



**Written Representation  
for the  
Royal Society for the Protection of Birds  
Comments on selected Deadline 1 and Deadline 2 submissions**

**Submitted for Deadline 3  
21 April 2022**

**Planning Act 2008 (as amended)**

**In the matter of:**

**Application by Hornsea Project Four Limited for an Order  
Granting Development Consent for the Hornsea Project Four Offshore Wind  
Farm**

**Planning Inspectorate Ref: EN010098  
RSPB Registration Identification Ref: 20029909**

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# 1. Introduction

## Scope of submission

1.1. This submission sets out the RSPB's comments based, in particular, on the following documents submitted by the Applicant at Deadlines 1 and 2:

- Offshore ornithology matters:
  - REP1-069: G1.47: Auk Displacement and Mortality Evidence Review
  - REP2-002: A.5.5.2 Volume A5, Annex 5.2: Offshore Ornithology Displacement Analysis (Tracked)
  - REP2-045: G2.9 Gannet Displacement and Mortality Evidence Review - Revision: 01
  - REP2-046: G2.10 MRSea Baseline Sensitivity Report (Gannet) - Revision: 01
  - REP2-085: Natural England review of [REP1-069] G1.47 Auk Displacement and Mortality Evidence Review Revision: 01
- Roadmap updates:
  - Kittiwake Offshore Artificial Nesting:
    - REP1-017: B2.7.2 Volume B2, Annex 7.2: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Kittiwake Offshore Artificial Nesting Roadmap (Tracked) Revision 02
    - REP2-006: B2.7.2 Volume B2, Annex 7.2: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Kittiwake Offshore Artificial Nesting Roadmap (Tracked) -Revision 03
  - Kittiwake Onshore Artificial Nesting:
    - REP1-019: B2.7.4 Volume B2, Annex 7.4: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Kittiwake Onshore Artificial Nesting Roadmap (Tracked) Revision: 02
    - REP2-008: B2.7.4 Volume B2, Annex 7.4: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Kittiwake Onshore Artificial Nesting Roadmap (Tracked) - Revision: 03
  - Predator Eradication:
    - REP1-023: B2.8.4 Volume B2, Annex 8.4: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Predator Eradication: Roadmap (Tracked) Revision: 03 [sic]
    - REP2-012: B2.8.4 Volume B2, Annex 8.4: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Predator Eradication: Roadmap (Tracked) - Revision: 03.
- Other derogation documents
  - REP1-061: G1.33: Predator Eradication Island Suitability Assessment: Bailiwick of Guernsey
  - REP1-071: - G1.50 Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Derogation and Compensation Update Position Statement Revision: 01

- REP2-038: G2.2 Applicant’s Responses to the ExA’s First Written Questions (ExQ1) - Revision: 01
  - REP2-082: Responses to Examining Authority’s First Written Questions (ExQ1)
- 1.2. Due to a combination of the detailed issues raised within the documents and resource constraints, the RSPB has to delay comments on the following documents to Deadline 4 in order to ensure we are able to provide the Examining Authority with a full response:
- Bycatch Reduction:
    - Predator Eradication Roadmap updates (REP1-022 (version 02) and REP2-012 (version 03))
    - REP1-064: G1.42 Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA: Gannet Bycatch Reduction: Ecological Evidence Revision: 1
  - Compensation calculations: REP1-063. G1.41: Calculation methods of the Hornsea 4 Proposed Compensation Measures for features of the FFC SPA.

#### Future submissions to the examination by the Applicant

- 1.3. The RSPB has noted the contents of the revised Examination Deliverables Summary (Revision 2, REP2-035/REP2-036). This highlights changes to the original version (REP1-065). We welcome the signposting.
- 1.4. The Examination Deliverables Summary purports to set out when new submissions will be made to the Examination. However, we have noted in our review of the various roadmap documents that additional documents are being scheduled for Deadline 5 which are not referred to in the Examination Deliverables Summary, which is therefore incomplete. This means Deadline 5 is set to receive several substantial new and/or updated documents for fresh review by the Examining Authority and Interested Parties. We do not consider it helpful to rely on Interested Parties to “self discover” what documents are due to be submitted and when they will be submitted. It would be more helpful if these could all be set out in the Examination Deliverables Summary as was first discussed at the Preliminary Meeting.
- 1.5. In order to ensure complete transparency on the timing of new or updated documents to the Examination, we would welcome the Examination Deliverables Summary document being amended as follows:
- Extend it to signpost the timetable for submission of any new or updated documents to the examination;
  - Provide thumbnail descriptions of any new documents so that the nature of their content is more immediately apparent to the reader in advance of their submission.

