East Anglia ONE North Offshore Windfarm

Appendix 12.1

Baseline Offshore Ornithology Technical Report

Preliminary Environmental Information
Volume 3
EA1N-DEVWF-ENV-REP-IBR-000281_001

East Anglia ONE North Offshore Wind Farm

Appendix 12.1

Ornithology Technical Appendix

Prepared by:	Mark Trinder
Authorised by:	Bob Furness
Date:	05th September 2018
Tel:	0141 342 5404
Email:	mark.trinder@macarthurgreen.com
Web:	www.macarthurgreen.com
Address:	93 South Woodside Road | Glasgow | G20 6NT

Document Quality Record.

Version	Status	Person Responsible	Date
1	Draft	Mark Trinder	03/09/2018
2	Reviewed	Bob Furness	05/09/2018
3	Updated		
3.1	Updated		
4	Final		
5	Update from PEIR		

CONTENTS

1 INTRODUCTION

1. The proposed East Anglia ONE North project will comprise offshore wind turbines, offshore converter station, inter-array cables, interconnector cables and offshore and onshore export cables taking power to an onshore converter station. The East Anglia ONE North site covers an area of approximately 209km^2 located approximately 31km offshore at the nearest point to the coast (Figure 12.1).

2. The offshore ornithological assessment is informed using baseline site characterisation data collected by digital aerial survey methods, conducted by APEM. Further details of the survey methods, analysis of the data collected and the results obtained are provided in relevant sections of this technical report.

3. The aim of this report is to present full details of the baseline information from the site-specific surveys which have been used to undertake the offshore ornithology Environmental Impact Assessment (EIA) and Habitats Regulations Assessment (HRA).

4. Sections on aerial survey methodology (section 3) and image analysis (section 4.1) were supplied by the aerial survey contractor (APEM).

