



Hornsea Project Four

Ornithology Technical Panel Meeting 16 MRSea Baseline Minutes

Deadline 5, Date: 20 June 2022

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Revision Summary

<i>Rev</i>	<i>Date</i>	<i>Prepared by</i>	<i>Checked by</i>	<i>Approved by</i>
01	20 June 2022	GoBe Consultants Ltd	GoBe Consultants Ltd	Julian Carolan

Revision Change Log

<i>Rev</i>	<i>Page</i>	<i>Section</i>	<i>Description</i>
01	NA	NA	Submitted at Deadline 5

Minutes of Meeting

Meeting	Hornsea Four Offshore Ornithology MRSea Technical Panel Meeting	
Meeting Date	25/05/2022	
Place	Teleconference	
Participants	Emma Brown (EB) – Natural England Emma John (EJ) – Natural England Martin Kerby (MK) – Natural England Andrew Harwood (AH) – Natural England Julian Carolan (JC) – Ørsted Sarah Randall (SR) - Ørsted Jamie Baldwin (JB) - Ørsted Sean Sweeney (SS) – APEM Ltd Matt Boa (MB) – APEM Ltd Tim Kasoar (TK) – APEM Ltd Lauren Kirkland (LK) – GoBe Consultants	25 May 2022 Our ref. HOW04/MRSea_v2 agree
Absent		
Copy		
Next meeting	TBC	

Examination Timetable

JC gave an overview of the Examination Timetable and noted the introduction of Deadline 4a (25 May 2022) as a result of the Rule 17 letter that was issued on 19 May 2022. JC noted the Hornsea Four submissions at Deadline 3 of *MRSea Baseline Sensitivity Report (Gannet) (REP3-029)*, and at Deadline 4 of *Comparative Gannet Assessment (REP4-047)*, with comments on the MRSea Baseline Sensitivity received from Natural England within *Appendix B4: Comments on G2.10 MRSea Baseline Sensitivity Report (Gannet) (REP4-055)* at Deadline 4.

MRSea_v2 Gannet

JC noted that the two MRSea documents (REP3-029 & REP4-047) concluded that the difference between the predicted impacts for the two versions of MRSea equates to a reduction of less than a bird per annum for collision risk and less than two birds per annum for displacement at the EIA level, and less than one bird at a HRA level, not making a material difference to the Applicant's assessments and therefore no amendments considered necessary to the conclusions of predicted impacts on gannet from Hornsea Four dependent upon the application of MRSea_v2. JC highlighted that it is the Applicant's position that stakeholders and the ExA can therefore take comfort that the DCO Application documents for ornithology present a robust and suitably precautionary assessment. JC noted that Natural England's position is slightly different, as set out in REP4-055, with options presented for a way forward.

Rule 17

Within the Rule 17 letter, JC noted that the ExA requested the Applicant to indicate its broad intention in relation to the Natural England advice (REP4-055) that a revised baseline and assessment should now be submitted and if any further work in this respect is to be carried

out, whether it would be completed for submission at Deadline 5. JC confirmed that a response to the Rule 17 letter was submitted to the ExA today (25 May 2022).

Proposed Way Forward

JC confirmed that MRSea_v2 has now been completed for all key species, and that the best-fit model, following Natural England guidance and as agreed with CREEM, provides the following numbers of monthly outputs from the 24 months of input data: gannet, kittiwake and razorbill – 12 months; guillemot – 24 months. SS added that APEM have worked closely with CREEM to run the modelling in the prescribed way.

AH queried how APEM got on trying to incorporate the 24 months of data, particularly in relation to kittiwake and razorbill. SS noted that there were limited numbers of kittiwake and razorbill recorded for some months so it caused a problem with the model and only provided 12 months of outputs (similar to gannet). SS highlighted that the guillemot model ran well with 24 months of outputs due to the larger numbers recorded across all months.

JC noted that within Natural England's REP4-055 response, a number of options were recommended to progress the baseline discussions:

1. *"The Applicant should provide design-based estimates for all species where model based analyses have been used in the current assessment."*

JC confirmed that the Applicant will provide design-based abundance estimates where model-based (MRSea_v2) analyses have been used in the updated MRSea_v2 assessments. MK welcomed this approach.

2. *"For gannet, revise the modelling to include 'survey' or 'year/month' as the only possible temporal variables. Alternatively, if this is not possible in time to provide updated assessments at Deadline 5, we would recommend the use of the MRSea_v2 estimates for the collision risk assessment and design-based estimates for displacement."*

JC highlighted that following the suggested model variables results in the model failing to run. JC confirmed that the Applicant will use MRSea_v2 estimates for the collision risk assessment and design-based estimates for displacement.

