision estimates presented in the Projects' cumulative and in-combination assessments at application, the total collisions at East Anglia THREE, East Anglia ONE and the Projects (**Table 2**) have been reduced for gannet by 62, kittiwake by 101, lesser black-backed gull by 15, great black-backed gull by 21 and herring gull by 11, with proportional reductions for the relevant SPA populations (gannet 8, kittiwake 5, lesser black-backed gull 1).
28. The refusal of Thanet Extension has further reduced the totals. Combining this with those for the East Anglia projects, the total estimates have been reduced by 96 for gannet, 124 for kittiwake, 20 for lesser black-backed gull, 63 for great black-backed gull and 36 for herring gull. The total in-combination SPA reductions are 10 for gannet, 6 for kittiwake and 3 for lesser black-backed gull.
29. **Table 3** presents these changes in the context of the overall cumulative and in-combination position. Note that the CIAs submitted with the Projects' applications included mortalities for Inch Cape and Neart na Gaoithe based on their revised envelopes (which in the case of Neart na Gaoithe is now in construction). In order that the cumulative and in-combination numbers used are common between examinations, the new common position provided uses the figures presented for Norfolk Boreas (at Deadline 8), updated for the changes discussed above (**Table 2**). This does not alter the Applicants' position that the revised envelopes and calculated mortalities (which have been fully assessed for the revised consents) are the correct ones to include (e.g. for Inch Cape and Neart na Gaoithe).
30. Totals are presented both with Hornsea Project Three and Four included and excluded.



Table 3 Cumulative and in-combination collision totals taking into account Table 2 and with the inclusion and exclusion of the Hornsea 3 and Hornsea 4 projects. Current worst case in bold

Version	Gannet		Kittiwake		LBBG		GBBG	Herrin gull
	EIA	HRA (FFC SPA)	EIA	HRA (FFC SPA)	EIA	HRA (AOE SPA)	EIA	EIA
Totals presented for Norfolk Boreas (Deadline 8) inc. Hornsea Projects Three and Four.	3075.0	359.0	4423.4	699.4	545.5	54.2	1065.8	795.0
Totals following East Anglia windfarm updates, removal of Thanet Extension (Table 2) and updated kittiwake estimate for Hornsea Three, inc. Hornsea Projects Three and Four.	2978.6	348.9	4299.2*	585.6	525.6	51.4	1003.3	759.1
Totals following East Anglia windfarm updates, removal of Thanet Extension (Table 2) and updated kittiwake estimate for Hornsea Three, exc. Hornsea Projects Three and Four.	2868.3	277.3	3804.2	356.6	506.4	51.4	923.6	747.2

* Note that this total includes an over estimate for Hornsea Three as no revised annual total was provided in their most recent design revision (Orsted, 2020), only the annual collisions apportioned to the FFC SPA were provided (i.e. 65-73). Hence the revised figure of 73 has been incorporated into the 585.6 total in the HRA (FFC SPA) column while the previous Hornsea Three total of 297 has been retained here, noting that this is probably more than double the figure for the revised design.

31. Overall, the total in-combination mortality reductions from the agreed Boreas Deadline 8 position (including the Hornsea projects) are 10 for gannet, 114 for kittiwake and 3 for lesser black-backed gull.
32. Full tables for each species and each windfarm are presented in **Appendix 1**.



5 Relevant Representation Responses

33. In the relevant representation responses provided for the response to the Rule 9 letter in June 2020, several responses to NE and the RSPB were deferred pending updates to the Norfolk Vanguard and Hornsea Three consent decisions. Responses are presented below.

