



THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES
2010

Sheringham Shoal Extension and Dudgeon Extension Offshore Wind Farms

Appendix C1 to the Natural England's Deadline 2 Submission

**Natural England's Comments on 13.1 Gateshead Kittiwake Tower Modification [REP1-055] and 13.4 Sandwich Tern [REP1-058] - Quantification of Productivity Benefits
Technical Notes**

For:

The construction and operation of the Sheringham Shoal Extension and Dudgeon Extension Offshore Wind Farms located approximately 16km and 27km respectively from the Norfolk Coast in the Southern North Sea.

Planning Inspectorate Reference: EN010109

07 March 2023

Natural England's Comments on Sheringham Shoal Offshore Wind Farm Extension Project (SEP) and Dudgeon Offshore Wind Farm Extension Project (DEP) 13.1 Gateshead Kittiwake Tower Modification [REP1-055] and 13.4 Sandwich Tern [REP1-058] - Quantification of Productivity Benefits Technical Notes

1) Summary

1. Natural England welcomes the submission of the Gateshead Kittiwake Tower Modification [REP1-055] and Sandwich Tern REP1-058] - Quantification of Productivity Benefits Technical Notes into examination at Deadline 1. Our comments on these documents are set out below.

2) 13.1 Gateshead Kittiwake Tower Modification – Quantification of Productivity Benefits Technical Note

Headline Comments

2. Natural England's advice to offshore windfarm developers has been that due to the number of projects already required to provide artificial nest structures (ANS) along the East Anglian and North East coastlines as compensation, further ANS should be located offshore rather than onshore. Offshore there is more likely to be a shortage of suitable nest spaces and the opportunity to access offshore foraging grounds that coastal kittiwakes are less able to access. In particular, we have advised this to the Hornsea 4 Examination and to the Crown Estate as part of our engagement with the Round 4 plan-level Habitats Regulations Assessment (HRA).
3. This remains Natural England's general position. However, Natural England has reviewed the Applicant's submission '*Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects - Gateshead Kittiwake Tower Modification – Quantification of Productivity Benefits*' and have reached an in-principle conclusion that in this instance, an onshore measure (augmenting the existing Gateshead Saltmeadows tower on the Tyne with two new nest faces) has the potential to provide appropriate compensation for SEP and DEP. However, this is subject to the Applicant providing:
 - more information on the structure design (submission scheduled for Deadline 2 or 3);

- more detailed understanding of the 'baseline' for productivity in and around the existing tower;
 - more detailed stress testing of the possible scenarios as regards mortality debt.
4. Natural England considers an onshore intervention is appropriate in this particular case for the following reasons:
- The predicted contribution of SEP and DEP to the in-combination adverse effect are comparatively small – a predicted central value of 6.4 adult collisions per annum. This is relatively low compared to the equivalent central values of some other projects when based on the same parameters (Hornsea Three, 65-73; Vanguard, 21; Hornsea Four, 71). This indicates that the compensation will only need to produce a modest number of additional recruits into the national site network, in turn indicating that an onshore ANS, whilst compromised by the likely availability of other nest spaces in the general area, still has the potential to be successful.
 - The submission, whilst not demonstrating that nest space availability is currently a limitation at the Tyne colony, does make a reasonable case that every year a substantial number of kittiwakes fail to produce any young on the Tyne and therefore may seek an alternative nest site the following year. This is unsurprising at an urban colony where kittiwake are not always welcome. Whilst some of those unsuccessful kittiwakes may relocate to another colony entirely, it is plausible that others will seek new sites on the Tyne.
 - None of the consented offshore wind projects requiring compensation are developing ANS proposals on the Tyne, whereas Lowestoft, the Suffolk coast and elsewhere in the NorthEast are scheduled to see substantial provision in the future.
5. Planning permission has been granted for an experimental 'kittiwakery' directly adjacent to the Gateshead Saltmeadows tower, which is of a similar scale to the SEP and DEP intervention. In light of the evidence presented regarding a substantial number of failing breeders on the Tyne every year, we consider that the presence of the 'kittiwakery' in advance of the SEP and DEP intervention is, on balance, unlikely to preclude the SEP and DEP intervention from providing compensatory benefits. There remains an element of risk around this occurring however, and therefore advise SEP and DEP to carefully consider the need to progress their proposals as soon as possible, to minimise the potential for mortality debt to build up as a result of the competing 'offer' of the RWE proposal.

6. We stress that Natural England's advice to projects or plans with more substantial impacts than SEP and DEP continues to be ANS should be located offshore, to ensure that they have good prospects for delivering sufficient recruits into the national site network. We will continue to appraise the potential for onshore ANS to compensate for future offshore wind projects with smaller in-contribution contributions on a case-by-case basis.

Detailed Comments

7. Paragraphs 6 and 7: To increase confidence by improving the understanding of 'baseline conditions' for the compensation measure, Natural England seeks a table presenting the number of 'unsatisfactory/sub optimal nest sites' (and productivity of these sites) in the wider area that are considered likely candidates for relocation to the new high-quality sites, and a clear indication of what level of increased productivity is likely to be achieved. A longer dataset for the face of the tower that will be replaced should also be presented. In both instances, data presented should span several years (with data held by local colony monitors sought where required) and include distance of each sub-optimal nest site area from the Saltmeadows tower.
8. Stress-testing/ Scenario Exploration: Natural England advises that more detailed stress-testing/scenario exploration should be carried out to demonstrate the replacement of the sub-optimal face with two new faces is sufficient, and to identify how long the measure should be in place, to ensure compensation fully accounts for the mortality debt accrued. These scenarios should include realistic worse and likely case scenarios in regards colony establishment time, initial establishment size, colony growth rate, colony size and productivity. Natural England advises that this kind of approach has previously been presented at Norfolk Boreas ([Norfolk Boreas Offshore Wind Farm In Principle Habitats Regulations Derogation Provision of Evidence Appendix 1 FFC SPA](#)), and commented on by Natural England ([Natural England's advice on the FFC SPA in principle compensation measures 20th August 2021](#)). This broad method could be adapted to reflect the Tyne area vital rates and related metrics to demonstrate the adequacy of the proposal and the predicted time it will take to 'pay back' the mortality debt accrued by SEP and DEPs predicted impact.