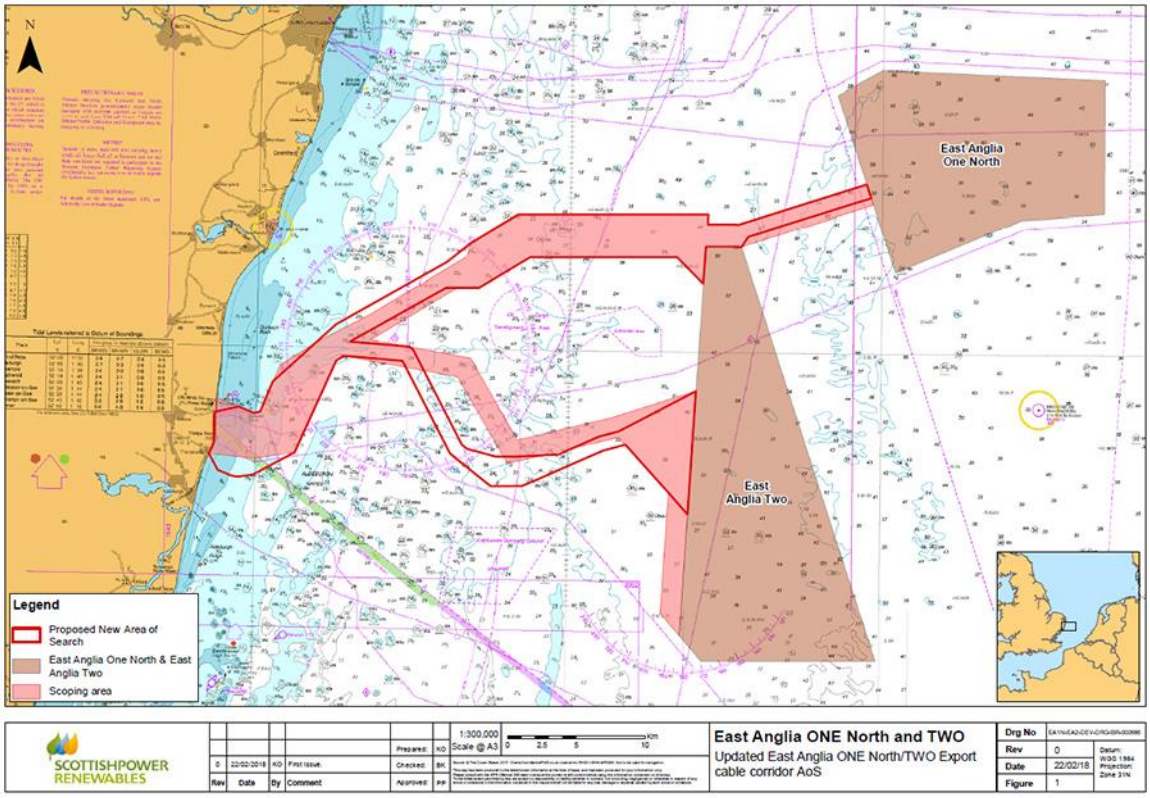


Figure 12.1. Location of the proposed East Anglia ONE North and East Anglia TWO windfarms site boundary and 4km buffer that the aerial surveys were conducted over, within the East Anglia Zone.

2 DATA SOURCES

5. APEM has undertaken monthly aerial surveys across the wind farm as detailed in Table 1. Surveys began in September 2016 and will be completed in August 2018 (24 months in total). For this assessment, data up to May 2018 (21 surveys) were available, with the remaining three months to be included in the final assessment.

Table 1. Months when aerial surveys were conducted at East Anglia ONE North. Note that only data up to the May 2018 survey were available for the current assessment. The remaining three months (indicated in italics) will be included in the final submission.

Month	2016	2017	2018
Jan		X	X
Feb		X	X
Mar		X	X
Apr		X	X
May		X	X
Jun		X	*(X)*
Jul		X	*(X)*
Aug		X	*(X)*
Sep	X	X	
Oct	X	X	
Nov	X	X	
Dec	X	X	

3 SURVEY METHODS

6. Aerial surveys were undertaken using either Vulcan Air P68 Observer or Britten-Norman Islander twin engine survey aircraft. These surveys involved digital still image collection using a GPS-linked bespoke flight management system.

7. Survey of The East Anglia ONE North site comprised High Resolution still images taken on a grid system with a resolution of 2 cm Ground Sampling Distance (GSD) to represent a high intensity sampling regime. The Survey Area incorporates the proposed East Anglia ONE North footprint plus a 4 km buffer.

8. Survey data comprised species, count (number of individual birds), sex (where possible), age (where possible), flight height, flight direction, position (longitude and latitude), date and time stamp of image collection.

9. Where identification to species level was not possible, reference was made to aerial data collected within the Survey Area where species were identified in order to apportion records at group level to species level (this process of apportionment is described in a later section).

3.1 Species Identification

10. There are occasions when it is not possible to identify a particular bird on the aerial survey image to species level and the image is therefore assigned to a higher level group e.g. 'small

gulls' or 'black-backed gulls'. Methods for assigning these unidentified birds to appropriate species categories are discussed in the data analysis section.

4 DATA ANALYSIS

4.1 Image Analysis

11. The images were analysed to enumerate birds to species level, where possible. Internal QA was carried out by APEM on each survey. Images were assessed in batches with a different staff member responsible for each batch. Each image containing birds and / or marine mammals was reviewed and checked by APEM's dedicated QA Manager, ensuring that 100% of birds recorded were subject to internal QA to ensure the species identification is correct. Images containing no birds and / or marine mammals were removed and kept separately for further internal QA. Of these 'blank' images, 10% were randomly selected for internal QA by a different staff member to that which initially analysed the imagery. If there was less than 90% agreement, the entire batch would be re-analysed as part of the QA procedures. Following internal QA, external QA was carried out by the British Trust for Ornithology (BTO), who provide an independent third party assessment of 10% of the birds recorded in each survey. Birds identified from the images were 'snagged' (i.e. located within the images) and categorised normally to species, but sometimes to standard JNCC categories.