Table 4 Applicant's Comments on NE's Relevant Representation (Collision Risk Comments that were Originally Deferred)

Point	Taken from NE's Relevant and Written Representations EA1N Appendix A - Offshore Ornithology	Red, Amber, Green Status Assigned by NE	Applicants' Response
28	<p>The cumulative annual gannet collision risk prediction of 2,607 as set out in Table 12.42 differs to the totals agreed at the end of the Norfolk Vanguard examination, which was 2,735. It is not clear why these two totals differ. We seek clarification regarding this matter.</p> <p>We also note that the totals do not include figures from Hornsea 4. A PEIR for this project is available. Even without the additional figure from Hornsea 4, the total predicted annual mortality exceeds 1% of baseline mortality. Therefore these impacts require further consideration.</p> <p>Furthermore, during the Vanguard examination, due to Natural England's concerns regarding the incomplete baseline surveys for the Hornsea 3 project, and the associated level of uncertainty as regards the potential impacts of that project, Natural England was not in a position to advise that an AEOI could be ruled out for the gannet features of the Flamborough and Filey Coast SPA (FFC SPA)</p>		<p>Following the SoS decisions on Norfolk Vanguard, Hornsea Project Three and Thanet Extension, the Applicants have updated the cumulative and in-combination collision assessments in this document. The revised totals (Table 3) are based on a common position using those submitted at Norfolk Boreas Deadline 8 (Norfolk Boreas, 2020) (which have been agreed with NE and which include Hornsea Four).</p> <p>These revised totals also incorporate the design changes for the Projects (a 2m increase in draught height) and non-material amendments for the East Anglia ONE and East Anglia THREE windfarms. Taken together the project revisions have reduced the cumulative impacts on gannet by 96.4 and the in-combination impacts apportioned to the Flamborough and Filey Coast SPA by 10.1 compared with the final estimates agreed at Norfolk Boreas.</p>



Point	Taken from NE's Relevant and Written Representations EA1N Appendix A - Offshore Ornithology	Red, Amber, Green Status Assigned by NE	Applicants' Response
	for impacts in-combination with other plans and projects when Hornsea 3 was included in the in-combination total.		
32	It is acknowledged that if the higher avoidance rates in Bowgen & Cook (2018) are used, the overall impact significance will be reduced. However, Natural England advised that a significant (moderate adverse) impact on gannet at the EIA scale could not be ruled out due to cumulative collision totals at the end of the Vanguard hearing, and therefore adding more collisions from Boreas, the East Anglia projects and Hornsea 4 will not change this position.		The Applicants have updated the collision assessments as requested, taking into account design revisions for the Projects as well as at other windfarms. The Applicants acknowledge NE's position on the assessments but disagree with their conclusion on significance, which is considered to be over precautionary, due to an accumulation of precautionary assumptions.
33	The kittiwake cumulative collision risk assessment in Table 12.43 differs to the totals agreed by Natural England at the end of the Vanguard hearing. This agreed total was 4,114. There will also be a need to include the figures from Hornsea 4's PEIR. Before these figures are added there is already a 2.5% increase above baseline mortality.		See response to point 28. The revised totals (Table 3) incorporate design changes for the Projects (a 2m increase in draught height) and non-material amendments for the East Anglia ONE and East Anglia THREE windfarms, as well as the refusal of Thanet Extension. Taken together these project revisions have reduced the cumulative impacts on kittiwake by 124 and the in-combination impacts apportioned to the Flamborough and Filey Coast SPA by 6. Regarding the revised totals for kittiwake (see Table 3 and Appendix 1) updates from Orsted 2020 of 73 annual



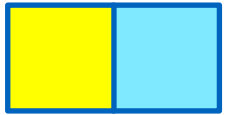
Point	Taken from NE's Relevant and Written Representations EA1N Appendix A - Offshore Ornithology	Red, Amber, Green Status Assigned by NE	Applicants' Response
			apportioned kittiwake FFC SPA collisions have also been incorporated.
41	An increase of 6% above baseline mortality for great black-backed gull based on the largest Biologically Defined Minimum Population Scale (BDMPS) is significant.		See response to point 28. The Applicants note that the non-material change for the East Anglia ONE windfarm alone reduces the collisions of great black-backed gull by 15, while the revised collisions summed for both the Projects is 12. Therefore, the addition of the Projects is more than offset by the reduction at East Anglia ONE.