## 2. Offshore Ornithology

### REP1-069: G1.47: Auk Displacement and Mortality Evidence Review

- 2.1. The RSPB welcomes the report produced by the Applicant's consultants examining displacement rates and consequences for razorbill and guillemot. It is essentially in two parts, the first detailing a review of displacement rates from a variety of wind farms and an analysis of factors that could influence that rate. The second section is a far more constrained review of mortality rates, based on two modelled approaches and anecdotal evidence. We also welcome the response to this review by Natural England (REP2-085).
- 2.2. In the first section, a wide range of displacement ranges are presented, highlighting the considerable variation in rates and consequent uncertainty in how these should be applied. While the review considers a number of factors that may influence displacement rates and account for this large amount of variation, we agree with Natural England that key variables are missing, including seasonality and distance from colony. Furthermore, while there is some consideration of how turbine layout may influence displacement there is no consideration of the turbine dimensions. The turbines proposed for Hornsea Project 4 are considerably bigger and more spaced out than any of the wind farms reviewed. While the increase in spacing may reduce displacement effects, the increase in turbine size will make them visible from a greater distance and is therefore intuitively likely to increase the displacement effect. The review presents a wide range of displacement effects from +112 to -75%, and the negative displacement rates ranging from 25- 75%. As the report acknowledges this negative displacement range reflects the range of between 30-70% recommended by Natural England and the RSPB. While the report details methodological issues with some of the studies reviewed and examines some of the factors that can influence displacement rates, without more detailed work to site specific factors, including those noted above, there is no evidence to support not using the recommended range. Indeed in providing a summary of the wide range of variability in displacement rates, the report provides support for the use of a range of values in assessment.
- 2.3. The second part of the review is by necessity much more limited; there is a paucity of data on which to base mortality rates arising from displacement. In part this is because the consequences of displacement are not direct mortality itself, rather are sub-lethal effects such as changes in productivity or over-winter survival. As such, mortality rate acts as a surrogate for sub-lethal effects in the displacement matrix and will therefore be subject to considerable variation and uncertainty, for example through breeding state and other seasonal influences and will be site specific. In order to account for this variability, it has been considered appropriate to use a range of values in assessment. The review cites as evidence one of the few detailed studies of the consequences of displacement and barrier effects, Searle *et al.*, 2014<sup>1</sup> and the subsequent assessment tool (SeaBORD, Searle *et al.*,

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<sup>1</sup> Searle, K., Mobbs, D., Butler, A., Bogdanova, M., Freeman, S., Wanless, S. and Daunt, F. 2014. Population consequences of displacement from proposed offshore wind energy developments for seabirds breeding at Scottish SPAs (CR/2012/03). CEH Report to Marine Scotland Science

2018<sup>2</sup>) underpinned by it. As highlighted by Natural England, this modelling demonstrated that mortality rates of displaced guillemot could exceed 10%. As such, the use of a range of mortality rates of 1 -10% seems entirely appropriate.

- 2.4. The other study cited by the Applicant that also took a modelling approach, Van Kooten *et al.*, (2019<sup>3</sup>), examined population scale impacts of displacement, and therefore is not directly transferrable to mortality rates. As highlighted by Natural England, it does not provide any evidence of the actual levels of mortality.
- 2.5. The remaining study in the review details population trends at a colony in the vicinity of a number of wind farms claiming that the population is still increasing. However there is no disentanglement of other variables that could be acting on the population, and as such, we agree with Natural England that the lack of a detectable impact does not provide evidence of no impact.
- 2.6. In conclusion, the review does not provide evidence that the recommended range of displacement and mortality rates is overly precautionary. Rather it highlights how the complex interactions of influencing factors and consequent variability and uncertainty mean that for this assessment, presenting a range of values is the most appropriate approach.

#### [REP2-002: A.5.5.2 Volume A5, Annex 5.2: Offshore Ornithology Displacement Analysis](#)

- 2.7. The RSPB welcome the revised displacement analysis. This now includes all behavioural states for the three auk species, as recommended by Natural England and the RSPB. However while this is an improvement in approach, there remains a lack of confidence in the baseline densities of birds derived from the MRSea modelling that then inform the displacement analysis. Until the issues detailed by Natural England and the RSPB are addressed, it is impossible to draw any conclusion as to the significance of displacement impacts.

#### [REP2-045: Gannet displacement and mortality evidence review](#)

- 2.8. The RSPB welcome the submission of the review of gannet displacement and mortality. The report includes some qualitative assessment of the methods used in the various studies reviewed to assess displacement. However, it does not take it account differences in survey platform. These all have inherent biases which differ dependent on method and so integration into an overall rate is problematic. No consideration seems to have been given to this.
- 2.9. In section 3.4 there is an exploratory analysis of the factors that may influence displacement. A range of variables are given in Table 3 but not all are used in analysis, including number of turbines, blade gap height, rotor diameter. These factors are likely to have a strong influence

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<sup>2</sup> K R Searle, D C Mobbs, A Butler, R W Furness, M N Trinder and F Daunt. 2018. Finding out the Fate of Displaced Birds. Scottish Marine and Freshwater Science Vol 9 No 8, 149pp.

<sup>3</sup> van Kooten, T., Soudijn, F., Tulp, I., Chen, C., Benden, D., & Leopold, M. (2019). The consequences of seabird habitat loss from offshore wind turbines, version 2: Displacement and population level effects in 5 selected species (No. C063/19). Wageningen Marine Research.

on displacement rates Despite 3.4.1.3. referring to “each environmental variable” only one of these variables, water depth, is an environmental variable. More exploration of other variables should have been made, for example, distance from nearest breeding colony would be an informative variable to include to examine influences on breeding season displacement. It is also not clear why an approach has been taken to group reported displacement rates into two comparative groups, rather than using a correlative, multivariant approach. Where wind farms are adjacent and close together, displacement effects are likely to not be independent and no consideration has been given to this potential cumulative effect.