4.2 Bird Abundance and Density Estimates

12. Raw data were supplied as aircraft GPS track logs, containing details for each image location and observation logs, containing details of all objects (seabird, marine mammal, vessel, etc.) recorded. The two datasets were merged using the image ID to obtain a single dataset. All non-bird records were removed prior to analysis. Analysis was conducted for each survey separately. Bird locations were assigned to the following sub-zones; wind farm, wind farm plus 2 km buffer and wind farm plus 4km buffer (note that each buffer width also included the wind farm data).

13. Density (birds/km^2) and abundance were estimated using design-based methods, with the density estimated for the surveyed area (i.e. the sum of all the image footprints) and multiplied up to the total area to obtain an abundance estimate. This makes the assumption that the surveyed sample is representative of the unsurveyed region, thus the design of survey is important (hence 'design-based').

14. Confidence intervals for the density estimates of each species were obtained using a bootstrap resampling method. For each survey, images were drawn randomly (with replacement) from the dataset until the same number of images as the original sample was obtained (e.g. if the survey for a particular month comprised 350 images, each resampled dataset also contained 350 images, drawn with replacement from the original dataset). This process was repeated 1,000 times and the density and abundance calculated for each resampled dataset. The upper and lower 95% confidence limits were calculated across the 1,000 samples to estimate sampling variation. The width of the confidence interval obtained using this method reflects the degree of aggregation in the species, with highly aggregated

species estimated with lower precision (i.e. species observed frequently as individuals will have a small range of estimated densities, while species recorded in occasional large groups will have a wide range of estimated densities).

15. The bootstrap resampled values were also used to obtain representative density and abundance values for each calendar month. This was achieved by combining the bootstrap samples for each month (e.g. 1,000 samples for the first January survey and 1,000 samples for the second January survey, etc.) from which the overall median and 95% confidence intervals for that month were extracted. This ensured that the values for each month were derived from all of the data available. In addition to the overall monthly medians (and confidence intervals) calculated in this manner, a mean value for each month was also calculated as the average of the individual survey estimates for that month.

16. For the displacement assessment the (typically higher) monthly mean values were used which ensured the assessment was precautionary. For the collision risk assessment the complete bootstrap sample was used for stochastic runs (see section 27) and the median for runs which did not include uncertainty in density. This ensured correspondence between the collision results calculated either with or without the inclusion of uncertainty in seabird density, and that all collision predictions accurately reflected the observed densities.

17. Birds were recorded as either sitting on the sea surface ('sitting') or in flight ('flying'). Analysis was conducted on each subset separately and also combined across both ('all birds'). The combined estimates have been used as the overall densities and abundances required for displacement analysis, while birds in flight have been used for the collision risk modelling.

18. All analysis and data manipulation was conducted using R (R Development Core Team 2012).

4.3 Assignment of unidentified birds to species

19. To avoid underestimating species abundance due to the omission of birds which could not be positively identified to species level, the density of each unidentified bird grouping (e.g. large gulls, small gulls, etc.) was estimated (using the methods described above) and then added proportionately to each member species of that group. The proportions were calculated from the ratios of positively identified birds in that group. This was undertaken on a survey by survey basis, using the ratio from the largest area (i.e. within the 4km buffer) to ensure the largest possible sample size for estimation.

20. The unidentified groups and the species which they comprise are listed in Table 2.

Table 2. Bird species which could be included in relevant unidentified groups. Note that 'Black-backed gulls' were assigned to species before 'Large Gulls'.

Species	Unidentified Group
Red-throated diver	Divers
Black- throated diver	
Great northern diver	

Species	Unidentified Group
Sabine's gull	Small gulls
Kittiwake	
Black-headed gull	
Little gull	
Common gull	
Great black-backed gull	Black-backed gulls
Lesser black-backed gull	
Great black-backed gull	Large gulls
Lesser black-backed gull	
Herring gull	
Common tern	'Commic' Tern
Arctic tern	
Guillemot	Guillemot / Razorbill
Razorbill	

21. For common tern and Arctic tern no species-specific identification is possible (size and plumage features are so close that it is impossible to separate them) and as a result there is no information on which to apportion these two species. They remain grouped in the data as 'commic' tern.