Table 5 Applicant's Comments on RSPB's Relevant Representation (Collision Risk Comments that were Originally Deferred)

No	Relevant Representation	Applicant's Comments
003	<p><u>Collision risk from the project in-combination and cumulatively with other projects</u></p> <p>The RSPB considers that there are potential adverse effects on the integrity of the following sites and features as a result of predicted collision mortality from this project in-combination with other plans and projects:</p> <ul style="list-style-type: none"> • The gannet population of the Flamborough and Filey Coast SPA; • The kittiwake population of the Flamborough and Filey Coast SPA; • The lesser black-backed gull population of the Alde-Ore Estuary SPA. 	<p>The updates described within this cumulative and in-combination collision risk update do not alter the conclusions of negligible to minor adverse significance for the EIA and no Adverse Effects on Integrity for the HRA within the Applications (Chapter 12 Offshore Ornithology (APP-060) and the Information to Support Appropriate Assessment Report (APP-043)). Therefore, the Applicants disagree with the RSPB conclusions on potential cumulative impacts and in-combination effects.</p> <p>It should also be noted that the Applicants have agreed to provide an updated project-alone assessment on gannet presented as a Population Viability Analysis output in the form the Counterfactual of Population Size. This will be submitted at Deadline 2.</p>



No	Relevant Representation	Applicant's Comments
	We also consider that cumulative (EIA) collision risk impacts on gannet, kittiwake, great black-backed gull and lesser black-backed gull are significant. In addition, we consider the EIA cumulative collision risk impacts on greater black backed gulls are significant.	



6 Conclusion

34. Overall, the updates described within this cumulative and in-combination collision risk update do not alter the conclusions of negligible to minor adverse significance for the EIA and no Adverse Effects on Integrity for the HRA within the assessments submitted (**Chapter 12 Offshore Ornithology** (APP-060) and the **Information to Support Appropriate Assessment Report** (APP-043)).
35. Project-alone collision mortalities for both Projects are already small when compared to other projects of a similar scale. These numbers have been further reduced from those submitted with the Applications and are now either fully or partially offset following the Projects' draught height design mitigation and the NMC applications for East Anglia THREE and East Anglia ONE.



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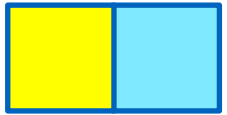
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Appendix 1 Updated Cumulative and In-Combination Collision Risk Tables

Gannet

Table A0.1 Updated gannet cumulative and in-combination collision risk

Tier	Wind farm	Breeding season		Autumn migration		Spring migration		Annual	
		Total	FFC SPA	Total	FFC SPA	Total	FFC SPA	Total	FFC SPA
1	Beatrice Demonstrator	0.6	0	0.9	0.04	0.7	0.05	2.2	0.1
1	Greater Gabbard	14	0	8.8	0.42	4.8	0.3	27.5	0.7
1	Gunfleet Sands	-	-	-	-	-	-	-	-
1	Kentish Flats	1.4	0	0.8	0.04	1.1	0.07	3.3	0.1
1	Kentish Flats Extension	-	-	-	-	-	-	-	-
1	Lincs	2.1	2.1	1.3	0.06	1.7	0.1	5	2.3
1	London Array	2.3	0	1.4	0.07	1.8	0.11	5.5	0.2
1	Lynn and Inner Dowsing	0.2	0.2	0.1	0.01	0.2	0.01	0.5	0.2
1	Scroby Sands	-	-	-	-	-	-	-	-
1	Sheringham Shoal	14.1	14.1	3.5	0.17	0	0	17.6	14.3
1	Teesside	4.9	2.4	1.7	0.08	0	0	6.7	2.5
1	Thanet	1.1	0	0	0	0	0	1.1	0
1	Humber Gateway	1.9	1.9	1.1	0.05	1.5	0.09	4.5	2
1	Westermest Rough	0.2	0.2	0.1	0.01	0.2	0.01	0.5	0.2
1	Hywind	5.6	0	0.8	0.04	0.8	0.05	7.2	0.1
2	Kincardine	3	0	0	0	0	0	3	0
2	Beatrice	37.4	0	48.8	2.34	9.5	0.59	95.7	2.9
2	Dudgeon	22.3	22.3	38.9	1.87	19.1	1.18	80.3	25.3
2	Galloper	18.1	0	30.9	1.48	12.6	0.78	61.6	2.3