- 2.10. The RSPB welcome the consideration of different displacement rates in the breeding and non-breeding season. However, there is no attempt to distinguish between OWF sites that are within foraging range of breeding colonies and those which are not. The implications for breeding birds are potentially higher than for non-breeders during the breeding season. The only two studies from the breeding season (Table 2) that occur within foraging range of a breeding colony that have not been flagged as to be viewed as ‘precautionary with low confidence’ are Beatrice (displacement >80%) and Helgoland (displacement <60%). As such, these two studies do not provide evidence for a 60-80% displacement rate being “overly precautionary” during the breeding season. For consistency, it is also important that any conclusions with regard to differences in breeding and non-breeding season displacement are reflected in Avoidance Rates used in collision risk modelling.
- 2.11. The review also examines the evidence for mortality rates for displaced Gannets. This includes some inaccurate assumptions, for example birds from larger colonies being “deflected back towards the colony” is unlikely to “increase their foraging efficiency” as claimed in 4.1.1.4. Instead, gannet foraging distance is dependent on colony size: the larger the colony the further they travel (Wakefield et al. 2013<sup>4</sup>). It also is misleading to say juvenile gannets are ‘confined’ to along the coast, as claimed in 4.1.1.5., rather they tend to migrate closer to the coast than adults. None of the studies cited in support of a revised mortality rate actually include evidence of this rate. Seale *et al.*, (2014<sup>5</sup>) used a modelling approach that for gannet was based on tracking data from only 13 birds. Because of low confidence for this species, the subsequent tool developed for this modelling approach (SeaBORD, Searle *et al.*, 2018<sup>6</sup>) did not include gannet as it was impossible to parameterise the model for the species. As such this cannot be considered a useful source for mortality rates. The other study cited by the Applicant that also took a modelling approach, Van Kooten *et al.*, (2019), examined population scale impacts of displacement, and therefore is not directly transferrable to mortality rates.

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<sup>4</sup> Wakefield, E.D., Bodey, T.W., Bearhop, S., Blackburn, J., Colhoun, K., Davies, R., Dwyer, R.G., Green, J.A., Grémillet, D., Jackson, A.L. and Jessopp, M.J., 2013. Space partitioning without territoriality in gannets. *Science*, 341(6141), pp.68-70.

<sup>5</sup> Searle, K., Mobbs, D., Butler, A., Bogdanova, M., Freeman, S., Wanless, S. and Daunt, F. 2014. Population consequences of displacement from proposed offshore wind energy developments for seabirds breeding at Scottish SPAs (CR/2012/03). CEH Report to Marine Scotland Science

<sup>6</sup> K R Searle, D C Mobbs, A Butler, R W Furness, M N Trinder and F Daunt. 2018. Finding out the Fate of Displaced Birds. *Scottish Marine and Freshwater Science* Vol 9 No 8, 149pp.

- 2.12. It is clear from the review that there is considerable variability in displacement rates and while there are no data on consequent mortality, it is likely that this will also be highly variable, both dependent on a range of biotic and abiotic variables that will be site specific. Because of these complex interactions of influencing factors and consequent variability and uncertainty mean that for this assessment, presenting a range of values is the most appropriate approach for both displacement and mortality rates.

[REP2-046 Deadline 2 Submission - G2.10 MRSea Baseline Sensitivity Report \(Gannet\)](#)

- 2.13. The RSPB welcome the submission of further details of the baseline characterisation of bird density using the MRSea modelling approach. However, while this document in Appendix A details an initial rerun of the model for gannet, other model runs are still to be carried out “if computationally possible” and a full report submitted. There are also planned Baseline Sensitivity Report Parts 2 and 3 to be submitted at Deadline 3. The calculation of baseline density is absolutely fundamental to the assessment of impacts and it is unfortunate that we are still not in a position to review all these documents and therefore cannot come to any conclusion as to the significance of impacts.
- 2.14. Furthermore, to assist in our review of current and subsequent documentation, it would also be helpful if a report for Natural England was submitted formally to the examination. It is referred to by the Applicant in paragraph 2.1.1.1 and Table 2 of this report. We understand the report sets out a critique of the Applicant’s baseline characterisation commissioned by Natural England and entitled Scott-Hayward, L.A.S. (2021). Statistical Review of Hornsea Project Four: Environmental Statement for Natural England. CREEM, University of St Andrews. In its absence as a formal examination document, we are unable to comment further on this issue.



### 3. Updated comments on derogation and compensation

#### Introduction

3.1. This section sets out the RSPB's comments on the following documents submitted by the Applicant at Deadlines 1 and 2 of the Examination.