3. *"In order of priority, for kittiwake, guillemot and razorbill, provide updated model-based estimates using the revised approach set out in 2."*

JC noted that 'survey' or 'year/month' is not possible as the model will not run and produce any meaningful outputs with month/survey set as temporal variability or other alternatives tested.

JC confirmed that for kittiwake (24 input months resulted in 24 output months), the Applicant will use MRSea_v2 estimates for the collision risk assessment.

4. *"For completeness, use design-based estimates for all other species where the MRSea_v1 model-based estimates have been used."*

JC confirmed that the Applicant will use design-based abundances for fulmar, great black-backed gull, puffin and proposes using **MRSea_V2 data for collision risk** and **design-based abundance estimates for displacement analysis** for 12 months data (gannet and razorbill), using **MRSea_V2 data for displacement analysis** for 24 months of data (guillemot)

JC noted that Applicant considers that they are doing as Natural England have requested as far as the model allows. JC presented the following table to summarise the proposed approach for key species.

	CRM	Displacement	Design based provided
Kittiwake	MRSea_v2		Yes
Gannet	MRSea_v2	Design-based	Yes
Guillemot		MRSea_v2	Yes
Razorbill		Design-based	Yes

JC asked whether Natural England agrees with this final approach to assessment of the key species for Hornsea Four? MK agreed that the proposed approach fits with Natural England's Deadline 4 advice so they could agree to this approach.

JC presented the following table to summarise the proposed approach for other species. JC noted that the Applicant intends to revert to design-based abundance estimates for fulmar, great black-backed gull and puffin, with no further species required for remodelling in MRSea_v2 or through design-based estimates for assessments as all other species relied on design-based abundances within the DCO application.

	CRM	Displacement	Design based provided
Fulmar			Yes
GBB Gull	Design-based		Yes
Puffin		Design-based	Yes

JC asked whether Natural England agrees with this final approach to assessment of the other species for Hornsea Four? MK queried whether this meant there would be no change to what was presented within the DCO Application? JC confirmed that this was the case. MK agreed with the proposed approach for other species.

Deadline 5 Progress

JC confirmed that Hornsea Four would be submitting the following documents at Deadline 5 (20 June):

- MRSea reanalysis for gannet, kittiwake, guillemot and razorbill following CREEM and Natural England's advice on baseline;
- Design-based abundance estimates to be tabulated and provided in Natural England's summary sheet for the seven species;
- Revised Baseline Annex (tabulated) to be produced for the seven species presenting, modelling methods, MRSea_V2 results and design-based abundance; and
- EIA and HRA Assessment Annex (tabulated).

MK asked if any of those Deadline 5 documents could be submitted to Natural England to allow time to make agreements before Deadline 5 submission? AH added that it would be useful to see the model for kittiwake and guillemot. AH noted that a summary, similar to what was presented in the appendices for gannet would be helpful. SS confirmed the GIS figures wouldn't be available prior to Deadline 5 but Hornsea Four could two additional annexes (similar to what was presented for gannet) with the screenshots and data (including means and confidence intervals) could be provided.

ACTION: Hornsea Four to confirm via email what documentation can be provided to Natural England in advance to Deadline 5 and the timescale for this. MK stated upon review of these minutes that given a fortnight between d5 and d5a, any finalised material that can be provided to NE to start reviewing could make a significant difference to what we can respond to at d5a.

Other Ornithology Queries

Natural England's preferred apportionment rate for auk non-breeding seasons

AH noted that Natural England have been working on guidance on the assessment for guillemot in relation to the use of weighted seasonal mean peak approach for abundance estimates that go into the displacement matrices. EJ confirmed that the guidance would be available on Monday 30 May (if possible). MB welcomed this and confirmed that this would be taken into account for the Hornsea Four Deadline 5 submission if time allows.

ACTION: Natural England to provide Hornsea Four with guillemot apportionment guidance as soon as it is available (Monday 30 May). Post-meeting note: Advice provided 27/05/2022

Inclusion of overseas birds in Natural England's annual BDMPS values

MB asked if Natural England could comment on the Hornsea Four approach to recalculating the annual BDMPS values in relation to overseas birds (as set out in the baseline sensitivity report - REP3-029). AH confirmed that would be taken away and considered.

ACTION: Natural England to provide feedback on their proposed approach to recalculating the annual BDMPS values in relation to overseas birds.