Tier	Wind farm	Breeding season		Autumn migration		Spring migration		Annual	
		Total	FFC SPA	Total	FFC SPA	Total	FFC SPA	Total	FFC SPA
2	Race Bank	33.7	33.7	11.7	0.56	4.1	0.25	49.5	34.5
2	Rampion	36.2	0	63.5	3.05	2.1	0.13	101.8	3.2
2	Hornsea Project One	11.5	11.5	32	1.54	22.5	1.4	66	14.4
3	Blyth Demonstration Project	3.5	0	2.1	0.1	2.8	0.17	8.4	0.3
3	Dogger Bank Creyke Beck Projects A and B	81.1	40.6	83.5	4.0	54.4	3.4	219.0	47.9
3	East Anglia ONE	2.3	2.3	89.1	4.3	4.3	0.3	96	6.9
3	European Offshore Wind Deployment Centre	4.2	0	5.1	0.25	0.1	0	9.3	0.3
3	Firth of Forth Alpha and Bravo	800.8	0	49.3	2.37	65.8	4.08	915.9	6.4
3	Inch Cape	336.9	0	29.2	1.4	5.2	0.32	371.3	1.7
3	Methil	6	0	0	0	0	0	6	0
3	Moray Firth (EDA)	80.6	0	35.4	1.7	8.9	0.55	124.9	2.3
3	Nearr na Gaoithe	143	0	47	2.26	23	1.43	213	3.7
3	Dogger Bank Teesside Projects A and B	14.8	7.4	10.1	0.49	10.8	0.67	35.7	8.5
3	Triton Knoll	26.8	26.8	64.1	3.08	30.1	1.87	121	31.7
3	Hornsea Project Two	7	7	14	0.67	6	0.37	27	8
4	East Anglia THREE	5.2	5.2	28.4	1.4	8.2	0.5	41.8	7.1
5	Hornsea Project Three	26	26	12	0.58	11	0.68	49	27.3
5	Norfolk Vanguard	8.2	8.2	18.6	0.89	5.3	0.33	32.1	9.4



Tier	Wind farm	Breeding season		Autumn migration		Spring migration		Annual	
		Total	FFC SPA	Total	FFC SPA	Total	FFC SPA	Total	FFC SPA
6	Moray West	10	0	2	0.1	1	0.06	13	0.2
6	Norfolk Boreas	14.1	14.2	12.7	0.61	3.9	0.24	30.7	15.1
6	East Anglia TWO	10.7	10.7	24.2	1.2	47.7	0.3	39.6	12.2
6	East Anglia ONE North	9.7	9.7	11.3	0.5	3	0.2	24.1	10.4
6	<i>Hornsea 4 (PEIR)</i>	43.3	43.3	9.9	0.48	8.1	0.5	61.3	44.3
	Total (all projects)	1844.8	289.9	794.3	38.2	382.3	21.1	2978.6	349
	Total (minus Hornsea Project Three and Hornsea Project Four)	1775.5	220.5	772.4	37.1	363.2	19.9	2868.3	277.3



Kittiwake

Table A0.2 Updated kittiwake cumulative and in-combination collision risk incorporating revised collision risk numbers for Hornsea Three (i.e. 181 down to 65-73) as submitted in an updated Hornsea Three assessment on the 14th February 2020 (Orsted, 2020)

