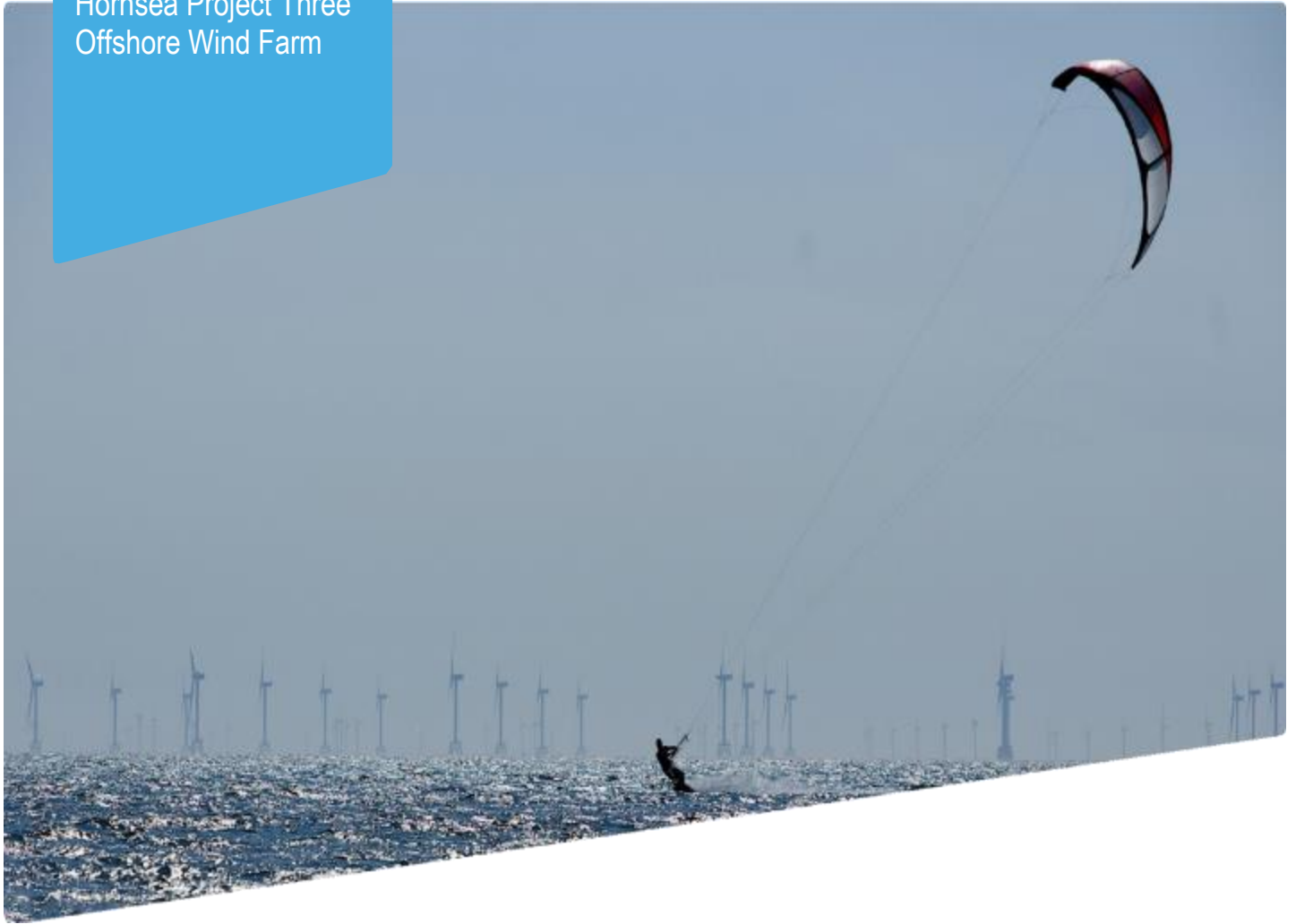


Hornsea Project Three
Offshore Wind Farm



Hornsea Project Three Offshore Wind Farm

Appendix 3 to Deadline I submission – Age class data Clarification Note

Date: 7th November 2018

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1. Age class data

- 1.1 In December 2017, as part of Natural England's Discretionary Advice Service, Natural England requested the following clarifications / additional information in relation to the age class data used to support the calculation of apportioning values for the breeding season for gannet, kittiwake and puffin in the draft Offshore Ornithology Environmental Statement for Hornsea Three. Specifically, these were:
- *"Natural England seeks clarification as to whether the proportions presented of adults and immatures (e.g. Tables 1.4, 1.5 & 1.7 of Annex 3) are restricted to the breeding season.";*
 - *"...we [Natural England] request that age proportions are either presented per month, or as per the two breeding seasons in Table 2 above."*
 - *"We [Natural England] request that data regarding the proportion of 'unaged' and juvenile birds are presented."*
- 1.2 Clarification in relation to the first of these points was added to the Report to Inform Appropriate Assessment (RIAA) Annex 3: Phenology, connectivity and apportioning for features of FFC pSPA (Document 5.2.3) and discussion in relation to the proportion of birds that were unaged during both boat and aerial surveys was provided (see paragraphs 1.4.2.8, 1.4.2.9 and 1.4.3.10). Monthly age proportion data was not presented as part of the application.
- 1.3 As part of their relevant representation Natural England requested the following:
- *"...age class data month by month for the full breeding seasons as defined by Natural England..."*
 - *"...proportions of unaged birds are specifically presented (month by month) for each relevant data set for both boat based and (where appropriate) aerial survey data..."*
- 1.4 The Applicant presented data relating to the proportion of birds that were unaged during boat-based and aerial surveys as part of RIAA Annex 3: Phenology, connectivity and apportioning for features of FFC pSPA (Document 5.2.3) in line with Natural England's previous request. This report now presents these data from boat-based surveys on a monthly basis following Natural England's updated request. Age class data from aerial surveys were not used to apportion impacts to relevant bird populations and therefore these data are not presented in this report.
- 1.5 The Applicant does not agree with the seasonal definitions advocated by Natural England which are taken from Furness (2015). These definitions are not colony-specific and are different to those previously advised by Natural England for use at other projects in the former Hornsea Zone (see Natural England's submissions to Deadline 3 and Deadline 5 during the Hornsea Project Two examination). In contrast, the seasons defined by the Applicant utilise survey data collected at Hornsea Three and other offshore wind farms to define the movements of birds through the area where impacts will occur. However, in order to respond to Natural England's request, age class data is presented in this report using the following seasons which are based on the UK breeding seasons for each species as defined in Furness (2015):