22. Although apportioning of unidentified groups to species provides the best available approach to estimating numbers of each species, this method may introduce biases, for example if one species in a group is easier to identify to species than others in the same general group, then the apportioning may overestimate numbers of the easily identified species and correspondingly underestimate numbers of the less easily identified species. This needs to be considered when assessing densities of species for which a significant proportion of birds had to be assigned to an unidentified group.

4.4 Availability Bias

23. Guillemots and razorbills spend a proportion of their time foraging beneath the water surface and therefore some individuals present in a given area will not be observable in aerial images. Density and abundance estimates need to be adjusted to allow for these unobserved individuals.

24. A fixed species-specific correction factor was applied to the number of each auk species recorded on the sea surface. The values used were those recommended by JNCC in its submission during the examination phase of East Anglia ONE (JNCC 2013), referred to as Method C, which stated that 24% of guillemots and 17% of razorbills are underwater at any time (these percentages do not include birds in flight).

25. Density and abundance for guillemot and razorbill are presented both with and without the application of this method, with the corrected densities being used in the assessment.

4.5 Spatial Distributions

26. Maps of the wind farm sites and bird locations are provided in Appendix 12.1 Annex 7. For species recorded in low numbers these figures plot all the observations (i.e. obtained across all surveys), while more commonly recorded species are combined by season (using the definitions in Furness 2015). Note that for the latter, where months contain overlapping seasons (e.g. breeding and migration) these have been assigned to migration, since for almost all species the wind farms are located beyond foraging range of breeding colonies. The exception to this is lesser black-backed gull for which birds breeding at colonies in East Anglia may be present, so the full breeding season period is more appropriate in order to provide precautionary assessments. The seasons used are detailed in Table 3.

Table 3. Species-specific seasonal definitions and biologically defined minimum population sizes (in brackets) have been taken from Furness (2015).

Species	Breeding	Migration-free breeding	Migration - autumn	Winter	Migration - spring	Non-breeding
Red-throated diver	Mar-Aug	May-Aug	Sep-Nov (13,277)	Dec-Jan (10,177)	Feb-Apr (13,277)	
Black-throated diver*	Apr-Aug	May-Aug				Aug-Apr
Great northern diver	-	-	Sep-Nov	Dec-Feb	Mar-May	Sep-May (200)
Fulmar	Jan-Aug	Apr-Aug	Sep-Oct (957,502)	Nov (568,736	Dec-Mar (957,502)	-
Gannet	Mar-Sep	Apr-Aug	Sep-Nov (456,298)	-	Dec-Mar (248,385)	-
Arctic skua	May-Jul	Jun-Jul	Aug-Oct (6,427)	-	Apr-May (1,227)	-
Great skua	May-Aug	May-Jul	Aug-Oct (19,556)	Nov-Feb (143)	Mar-Apr (8,485)	-
Puffin	Apr-Aug	May-Jun	Jul-Aug	Sep-Feb	Mar-Apr	Mid-Aug-Mar (231,957)
Razorbill	Apr-Jul	Apr-Jul	Aug-Oct (591,874)	Nov-Dec (218,622)	Jan-Mar (591,874)	-
Guillemot	Mar-Jul	Mar-Jun	Jul-Oct	Nov	Dec-Feb	Aug-Feb (1,617,306)
Commic tern**	May-Aug	Jun	Jul-Sep (308,841)	-	Apr-May (308,841)	-
Kittiwake	Mar-Aug	May-Jul	Aug-Dec (829,937)	-	Jan-Apr (627,816)	-
Little gull (Not included in Furness 2015)	Apr-Jul	May-Jul	-	-	-	Aug-Apr
Lesser black-backed gull	Apr-Aug	May-Jul	Aug-Oct (209,007)	Nov-Feb (39,314)	Mar-Apr (197,483)	-
Herring gull	Mar-Aug	May-Jul	Aug-Nov	Dec	Jan-Apr	Sep-Feb (466,511)
Great black-backed gull	Mar-Aug	May-Jul	Aug-Nov	Dec	Jan-Apr	Sep-Mar (91,399)