Tier	Wind farm	Breeding season		Autumn migration		Spring migration		Annual	
		Total	FFC SPA	Total	FFC SPA	Total	FFC SPA	Total	FFC SPA
1	Beatrice Demonstrator	0.0	0.0	2.1	0.1	1.7	0.1	3.8	0.2
1	Greater Gabbard	1.1	0.0	15.0	0.8	11.4	0.8	27.5	1.6
1	Gunfleet Sands	-	-	-	-	-	-	-	-
1	Kentish Flats	0.0	0.0	0.9	0.1	0.7	0.1	1.6	0.1
1	Kentish Flats Extension	0.0	0.0	0.0	0.0	2.7	0.2	2.7	0.2
1	Lincs	0.7	0.7	1.2	0.1	0.7	0.1	2.6	0.8
1	London Array	1.4	0.0	2.3	0.1	1.8	0.1	5.5	0.3
1	Lynn and Inner Dowsing	-	-	-	-	-	-	-	-
1	Scroby Sands	-	-	-	-	-	-	-	-
1	Sheringham Shoal	-	-	-	-	-	-	-	-
1	Teesside	38.4	0.0	24.0	1.3	2.5	0.2	64.9	1.5
1	Thanet	0.2	0.0	0.5	0.0	0.4	0.0	1.1	0.1
1	Humber Gateway	1.9	1.9	3.2	0.2	1.9	0.1	7.0	2.2
1	Westermost Rough	0.1	0.1	0.2	0.0	0.1	0.0	0.5	0.1
1	Hywind	16.6	0.0	0.9	0.1	0.9	0.1	18.3	0.1
2	Kincardine	22.0	0.0	9.0	0.5	1.0	0.1	32.0	0.6
2	Beatrice	94.7	0.0	10.7	0.6	39.8	2.9	145.2	3.5
2	Dudgeon	-	-	-	-	-	-	-	-
2	Galloper	6.3	0.0	27.8	1.5	31.8	2.3	65.9	3.8



Tier	Wind farm	Breeding season		Autumn migration		Spring migration		Annual	
		Total	FFC SPA	Total	FFC SPA	Total	FFC SPA	Total	FFC SPA
2	Race Bank	1.9	1.9	23.9	1.3	5.6	0.4	31.4	3.6
2	Rampion	54.4	0.0	37.4	2.0	29.7	2.1	121.5	4.2
2	Hornsea Project One	44.0	36.5	55.9	3.0	20.9	1.5	120.8	41.0
3	Blyth Demonstration Project	1.7	0.0	2.3	0.1	1.4	0.1	5.4	0.2
3	Dogger Bank Creyke Beck Projects A and B	288.6	55.8	135.0	7.3	295.4	21.3	719.0	84.3
3	East Anglia ONE	1.2	0	109.1	5.9	31.8	2.3	142	8.3
3	European Offshore Wind Deployment Centre	11.8	0.0	5.8	0.3	1.1	0.1	18.7	0.4
3	Firth of Forth Alpha and Bravo	153.1	0.0	313.1	16.9	247.6	17.8	713.8	34.7
3	Inch Cape	13.1	0.0	224.8	12.1	63.5	4.6	301.4	16.7
3	Methil	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0
3	Moray Firth (EDA)	43.6	0.0	2.0	0.1	19.3	1.4	64.9	1.5
3	Near na Gaoithe	32.9	0.0	56.1	3.0	4.4	0.3	93.4	3.4
3	Dogger Bank Teesside Projects A and B	136.9	26.4	90.7	4.9	216.9	15.6	444.5	46.9
3	Triton Knoll	24.6	24.6	139.0	7.5	45.4	3.3	209.0	35.4
3	Hornsea Project Two	16.0	13.3	9.0	0.5	3.0	0.2	28.0	14.0