- Roadmap updates – unless otherwise stated the RSPB's comments refer to the substantive updates provided at Deadline 1.
  - Kittiwake Offshore Artificial Nesting:
    - REP1-017: B2.7.2 Volume B2, Annex 7.2: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Kittiwake Offshore Artificial Nesting Roadmap (Tracked) Revision 02
    - REP2-006: B2.7.2 Volume B2, Annex 7.2: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Kittiwake Offshore Artificial Nesting Roadmap (Tracked) -Revision 03
  - Kittiwake Onshore Artificial Nesting:
    - REP1-019: B2.7.4 Volume B2, Annex 7.4: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Kittiwake Onshore Artificial Nesting Roadmap (Tracked) Revision: 02
    - REP2-008: B2.7.4 Volume B2, Annex 7.4: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Kittiwake Onshore Artificial Nesting Roadmap (Tracked) - Revision: 03
  - Predator Eradication:
    - REP1-023: B2.8.4 Volume B2, Annex 8.4: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Predator Eradication: Roadmap (Tracked) Revision: 03 [sic]
    - REP2-012: B2.8.4 Volume B2, Annex 8.4: Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Predator Eradication: Roadmap (Tracked) - Revision: 03.
- Other derogation documents
  - REP1-061: G1.33: Predator Eradication Island Suitability Assessment: Bailiwick of Guernsey
  - REP1-071: - G1.50 Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Derogation and Compensation Update Position Statement Revision: 01.

#### Comments on roadmap updates

##### *Kittiwake Offshore Artificial Nesting*

3.2. Table 1 below sets out the RSPB's comments on the Applicant's updates on the Kittiwake Offshore Artificial Nesting roadmap REP1-017.

**Table 1: RSPB comments on the Applicant’s updates on the Kittiwake Offshore Artificial Nesting roadmap REP1-017**

Page/para	Comment
p6, paras 1.1.1.2-1.1.1.4	The RSPB welcomes acknowledgement by the Applicant of potential in-combination adverse effect on integrity for kittiwakes at the FFC SPA.
p6, para 2.1.1.1	The RSPB notes that the Applicant has still not specified which offshore option it will pursue. This continues to make it difficult for the RSPB to comment.
p8, para 4.1.1.1	<p>The RSPB notes that the Applicant proposes to submit a specific Gannet Compensation Plan at Deadline 5. See also 6.1.1.2 below with respect to other documents proposed for Deadline 5.</p> <p>As set out in section 1 above, the RSPB requests that the Applicant provide a full list of all expected new and updated documents, a thumbnail description of their contents, and their proposed deadlines so that all Interested Parties are better able to plan their resources.</p>
p9, para 5.1.1.1	The RSPB refers the Examining Authority to paragraphs 5.26-5.27 of its REP2-089 point on the lead-in time for compensation measures and for at least 4 breeding seasons as opposed to the 3 seasons proposed here.
p10, para 5.1.1.2	The RSPB refers the Examining Authority to paragraphs 5.28-5.30 of its REP2-089 point on the lifetime of the compensation measures i.e. longer than the 35+3 years proposed here.
p11, para 6.1.1.2	<p>The RSPB notes that the Applicant proposes to submit specific documents for gannet at Deadline 5:</p> <ul style="list-style-type: none"> <li>- Outline Gannet Compensation and Implementation and Monitoring Plan: Bycatch; and</li> <li>- Outline Gannet Compensation and Implementation and Monitoring Plan: Artificial Nesting structure.</li> </ul> <p>As set out in section 1 above, the RSPB requests that the Applicant provide a full list of all expected new and updated documents, a thumbnail description of their contents, and their proposed deadlines so that all Interested Parties are better able to plan their resources.</p>
p11, para 7.1.1.1 and 7.1.4.2 (shown as 1.1.1.1)	<p>The RSPB notes that the Applicant proposes to submit detailed engineering designs for artificial nesting structures for kittiwakes for Deadline 5 in an as yet unspecified document.</p> <p>This is one of many <u>new</u> documents identified for Deadline 5 which do not appear in the latest version of the Examination Deliverables Summary (REP2-035/2-036). As set out in section 1 above, the RSPB requests that the Applicant provide a full list of all expected new and updated documents, a thumbnail description of their contents, and their proposed deadlines so that all Interested Parties are better able to plan their resources.</p> <p>As it stands, the RSPB is unwilling to comment on the design, including the capacity required. The discussion on capacity is pending agreement on the scale of potential adverse effect (see paragraphs 5.23-5.25 in RSPB REP2-089) and the subsequent discussion on the magnitude of compensation required to address that impact.</p>
p13, para 8.1.1.1	The RSPB remains concerned that detailed site selection is still ongoing and as such there is still no specific detail on the chosen location or mechanism (new structure or repurposed structure) in front of the examination. Each raises fundamentally different issues in respect of how and whether they can be legally secured.