Natural England's preferred method for inclusion of macro avoidance in collision risk modelling for gannet

MB asked if there was any update on the Natural England preferred method for inclusion of macro avoidance in collision risk modelling for gannet? AH confirmed that a final draft of the project report is due at the end of May at which point it will be reviewed and incorporated into advice, noting that it will result in significant reductions of the density of birds going into the CRM and will be implications for cumulative assessments. AH highlighted that it should be a straight-forward correction. JC queried whether this would result in Natural England being able to conclude no AEol for gannet for Hornsea Four. MK confirmed that this was a logical conclusion but Natural England won't be able to confirm until the numbers have been run and the guidance has been reviewed in detail.

SS noted that for another project, Natural England have advised applying a 70% reduction and presenting this in addition to the previous approach. SS queried whether this approach could be adopted for Hornsea Four at Deadline 5? MK confirmed that if this was presented as an additional scenario then that would be appropriate. SR noted that all compensation documents are currently being updated to separate gannet so there would be lots of documents related to gannet at Deadline 5 for review.

ACTION: Natural England to provide an update on gannet macro-avoidance at the next Hornsea Four catch up.

Discussion on displacement and mortality rates for gannet following the Applicant's literature review and Natural England's own workstreams on the matter

MB queried whether there was any change in Natural England's stance on displacement and mortality rates for gannet? AH confirmed that Natural England advise using a range of 60-80% displacement to encompass the variability, noting that the rates in the literature review are based on different methodologies, different scales etc. AH highlighted that the literature review had been useful and had fed into macro avoidance project. AH noted that Natural England need to do a wider study on this raw data to come up with a common approach. MB confirmed that the literature review did find some common approaches so Natural England should reach out to APEM at that point.

Calculation of Standard deviation around density estimates vs CIs for collision risk modelling

MB queried if the issue was with the use of standard deviation (SD) itself or Natural England were requesting clarification of the reason why SD was used? AH confirmed that the use of model based estimates should minimise this issue as data is pooled for each month with associated confidence interval (CI) and should have SD from that sample as well and that use of monthly SDs calculated from MRSea is appropriate for running the range of scenarios for the CRM. TK confirmed that was a correct assumption. AH noted that it was understood that the method of generating SDs was agreed with Hornsea Four and former Natural England colleagues. AH stated that it should be possible to derive the mean and SD by pooling the bootstrapped estimates from the model and/or design based approach (for each relevant month) and use that as distribution for that month to generate a mean and SD. TK confirmed that this approach would be possible.

AH asked how the apportioned and identified species were added to these estimates – was it adding on additional numbers of birds based on a ratio and then adjusting the densities accordingly? MB confirmed that this was correct.

AOB

Indirect Effects: Ornithology and Forage Fish Report

JC confirmed that work is ongoing on a Deadline 5 submission looking an indirect effects in relation to the Flamborough Front, ornithology and forage fish.

Hornsea Four request for additional Deadline 5a

JC confirmed that Hornsea Four have requested an additional deadline (5a) for the week commencing 04 or 11 July 2022, noting that Deadline 6 is 27 July 2022 with less than 1 month before end of Examination, and importantly after the hearings on week commencing 18 July 2022. JC stated that with a Deadline 5a, responses to Deadline 5 could then inform the need for, and content of, the hearings and enable confirmation of resolution of issues prior to the last month of Examination

MK confirmed the advantage of an additional deadline but noted that it would be challenging from a resourcing perspective. EB suggested that the SLA could be used to provide advice to Hornsea Four before the hearings if ExA don't want to impose the new deadline. JB confirmed that the SLA could be used to support Natural England, either with the new deadline or without. JC confirmed that ExA were likely to make a decision by the end of this week (27 May 2022).

ACTION: JC to send Natural England a list of Deadline 5 submissions (as it stands at present and subject to change). **Complete**

Summary of Actions

A summary of the actions and associated responsibilities are provided in the table below.

Action	Responsible
Hornsea Four to confirm via email what documentation can be provided to Natural England in advance to Deadline 5 and the timescale for this. Complete	Hornsea Four
Natural England to provide Hornsea Four with guillemot apportionment guidance as soon as it is available (Monday 30 May).	Natural England
Natural England to provide feedback on their proposed approach to recalculating the annual BDMPS values in relation to overseas birds.	Natural England
Natural England to provide an update on gannet macro-avoidance at the next Hornsea Four catch up.	Natural England
JC to send Natural England a list of Deadline 5 submissions (as it stands at present and subject to change). Complete	JC