Tier	Wind farm	Breeding season		Autumn migration		Spring migration		Annual	
		Total	FFC SPA	Total	FFC SPA	Total	FFC SPA	Total	FFC SPA
4	East Anglia THREE	5.0	0	56.5	3	30.8	2.2	92.3	6.1
5	Hornsea Project Three	187.5	-	94.6	-	15.0	-	297.1	65-73
5	Norfolk Vanguard	21.8	18.7	16.4	0.9	19.3	1.4	57.5	21.0
6	Moray West	79.0	0.0	24.0	1.3	7.0	0.5	110.0	1.8
6	Norfolk Boreas	13.3	11.4	32.2	1.7	11.9	0.9	57.5	14.0
6	East Anglia TWO	16.8	0	7.9	0.4	17.7	1.3	42.3	1.7
6	East Anglia ONE North	16.6	0	10.8	0.6	24.4	1.7	51.8	2.4
6	Hornsea 4 (PEIR)	153.3	153.3	34.7	1.9	9.9	0.7	197.9	155.9
	Total (all projects)	1500.9*	344.6	1579*	80.1	1219.4*	86.8	4299.2*	585.6
	Total (minus Hornsea Project Three and Hornsea Project Four)	1160.1	191.3	1449.7	78.2	1194.5	86.1	3804.2	429.7

* Note that these totals include an over estimate for Hornsea Three as no revised annual or seasonal totals were provided in their most recent design revision (Orsted, 2020), only the annual collisions apportioned to the FFC SPA were provided (i.e. 65-73). Hence the revised figure of 73 has been incorporated into the 585.6 total in the annual HRA (FFC SPA) column. The previous Hornsea Three EIA total of 297 has been retained, noting that this is probably more than double the figure for the revised design.



Lesser Black-Backed Gull

Table A0.3 Updated lesser black-backed gull cumulative and in-combination collision risk

Tier	Windfarm	Breeding season		Nonbreeding season		Annual	
		Total	AOE SPA	Total	AOE SPA	Total	AOE SPA (nonbreeding season apportioned plus breeding season for wind farms <141km)*
1	Beatrice Demonstrator	-	-	-	-	-	-
1	Greater Gabbard	12.4	8	49.6	2	62	10
1	Gunfleet Sands	1	0.3	0	0	1	0.3
1	Kentish Flats	-	-	-	-	-	-
1	Kentish Flats Extension	0.3	0.1	1.3	0.1	1.6	0.2
1	Lincs	1.7		6.8	0.3	8.5	0.3
1	London Array	-	-	-	-	-	-
1	Lynn and Inner Dowsing	-	-	-	-	-	-
1	Scroby Sands	-	-	-	-	-	-
1	Sheringham Shoal	1.7	0.3	6.6	0.3	8.3	0.6
1	Teesside	0		0	0	0	0
1	Thanet	3.2	1.4	12.8	0.5	16	1.9
1	Humber Gateway	0.3		1.1	0	1.4	0
1	Westermest Rough	0.1		0.3	0	0.4	0
1	Hywind	0		0	0	0	0
2	Kincardine	0		0	0	0	0
2	Beatrice	0		0	0	0	0
2	Dudgeon	7.7	1.1	30.6	1.2	38.3	2.3
2	Galloper	27.8	18	111	4.4	138.8	22.4



Tier	Windfarm	Breeding season		Nonbreeding season		Annual	
		Total	AOE SPA	Total	AOE SPA	Total	AOE SPA (nonbreeding season apportioned plus breeding season for wind farms <141km)*
2	Race Bank	43.2		10.8	0.4	54	0.4
2	Rampion	1.6		6.3	0.3	7.9	0.3
2	Hornsea Project One	4.4		17.4	0.7	21.8	0.7
3	Blyth Demonstration Project	0		0	0	0	0
3	Dogger Bank Creyke Beck Projects A and B	2.6		10.4	0.4	13	0.4
3	East Anglia ONE	4.0	1.5	23.0	1.0	27	2.5
3	European Offshore Wind Deployment Centre	0		0	0	0	0
3	Firth of Forth Alpha and Bravo	2.1		8.4	0.3	10.5	0.3
3	Inch Cape	0		0	0	0	0
3	Methil	0.5		0	0	0.5	0
3	Moray Firth (EDA)	0		0	0	0	0
3	Neart na Gaoithe	0.3		1.2	0	1.5	0
3	Dogger Bank Teesside Projects A and B	2.4		9.6	0.4	12	0.4
3	Triton Knoll	7.4		29.6	1.2	37	1.2
3	Hornsea Project Two	2		2	0.1	4	0.1
4	East Anglia THREE	1.5	0.3	7.0	0.3	8.5	0.6