* Not included in Furness (2015). Natural England (2012) states: Breeding black-throated divers migrate to saltwater habitats from August, returning to their breeding sites from April. Birds are also seen in small numbers on eastward passage through the English Channel in April and May.
** commic tern' is used to include common terns and Arctic terns, as these species are not readily identified to species from the survey data.

4.6 Flight Height

27. Where flying birds were captured in a suitable orientation, their dimensions (body length and wingspan) were estimated. Using these values the height of the bird above the sea surface was estimated by APEM by comparison with the length of museum specimens. However, following a review of their data collection and analysis methods, the aerial survey contractors advised ScottishPower Renewables that the flight height estimates were not reliable.

4.7 Collision Risk Modelling

28. Collision risk modelling (CRM) was conducted using scripted versions (in R) of the Band CRM Options 1 and 2. Following a review of their data collection and analysis methods, the aerial survey contractors advised Scottish Power that the flight height estimates were not sufficiently reliable for use in collision risk modelling. Consequently, and in agreement with Natural England, the collision mortalities used for impact assessment were those calculated using option 2 of the Band model, with flight heights obtained from the BTO generic flight height dataset (Johnston et al. 2014a,b). Option 1 collision estimates have also been calculated and are provided in this technical appendix for information.

29. Natural England advised that uncertainty in seabird density, flight height (derived from the seabird flight height data in Johnston et al. 2014a,b) and avoidance rates should be included in the collision mortality estimates. In addition, it is evident that the values for nocturnal activity used in the Band CRM for most species are a significant over-estimate (e.g. Furness et al. 2018). Therefore, uncertainty in this parameter has also been incorporated for gannet, kittiwake, lesser black-backed gull, great black-backed gull and herring gull.

30. Since uncertainty in the parameters identified above will contribute to the overall uncertainty in collision mortality the most efficient approach for estimating mortality is to run the CRM as a stochastic simulation using different, randomly generated, values for each parameter in each simulation. This permits the uncertainty in all of the parameters to be incorporated in a single set of results which can be summarised as the mean, median and upper and lower 95% confidence range.

31. In order for the stochastic outputs to be validated against their deterministic counterparts (i.e. those which can be obtained using the Band 2012 spreadsheet), the model was also run using single values for each of the parameters, set to the Natural England advised and industry standard values.

32. To undertake the multiple CRM simulations required, the equations set out in the Excel implementation of the Band (2012) model were scripted in R. The first step in running the simulations was to generate the randomised input parameters. The following sections provide technical details for how this was undertaken.

33. For each parameter slightly different approaches for generating the random values are appropriate. Seabird densities were generated during the nonparametric bootstrap resampling process detailed in section 4.2. This process produced 1,000 resamples for each survey. The density estimate for each month used in each iteration of the CRM simulation was drawn at random from all these bootstrap samples for that month (i.e. for each calendar month all the bootstrap resamples were pooled for that month and site, providing 2,000 samples from which to draw). This approach ensured that the seabird densities for each month directly reflected the survey data.

34. Randomised avoidance rates were generated from a beta distribution using the mean and SD values recommended in the SNCB response (JNCC et al. 2014) to Cook et al. (2014). The beta distribution was selected as it is bounded at zero and one (as are avoidance rates) and also produces distributions with realistic peaks and tails (e.g. compared with the 'flat' uniform distribution which generates all values with equal probability). While the truncated normal distribution can also be used with constraints (e.g. 0 and 1) if the mean value is close to one of the boundaries this distribution tends to introduce bias, with the randomised peak shifted away from the boundary. For further discussion of this effect see Trinder (2017).