Page/para	Comment
p14, para 8.1.1.3	The RSPB notes the Applicant states that it will update the Examining Authority at Deadline 2 on the process of securing MoUs with operators to allow specific platforms and locations to be discussed and shared with stakeholders. We have been unable to find a reference to any update in the Deadline 2 submissions and would welcome being signposted to any such update within the Deadline 2 documents so that we can review further.
Section 8, para 1.1.1.2 (should be para 8.1.1.9)	<p>The RSPB repeats its recommendation (see paragraph 6.13 in REP2-089) for a metapopulation analysis to be carried out to clarify the dynamics between potential purpose-built artificial nest sites and SPA and other colony populations. This would help elucidate the feasibility of the establishment of the colonies. Furthermore, it would investigate the consequences of such colony establishment on the populations of other colonies, in particular that of the FFC SPA.</p> <p>The RSPB notes that the Applicant intends to use updates to this roadmap document to share its further work. We would welcome clearer signposting on when to expect significant updates so that we can plan our resources.</p>
Section 8, para 8.1.1.9	The RSPB requests clarification on when the results of the geophysical and geotechnical work will be submitted to the examination in respect of precise site selection for a potential new structure.
Section 9.1.2, Adaptive management	<p>At paragraph 9.1.2.2, the Applicant lists examples of possible adaptive management measures that could be used at an offshore artificial nesting structure. We consider it important that the practicality and potential benefit of any suggested adaptive management is explored at a site-specific level as part of the examination process to ensure the Examining Authority and Secretary of State are informed as to their feasibility.</p> <p>At this stage we offer comments on two of the measures listed.</p> <p><u>Provision of supplementary food</u> We have concerns as to how feasible or sustainable this would be, especially on an offshore structure.</p> <p>Supplementary feeding of kittiwakes has been carried out successfully at an artificial site on land (an old air force site) where nests could be accessed with a sliding glass panel and provided 3-4 times a day i.e. very time intensive. This level of feeding improved reproductive success but overall productivity still appeared to be linked to the natural prey resource (Gill et al. 2002).<sup>7</sup> Although no clear carry-over effects to lifetime reproductive success were observed, fed nests were expected to produce more breeding recruits because of their higher productivity (Vincenzi et al. 2015).<sup>8</sup></p> <p><u>Use of kittiwake calls and decoys</u> Decoys have been used at a number of sites but it is not clear whether sites would have been colonised without the presence of the decoy or not. Clay decoys and disused nests were used at the Gateshead Kittiwake</p>

<sup>7</sup> Gill V.A., Hatch S.A. & Lanctot R.B. (2002). Sensitivity of breeding parameters to food supply in black-legged kittiwakes *Rissa tridactyla*. *Ibis*, 144, 268-283.

<sup>8</sup> Vincenzi, S., Hatch, S., Merklings, T., & Kitaysky, A. S. (2015). Carry-over effects of food supplementation on recruitment and breeding performance of long-lived seabirds. *Proceedings. Biological sciences*, 282(1812), 20150762.

Page/para	Comment
	<p>tower (Turner 2010)<sup>9</sup> and decoy chicks and nests were also used in a study at a colony in Brittany to look at recruitment to a new part of cliff adjacent to an established colony (Boulinier et al. 1999).<sup>10</sup> Therefore, we acknowledge there is some evidence that decoy birds and nests could help attract kittiwakes to new sites but these studies have been undertaken at sites adjacent or close to existing colonies. Consequently, the relevance of this as a possible adaptive management measure is highly site specific.</p> <p>We note that the use of decoys and old nests is likely to be more practical at an offshore site than supplementary feeding.</p>
<p>pp19-20</p> <p>Section 10</p> <p>Paras</p> <p>10.1.1.3-</p> <p>10.1.1.8</p> <p>And pp28-29/para</p> <p>14.1.1.3 on liabilities</p>	<p>The RSPB notes the Applicant's updates in respect of the use of decommissioned oil and gas platforms. The RSPB will respond on this topic once it has received advice on the matters raised.</p>
<p>p28, para</p> <p>14.1.1.3</p>	<p>The RSPB requests that the Applicant is requested to submit this information on how liabilities will be transferred/managed etc well before the end of the examination so that the Examining Authority and Interested Parties have time to review and comment.</p>

#### [Kittiwake Onshore Artificial Nesting](#)

- 3.3. Table 2 below sets out the RSPB's comments on the Applicant's updates on the Kittiwake Onshore Artificial Nesting roadmap REP1-019.

**Table 2: RSPB comments on the Applicant's updates on the Kittiwake Onshore Artificial Nesting roadmap REP1-019**

Page/para	Comment
<p>p7, para</p> <p>2.1.1.1</p>	<p>The RSPB welcomes acknowledgement by the Applicant of potential in-combination adverse effect on integrity for kittiwakes at the FFC SPA.</p>
<p>p7, para</p> <p>2.1.1.3</p>	<p>The RSPB repeats its recommendation (see paragraph 6.13 in REP2-089) for a metapopulation analysis to be carried out to clarify the dynamics between potential purpose-built artificial nest sites and SPA and other colony populations. This would help elucidate the feasibility of the establishment of the colonies. Furthermore, it would investigate the consequences of such colony establishment on the populations of other colonies, in particular that of the FFC SPA.</p>
<p>p8, para</p> <p>2.2.1.1</p>	<p>The RSPB notes the reference to the predicted scale of impact but refers the Examining Authority to its comments on the fundamental concerns</p>

<sup>9</sup> Turner, D.M. (2010). Counts and breeding success of Black-legged Kittiwakes *Rissa tridactyla* nesting on man-made structures along the River Tyne, Northeast England, 1994–2009. *Seabird* **23**: 111–126.