Tier	Windfarm	Breeding season		Nonbreeding season		Annual	
		Total	AOE SPA	Total	AOE SPA	Total	AOE SPA (nonbreeding season apportioned plus breeding season for wind farms <141km)*
5	Hornsea Project Three	17.3		0	0	17.3	0
5	Norfolk Vanguard	8.4	2.5	3.6	0.1	12	2.6
6	Moray West	0		0	0	0	0
6	Norfolk Boreas	6.2	1.9	8.1	0.2	14.3	2.1
6	East Anglia TWO	4.2	1.6	0.5	0	4.7	1.6
6	East Anglia ONE North	0.9	0.2	0.5	0	1.4	0.19
6	<i>Hornsea 4 (PEIR)</i>	1.9		0	0	1.9	0
	Total (all projects)	167.1	37.2	358.5	14.2	525.6	51.4
	Total (minus Hornsea Project Three and Hornsea Project Four)	147.9	37.2	358.5	14.2	506.4	51.4

* The apportioning of lesser black-backed gull collisions to the Alde Ore Estuary SPA from breeding colonies in Norfolk and Suffolk uses the connectivity rates estimated in **Table 1**.



Herring Gull

Table A0.4 Herring gull cumulative collision risk

Tier	Wind farm	Breeding season	Nonbreeding season	Annual
1	Beatrice Demonstrator	0		0
1	Greater Gabbard	0		0
1	Gunfleet Sands	-	-	-
1	Kentish Flats	0	0	0
1	Kentish Flats Extension	0.5	1.7	2.2
1	Lincs	0		0
1	London Array	-	-	-
1	Lynn and Inner Dowsing	0		0
1	Scroby Sands	-	-	-
1	Sheringham Shoal	0		0
1	Teesside	8.7	34.5	43.2
1	Thanet	4.9	19.6	24.5
1	Humber Gateway	0.4	1.1	1.5
1	Westermest Rough	0.1	0	0.1
1	Hywind	0.6	7.8	8.4
2	Kincardine	1	0	1
2	Beatrice	49.4	197.4	246.8
2	Dudgeon	-	-	-
2	Galloper	27.2		27.2
2	Race Bank	0		0
2	Rampion	155		155
2	Hornsea Project One	2.9	11.6	14.5
3	Blyth Demonstration Project	0.5	2.2	2.7
3	Dogger Bank Creyke Beck Projects A and B	0		0
3	East Anglia ONE	0	19	19
3	European Offshore Wind Deployment Centre	4.8		4.8



Tier	Wind farm	Breeding season	Nonbreeding season	Annual
3	Firth of Forth Alpha and Bravo	10	21	31
3	Inch Cape	0	13.5	13.5
3	Methil	5.8	3.7	9.5
3	Moray Firth (EDA)	52		52
3	Nearr na Gaoithe	5	12.5	17.5
3	Dogger Bank Teesside Projects A and B	0		0
3	Triton Knoll	0		0
3	Hornsea Project Two	23.8		23.8
4	East Anglia THREE	0	21.4	21.4
5	Hornsea Project Three	1	8.3	9.3
5	Norfolk Vanguard	0.4	7.1	7.5
6	Moray West	12	1	13
6	Norfolk Boreas	1.5	5.4	6.9
6	East Anglia TWO	0	0.2	0.2
6	East Anglia ONE North	0	0	0
6	<i>Hornsea 4 (PEIR)</i>	1.8	0.8	2.6
	Total (all projects)	369.3	389.8	759.1
	Total (minus Hornsea Project Three and Hornsea Project Four)	366.5	380.7	747.2