- Gannet = March to September;
- Kittiwake = March to August; and
- Puffin = April to early August.

- 1.6 Table 1.1, Table 1.2 and Table 1.3 present breeding season age class data for gannet, kittiwake and puffin respectively. These data were collected as part of boat-based surveys undertaken between March 2010 and February 2013 across the former Hornsea Zone.
- 1.7 The data presented for gannet and kittiwake are from transects that overlap with Hornsea Three as these were deemed to provide the best representation of age structure for use in the assessments conducted for Hornsea Three (see RIAA Annex 3: Phenology, connectivity and apportioning for features of FFC pSPA (Document 5.2.3)). For puffin, all data collected across the former Hornsea Zone is included in order to provide a dataset with an adequate sample size (see RIAA Annex 3: Phenology, connectivity and apportioning for features of FFC pSPA (Document 5.2.3)). A full description of the survey methodology, including the transects covered is presented in SmartWind (2015) and summarised in Hornsea Three Volume 5, Annex 5.1 - Baseline Characterisation Report (Document 6.5.5.1).
- 1.8 It should be noted that the apportioning approach incorporating age class data applied by the Applicant has previously been accepted by Natural England (see Appendix Q of the Applicant's submission at Deadline 7 and Natural England's submission at Deadline 5 during the examination of Hornsea Project Two).

Gannet

Table 1.1: Monthly age class data for gannet collected as part of boat-based surveys across the former Hornsea Zone. Data presented are from transects overlapping with Hornsea Three

Survey	Adult	Immature	Juvenile	Unaged
March 2010	12	0	0	29
April 2010	16	4	0	0
May 2010	1	7	0	3
June 2010	0	8	0	31
July 2010	3	10	0	6
August 2010	31	59	0	158
September 2010	6	19	4	7
March 2011	50	1	0	11
April 2011	6	5	0	17
May 2011	3	7	0	7
June 2011	19	15	0	72
July 2011	27	36	0	21
August 2011	14	32	4	46
September 2011	No data			
March 2012	14	2	0	5
April 2012	8	2	0	15

Survey	Adult	Immature	Juvenile	Unaged
May 2012	2	4	0	0
June 2012	24	22	0	72
July 2012	18	37	0	169
August 2012	41	62	0	177
September 2012	No data			

Kittiwake

Table 1.2: Monthly age class data for kittiwake collected as part of boat-based surveys across the former Hornsea Zone. Data presented are from transects overlapping with Hornsea Three

Survey	Adult	Immature	Juvenile	Unaged
March 2010	6	4	0	26
April 2010	11	19	0	86
May 2010	2	0	8	6
June 2010	22	22	0	75
July 2010	3	15	0	45
August 2010	49	7	44	347
March 2011	63	23	0	120
April 2011	8	27	0	53
May 2011	16	24	0	27
June 2011	105	40	0	139
July 2011	130	6	10	27
August 2011	45	0	18	224
March 2012	95	7	0	55
April 2012	147	31	0	177
May 2012	31	7	0	18
June 2012	160	16	0	453

Survey	Adult	Immature	Juvenile	Unaged
July 2012	198	16	1	1093
August 2012	139	8	39	679

Puffin

Table 1.3: Monthly age class data for puffin collected as part of boat-based surveys across the former Hornsea Zone. Data presented are from all transects surveyed in the former Hornsea Zone.

Survey	Adult	Immature	Juvenile	Unaged
April 2010	30	11	0	195
May 2010	25	3	0	144
June 2010	1	30	0	357
July 2010	0	10	0	7
August 2010	1	4	11	54
April 2011	24	55	0	138
May 2011	6	4	0	48
June 2011	89	13	0	105
July 2011	31	40	30	209
August 2011	906	111	320	966
April 2012	6	37	0	259
May 2012	10	21	0	302
June 2012	27	37	0	95
July 2012	11	21	75	313
August 2012	24	23	170	960

References

Furness (2015). Non-breeding season populations of seabirds in UK waters. [Online]. Available at: <http://publications.naturalengland.org.uk/publication/6427568802627584> (Accessed May 2015).

SmartWind (2015). *Hornsea Project Two. Environmental Statement Volume 5 – Offshore Annexes. Annex 5.5.1 Ornithology Technical Report*. [Online]. Available at: <https://infrastructure.planninginspectorate.gov.uk/projects/yorkshire-and-the-humber/hornsea-offshore-wind-farm-zone-4-project-two/?ipcsection=docs> (Accessed September 2018).