<sup>10</sup> Boulinier, T., Danchin, E. & Durand, S. (1999). Conspecific attraction and breeding site selection in Kittiwakes: an experiment. In: Adams, N.J. & Slotow, R.H. (eds) Proc. 22 Int. Ornithol. Congr., Durban: 1315-1327. Johannesburg: BirdLife South Africa

Page/para	Comment
	relating to the baseline assessment set out in section 4 of REP2-089 and the subsequent need to agree the scale of potential adverse effect (see paragraphs 5.23-5.25 in RSPB REP2-089). Therefore, any figures stated here are subject to further discussion.
p8, para 3.1.1.1	<p>The RSPB notes that the Applicant proposes to submit a specific Gannet Compensation Plan at Deadline 5. See also 5.1.1.2 below with respect to other documents proposed for Deadline 5.</p> <p>As set out in section 1 above, the RSPB requests that the Applicant provide a full list of all expected new and updated documents, a thumbnail description of their contents, and their proposed deadlines so that all Interested Parties are better able to plan their resources.</p>
p9, para 3.1.1.1 (design) and p10, para 5.1.1.4 (location)	<p>The RSPB notes the Applicant's intention to draw on design principles in respect of Hornsea Project Three but we note that each design must be specific to the environment of the selected location. Therefore, if the Applicant intends to pursue an onshore option, it is important that the specific location and associated design is brought forward at the earliest opportunity to the examination for scrutiny by the Examining Authority and Interested parties.</p> <p>Reliance on generic principles and very broad areas of search is wholly insufficient to evaluate whether a particular compensation option will have a reasonable guarantee of success.</p>
p9, para 4.1.1.1	The RSPB refers the Examining Authority to paragraphs 5.26-5.27 of its REP2-089 point on the lead-in time for compensation measures and for at least 4 breeding seasons as opposed to the 3 seasons proposed here.
p10, para 5.1.1.2	<p>The RSPB notes that the Applicant proposes to submit specific documents for gannet at Deadline 5:</p> <ul style="list-style-type: none"> <li>- Outline Gannet Compensation and Implementation and Monitoring Plan: Bycatch; and</li> <li>- Outline Gannet Compensation and Implementation and Monitoring Plan: Artificial Nesting structure</li> </ul> <p>As set out in section 1 above, the RSPB requests that the Applicant provide a full list of all expected new and updated documents, a thumbnail description of their contents, and their proposed deadlines so that all Interested Parties are better able to plan their resources.</p>
p12, para 6.1.1.3	<p>The RSPB notes that the Applicant has stated its preferred zone for installing an onshore artificial nesting structure extends to the nearshore environment.</p> <p>Based on discussions elsewhere on other projects, the RSPB is aware that reliance on a nearshore location significantly compromises the ability to carry out relevant monitoring to determine the success or otherwise of the artificial nesting structure in relation to meeting compensation objectives. Therefore, the RSPB would urge considerable caution in including the nearshore environment.</p>
p12, para 6.1.1.4	Notwithstanding the RSPB's view in respect of onshore artificial nesting structures, the RSPB requests that the Applicant submit detailed information on its site selection for any onshore artificial nesting structure to the examination as soon as possible in order to enable the Examining Authority and Interested Parties to review the suitability of the selected locations. Reference to a general date of "2022" for site selection is wholly inadequate as it could refer to the post-examination period. This would

Page/para	Comment
	mean the Examining Authority and Interested Parties would be unable to scrutinise any proposals and help ensure the Secretary of State has a fully informed view.
p17, para 8.1.1.2	The RSPB refers the Examining Authority to paragraphs 5.28-5.30 of its REP2-089 point on the lifetime of the compensation measures i.e. longer than the 35+3 years proposed here.

### [Predator Eradication](#)

- 3.4. Table 3 below sets out the RSPB’s comments on the Applicant’s updates on the Predator Eradication roadmap REP1-023. These comments must be considered provisional pending submission of the full Feasibility Study by the Applicant for Deadline 5.

**Table 3: RSPB comments on the Applicant’s updates on the Predator Eradication roadmap REP1-023**

Page/para	Comment
p7/para 2.1.1.1	<p>We note that reference to connectivity of a predator eradication site to any specific colonies has now been removed and now broadened to the general biogeographic region.</p> <p>Further information should be provided on how the Applicant will demonstrate the coherence of the National Site Network for each species will be protected as a result of its proposed approach, especially given its focus is now on islands outside of the UK.</p>
p7/para 2.1.1.2	<p>We note that the roadmap retains reference to extending eradication to crow.</p> <p>For the record, the RSPB opposes tackling specialist avian predators to provide compensation for windfarm losses. Seabirds have always co-existed with avian predators. Given adequate environmental conditions (e.g., breeding habitat, food supply, manageable additive mortality), that coexistence shows that specialist avian predators are not a long-term conservation threat. Windfarms pose an additional mortality risk to seabirds beyond the background mortality (which includes native predators). Overall, we do not believe that removing natural background mortality to tackle additional windfarm driven mortality is ecologically sensible.</p>
p7/para 2.1.1.5	The RSPB rejects the use of crude ratios (e.g. 2:1) as set out here. We refer the Examining Authority to Table 4 (Extent) in our Written Representation (REP2-089) for our position on the appropriate use of ratios.
p8/para 2.1.1.6	<p>This paragraph underlines the considerable uncertainty that still remains as to the efficacy of both the predator eradication and bycatch reduction compensation options and how they will (either alone or combined) address the potential adverse effect on integrity for guillemot and razorbill.</p> <p>It is also implied that predator eradication/island restoration is “scalable” in some mechanistic way e.g. all potential sites are feasible and will provide benefit. We will await the full Feasibility Study to assess whether or not this is practicable and ecologically achievable.</p>
p8/section 3	The Applicant commits to the measure being implemented 2 years prior to the operation of the wind farm.