Great Black-Backed Gull

Table A0.5 Great black-backed gull cumulative collision risk

Tier	Windfarm	Breeding season	Nonbreeding season	Annual
1	Beatrice Demonstrator	0	0	0
1	Greater Gabbard	15	60	75
1	Gunfleet Sands	-	-	-
1	Kentish Flats	-	-	-
1	Kentish Flats Extension	0.1	0.2	0.3
1	Lincs	0	0	0
1	London Array	-	-	-
1	Lynn and Inner Dowsing	0	0	0
1	Scroby Sands	-	-	-
1	Sheringham Shoal	0	0	0
1	Teesside	8.7	34.8	43.6
1	Thanet	0.1	0.4	0.5
1	Humber Gateway	1.3	5.1	6.3
1	Westermest Rough	0	0	0.1
1	Hywind	0.3	4.5	4.8
2	Kincardine	0	0	0
2	Beatrice	30.2	120.8	151
2	Dudgeon	0	0	0
2	Galloper	4.5	18	22.5
2	Race Bank	0	0	0
2	Rampion	5.2	20.8	26
2	Hornsea Project One	17.2	68.6	85.8
3	Blyth Demonstration Project	1.3	5.1	6.3
3	Dogger Bank Creyke Beck Projects A and B	5.8	23.3	29.1
3	East Anglia ONE		32	31
3	European Offshore Wind Deployment Centre	0.6	2.4	3



Tier	Windfarm	Breeding season	Nonbreeding season	Annual
3	Firth of Forth Alpha and Bravo	13.4	53.4	66.8
3	Inch Cape	0	36.8	36.8
3	Methil	0.8	0.8	1.6
3	Moray Firth (EDA)	9.5	25.5	35
3	Nearr na Gaoithe	0.9	3.6	4.5
3	Dogger Bank Teesside Projects A and B	6.4	25.5	31.9
3	Triton Knoll	24.4	97.6	122
3	Hornsea Project Two	3	20	23
4	East Anglia THREE	4.1	30.3	34.4
5	Hornsea Project Three	19.4	46.6	66
5	Norfolk Vanguard	4.5	21.5	26
6	Moray West	4	5	9
6	Norfolk Boreas	6.9	28.7	35.6
6	East Anglia TWO	3.5	3.4	6.9
6	East Anglia ONE North	3.7	1.2	4.9
6	<i>Hornsea 4 (PEIR)</i>	3	13.6	13.6
	Total (all projects)	197.8	809.5	1003.3
	Total (minus Hornsea Project Three and Hornsea Project Four)	175.4	749.3	923.7



Little Gull

36. Little gull collisions are only presented in relation to those windfarms with connectivity to the Greater Wash SPA and for which collision estimates have been presented.

Table A0.6 Assessed collision rates for little gull at offshore windfarm sites with potential connectivity to the Greater Wash SPA

Windfarm	Annual collisions	Avoidance rate (%)	Assessed wind farm size	Collisions updated for 99.2% avoidance rate	Built or proposed wind farm size	Collisions updated for built or proposed wind farm
Triton Knoll	65	98	288 x 3.6MW	26	90 x 9.5MW	c. 15
Race Bank	52	98	206 x 3MW	21	91 x 6MW	12
Sheringham Shoal	8	98	108 x 3MW	3	88 x 3.6MW	3
Hornsea Project One	10	98	332 x 3.6MW	4	174 x 7MW	2
Hornsea Project Two	1.3	98	360 x 5MW	0.5	N/A	0.5
Hornsea Project Three	0.5	99.2	300 x 6MW	0.5	N/A	0.5
Norfolk Vanguard	2.5	99.2	124 x 14.7MW	2.5	N/A	2.5
Norfolk Boreas	1.1	99.2	124 x 14.7MW	1.1	N/A	1.1
East Anglia ONE North	1.1	99.2	53 x 15MW	1.1	N/A	1.1
East Anglia TWO	1.7	99.2	60 x 15MW	1.7	N/A	1.7
Total	143.2			61.4		39.4