3) 13.4 Sandwich Tern – Quantification of Productivity Benefits Technical Note

Detailed Comments

NE Ref	Document Para	Document Excerpt	Comment
1	5	Farne Islands.	Please refer to Natural England's comments in our Relevant Representation [RR-063] Appendix B (summary Para 6, detailed comments 15 to 17) regarding our concerns with the measures proposed for the Farne Islands SPA. We note the National Trust's comment that they do not feel the compensation measures proposed for the Farne Islands, which the Trust manages, are appropriate [REP1-134]
2	6	Natural England predicts a 42% increase in seabird numbers in the North Sea within 15 years of closure of the North Sea sandeel fishery (Bayes and Kharadi 2022, Natural England 2023).'	While Natural England agrees that reducing fishing pressure on sandeel stocks would benefit seabirds, we do note that more recent ecosystem modelling outputs potentially indicate lower levels of benefit to seabirds.
3	7	Size of island.	Please refer to comments in our Relevant Representation [RR-63] (summary paragraph 5 and detailed comments 10 and 11) on the scale of the project. We further note that there may be benefits in establishing an island large enough to allow colonisation by other species, in particular black headed gull. Schwartz <i>et al</i> noted colonisation probability increased if sites were used by other species.
4	8	If a colony of 150 pairs of Sandwich terns can be restored at Loch Ryan and these birds achieved the	Natural England requests a more detailed justification is provided for the presented productivity figure of 0.8 for colonies not subject to mammalian predation or human

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		<p>average breeding success of this species at Scottish colonies when the birds are not subject to mammal predation or human disturbance (about 0.8 chicks per pair per year; Short 2020, Joint Nature Conservation Committee (JNCC) 2021) this would produce an average output of about 120 fledglings per year.</p>	<p>disturbance. The JNCC report that for Sandwich tern in Scotland <i>'Productivity of Sandwich terns at colonies monitored in Scotland has fluctuated considerably since recording began. 2000 and 2001 were the only years on record with relatively high levels of productivity, with an average of 0.57 chicks being fledged per pair between 1986 and 2019. In 2019, Sandwich terns at Sands of Forvie again occupied a breeding colony among black-headed gulls. In 2018, productivity at this colony rose slightly to 0.73 chick fledged per pair (624 chicks from 852 pairs), the highest values recorded since 2013 when 0.80 chicks fledged per pair. In 2019, productivity decreased to 0.533.'</i> (Joint Nature Conservation Committee (JNCC) 2021). Horswill and Robinson (2017) report a national productivity figure of 0.702 (SD 0.372), which would of course include colonies subject to predation/disturbance. JNCC also note that in 2019, average UK productivity was 0.41 chicks fledged per pair.</p>
5	8	<p>The key to achieving breeding success of 0.8 chicks per pair or better is to minimise risk of predation by mammals and human disturbance.</p>	<p>As above, Natural England requests more detail is provided in regards the productivity figure of 0.8 for colonies not subject to mammalian predation or human disturbance.</p>
6	8-11 and Table 1.	<p>Stress testing.</p>	<p>Natural England advises that more detailed stress-testing/ scenario exploration should be carried out to identify if the proposed colony size is sufficient and</p>

NE Ref	Document Para	Document Excerpt	Comment
			<p>identify how long the measure should be in place to ensure compensation fully accounts for the mortality debt accrued. These scenarios should include realistic worse and likely case scenarios in regards colony establishment time, initial establishment size, colony growth rate, colony size and productivity.</p> <p>Other considerations should include the fact that predictions of increased storminess and sea-level change under climate change scenarios may lead to increased prevalence of inundation events - leading to greater variability in productivity and increased incidences of total colony failure.</p>
7	Section 2.3 15-18	Improved Breeding Success at SPA sites other than North Norfolk Coast – Farne Islands SPA.	Please refer to Natural England's comments in our Relevant Representation [RR-063] (detailed comments 15, 17) regarding our concerns with the measures proposed for the Farnes.
8	15	1,092 chicks were produced by 1,950 AONs (pairs) in 2000, a breeding success of 0.56 chicks per pair, also well below the average for Sandwich tern in colonies in the UK (JNCC 2021).	In 2019, average UK productivity was 0.41 chicks fledged per pair. (JNCC 2021).
9	16	and, as noted above, at the Farne Islands in 2019 was only 0.15 chicks per pair (JNCC SMP database).	However, we note that a year later productivity was 0.56, so it is fair to say that there is not a very clear picture.
10	2.4	Uncertainty Regarding	Natural England advises that despite some

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		Potential for Accrued Mortality Debt.	evidence from other sites (e.g. Schwartz et al 2022) it will take an unknown length of time for Sandwich tern to both form a colony of the size predicted and reach productivity at the rate modelled. Please see our comment 6 above regarding the requirement to explore this via modelled scenarios.
11	Additional Comment	Natural England continues to note that the Loch Ryan site at Scar Point has not been secured. Until greater confidence is gained that the primary measure can indeed be delivered at Scar Point, Natural England would encourage ongoing exploration of opportunities at other sites.	