Page/para	Comment
	<p>Subject to detailed assessment of the promised Feasibility Study, two years <u>may</u> be sufficient to determine whether or not the eradication element of the compensation scheme has been successful.</p> <p>However, two years is wholly inadequate in terms of colonisation and successful breeding by the (yet to be agreed) population of guillemots and razorbills. Auks do not generally breed until their sixth year. Therefore, further discussion is required on what an appropriate lead in time will need to be in respect of achieving the compensation objectives. Eradication per se is only the first step. Colonisation and sustained, successful breeding (to objectives and criteria yet to be agreed) is the more relevant measure of success.</p>
pp9-10/para 4.2.1.1	<p>We consider it is critical that full Feasibility Study and associated information is provided to the Examination as soon as practicable to enable the Examining Authority and Interested Parties to assess it. This should not be left to whether the Applicant deems it “necessary” as stated here.</p>
p11/para 5.1.1.1 and 5.1.3.6	<p>This refers to the production of a Predator Eradication Implementation Study. The Examination Deliverable Summary update (REP2-037) refers to this being an “update” document.</p> <p>The RSPB is concerned that this will not equate to the full Feasibility Study (including biosecurity and emergency response plans) required. We request clarification on the content of the “implementation study”.</p> <p>Without provision of a full Feasibility Study and associated implementation plans it is not possible to assess the Applicant’s island restoration proposals with any confidence.</p>
p15/para 5.1.4.4	<p>We consider the Applicant’s claim of a “high degree of confidence that [predator eradication] will be achievable and deliverable at the scale required” is wholly premature in the absence of the detailed Feasibility Study and associated implementation plans described in the RSPB’s Written Representation (REP2-089) and associated Annex C (REP2-093).</p> <p>In the absence of that detailed assessment work, it is not possible to state now with any confidence what is or is not achievable and deliverable at any of the sites being considered and certainly in respect of any benefit to either guillemot or razorbill.</p>
p17/para 6.2.17	<p>As noted above in respect of offshore and onshore nesting structures, the compensation (and therefore any associated monitoring) will need to be in place beyond the operational lifetime of the wind farm (see paragraphs 5.28-5.30 of the RSPB’s REP2-089 point on the lifetime of the compensation measures).</p>
p17/para 6.3.1.1	<p>The reasons given here for the need for adaptive management measures completely reinforce the RSPB’s argument in favour of a full, detailed Feasibility Study to be presented to the examination as soon as practicable so that the biosecurity (and other) risks can be subject to detailed scrutiny now in order to inform the Examining Authority and the Secretary of State.</p>
p19/para 7.3.2.1	<p>The RSPB considers the terms of the draft MoUs should be made available to the examination as part of the Feasibility Study.</p> <p>We are concerned that the wording of this paragraph strongly suggests that much of the important, practical detail on how the island restoration</p>

Page/para	Comment
	<p>scheme is proposed to be carried out is to be delayed until after the end of the examination.</p> <p>Therefore, we would welcome clarification from the Applicant on what information is to be provided at Deadline 5.</p>

## Comments on other derogation documents

### *REP1-061: G1.33: Predator Eradication Island Suitability Assessment: Bailiwick of Guernsey*

- 3.5. Table 4 below sets out the RSPB’s comments on the Applicant’s Island Suitability Assessment document (REP1-061). These comments must be considered provisional pending submission of a full Feasibility Study by the Applicant for Deadline 5. There are several aspects of the Suitability Assessment that raise concerns which we hope will be addressed and/or clarified in the full Feasibility Study. At present, it is unclear which islands are actually being suggested for an eradication programme and how these will be grouped in to defendable units e.g. tackle all islands within swimming range of each other to promote a sustainable eradication.
- 3.6. As we set out below, some key concerns arising from this initial report include:
- Incomplete survey coverage of the named islands and confusion as to how the methodology has been applied, along with apparent flaws/inconsistencies in the methodology. This needs to be improved as part of the Feasibility Study promised for Deadline 5;
  - General lack of clearly presented historic colony count information for each island to provide as complete a picture as possible on historic and current breeding by guillemot and razorbill on each island. This would help provide a stronger evidence base and should help guide island selection;
  - Failure to clarify how the island of Jethou, Herm is being dealt with given the risk of invasion from this island.

**Table 4: RSPB comments on the Applicant’s Island Suitability Assessment document (REP1-061)**

Page/para	Comment
p8/para 1.1.1.11 and p10/paras 3.2.2.2-3.2.2.3	<p>It is stated that the document provides a “preliminary well-informed estimate of nesting space” (para 1.1.1.11).</p> <p>However, the following key gaps are then noted later in the document:</p> <ul style="list-style-type: none"> <li>- 4 of the 7 sites on Guernsey were not visited (para 3.2.2.2); and</li> <li>- No sites on Alderney were visited (para 3.2.2.3)</li> </ul>
p9/para 2.1.1.2	<p>We would refer the Applicant to a more recent, up to date reference in respect of recorded guillemot nesting densities. This noted densities greater than 70 nest sites/m<sup>2</sup>.</p> <p>Birkhead, T (2010) Great auk islands. A field biologist in the Arctic. T. &amp; A.D. Poyser.</p>



Page/para	Comment
p9/para 2.1.1.5	Guillemot nesting under boulders and in cavities are not likely to be related to high predation pressure from rats because the rats would easily access those areas (and probably more so than their preferred nesting sites).
p9/para 3.1.1.1	<p>The RSPB notes that the island of Jethou (Herm) has been omitted following this desk study without any further explanation, even though it is subsequently listed in the preliminary site visits in para 3.2.2.1.</p> <p>It is important for the Applicant to clarify the reasons why Jethou has been omitted.</p> <p>Notwithstanding the reasons for omitting Jethou, any eradication programme will still need to include this island to secure the Humps and Herm from risk of invasion.</p>
pp13-18/sections 3.3 (Potential nesting space following eradication) and 3.3.2 (Methodology)	<p>We have the following concerns with the methodology as set out here.</p> <p><u>Estimate of nest site availability</u></p> <p>The Applicant has acknowledged that the island suitability assessment is incomplete due to the lack of coverage of various islands during the consultants' site visits.</p> <p>Para 3.3.1.1 states that full photographic coverage was available for 4 islands: one by the consultants, and three reliant on information provided by the Alderney Wildlife Trust.</p> <p>Therefore, we are left with an island suitability assessment that is:</p> <ul style="list-style-type: none"> <li>- Substantially incomplete in its coverage of the list of potential islands;</li> <li>- Omits Jethou without explanation.</li> </ul> <p>In respect of the islands that were covered, methodology point (13) creates confusion. It states that the preliminary estimate of the potential number of pairs (from step (12)) was:</p> <p>“multiplied by two, on the crude assumption that the remaining areas of the island which are not photographed provide the same amount of nesting habitat as that estimated [in step (12)]”.</p> <p>We have a number of concerns with this part of the methodology:</p> <ul style="list-style-type: none"> <li>- If the photographic record was complete for each island (para 3.3.1.1), why is there any need to apply a multiplication factor? This suggests the stated full coverage is incorrect. A detailed explanation of the coverage of each island should be provided.</li> <li>- Applying a multiplier of 2 does not make sense as islands are unlikely to be 2-sided.</li> </ul> <p>The following improvements should be made:</p> <ul style="list-style-type: none"> <li>- Secure visits to each island;</li> <li>- Ideally photograph the island completely. If this is not possible, estimate the proportion of the island photographed to be used in appropriate scaling estimates.</li> </ul> <p><u>Habitat differentiation</u></p> <p>The methodology should describe how the difference between “ledges” and “platforms” has been determined from the use of photographs.</p>

Page/para	Comment
	<p><u>Accessibility by rats</u> The methodology (step 12) assumes that all of the cliff ledges are accessible or would be accessed by rats. If they are not accessible to rats that were present on that island then eradication would not provide any benefit.</p> <p>Therefore, it is essential that the Applicant clarifies how they will determine whether or not cliff ledges are or are not accessible by rats.</p>
p23/para 3.4.12.2	We would recommend that a further check with the Guernsey Government is made in respect of the seabird survey data for The Humps. It is possible that all of the islets have been surveyed with only those listed having breeding razorbill and/or guillemot present.
p29/para 5.1.1.1	<p>Bullet point 2 refers to “collecting evidence of predation pressures such as egg caches and gnawed carcasses”.</p> <p>The Applicant does not set out how it would distinguish between predation or scavenging behaviour. This is a critical weakness which needs to be addressed otherwise it could lead to false conclusions on whether predation is or is not a problem.</p>

*REP1-071: - G1.50 Compensation measures for Flamborough and Filey Coast (FFC) Special Protection Area (SPA): Derogation and Compensation Update Position Statement Revision: 01*

- 3.7. Table 5 below sets out the RSPB’s comments on the Applicant’s Updated Position Statement on Derogation and Compensation (REP1-071).

**Table 5: RSPB comments on the Applicant’s Updated Position Statement on Derogation and Compensation (REP1-071)**

Page/para	Comment
p10/para 4.1.1.6	<p>The Applicant states that it will update its EIA and HRA Annexes supporting the consultation on compensation measures for the end of the examination.</p> <p>The RSPB considers this underlines the lack of site-specific detail available for each of the compensation measures proposed by the Applicant such that the proposed update will only be made available for the end of the examination. This will make it extremely difficult for any Interested Party to assess the updated information and advise the Examining Authority accordingly.</p> <p>It risks measures proceeding that have not been adequately scrutinised and which may give rise to unforeseen impacts on sensitive environmental receptors and therefore unsuitable as compensation locations.</p>
pp18-19/section 7	<p>The RSPB welcomes the update on the Applicant’s participation in discussions on a strategic approach to compensation.</p> <p>However, we consider the Applicant overstates things when it claims the described strategic approach “<u>supports</u> the Application in providing</p>

Page/para	Comment
	<p>reassurance that any residual questions on evidence and sustainability are being addressed at industry scale..." (emphasis added).</p> <p>While the discussions referred to are to be welcomed they are, by their very nature, at a policy level at this stage with no tangible, practical output of direct relevance to the current application.</p> <p>Similarly, without further and detailed information on mechanisms etc, we would suggest no weight is currently placed on the reference to collaboration with other offshore wind farm developers.</p>