35. Random values for the proportion of birds at potential collision height (PCH) for use with option 2 of the CRM were also generated from the beta distribution. The BTO dataset (Johnston et al. 2014a,b) provided the median and upper and lower 95% confidence values. As the confidence interval was asymmetrical, two estimates of the standard deviation were calculated, using the upper and lower confidence values multiplied by 1.96 and offset from the median. The larger of the two SD values obtained (from the upper or lower confidence interval) was adopted for subsequent simulation.

36. Recent advice from Natural England has suggested that CRM should use the following upper and lower nocturnal activity rates of 0% and 25% for gannet and 25% and 50% for kittiwake, lesser black-backed gull, great black-backed gull and herring gull. This is a revision to the previous guidance to use only the higher of each pair of values.

37. Furness et al. (2018) reviewed evidence of nocturnal flight activity levels for gannet and recommended precautionary nocturnal activity rates for this species in the breeding and nonbreeding seasons of 8% and 4% respectively. However, the actual average rates from their study were 7.1% and 2.3% respectively. Furthermore, the breeding season value was very heavily influenced by the results from the smallest study in the review, which was based on only three tagged birds in Shetland (Garthe et al., 1999). This study yielded a nocturnal activity rate of 20.9% (compared to daytime) but the total duration of flight activity recorded was only 215 hours, which was less than 3% of the > 8,000 hours covered by the remaining studies. If the average rate is calculated without this study a breeding

season rate of 4.3% (SE 2.7%) is obtained. This is considered to be more robust and has been used in the current assessment. Similarly, the actual nonbreeding season rate of 2.3% (SE 0.4%) has been used here in preference to the rounded-up value of 4% reported in Furness et al. (2018).

38. A similar review and analysis has been conducted for kittiwake which has identified values for the breeding season and nonbreeding season respectively of 20% (SE 5%) and 17% (SE 1.5%) (Furness et al. in prep.). Therefore, as these evidence-based seasonal values represent a significant improvement over the previously categorical values applied, these have been used in the stochastic simulations, using beta distributions defined by the mean and standard errors. For the large gull species stochastic runs used nocturnal values of either 25% or 50%, selected at random for each iteration.

39. Collision mortalities are presented as the median and confidence intervals calculated across all simulations. The median collision has been presented rather than the mean because this is less influenced by the skewed distribution of seabird densities, characterised by large numbers of low estimates with occasional high ones (see Technical Appendix 12.1 Annex 3 for histograms illustrating this pattern).

40. Appendix 12.1 Annex 5 presents boxplots of monthly collision estimates including all sources of uncertainty assessed which illustrate the skew in the collision estimates.

41. To obtain robust stochastic CRM outputs 1,000 simulations were conducted with the following combinations of parameter uncertainty:

    a. Uncertainty in seabird density, avoidance rate, flight height (Option 2 only), nocturnal activity (gannet, kittiwake, large gulls only);

    b. Uncertainty in seabird density only;

    c. Uncertainty in avoidance rate only;

    d. Uncertainty in flight height (Option 2) only;

    e. Uncertainty in nocturnal activity only;

    f. No uncertainty in any parameter (i.e. a deterministic run).

42. The final deterministic run was included to permit comparison between the stochastic outputs and those typically obtained using the excel version of the Band model.

43. The input parameters for the collision modelling are provided in Appendix 12.1 Annex 3. The outputs are presented in full in Appendix 12.1 Annex 4 and graphical outputs in Appendix 12.1 Annex 5.

5 ORNITHOLOGY BASELINE

5.1 Overview of Bird Species Recorded

44. The following bird species (Table 4) were recorded during surveys within The East Anglia ONE North wind farm site plus 4km buffer.

Table 4. Bird species recorded during surveys of The East Anglia ONE North site and the 4km buffer between September 2016 and May 2018. Groups in italics were those that could not be identified to species level. These have been apportioned to species for analysis (see text for methods).

Species	**Site**	
	Wind farm	**4km buffer**
Red-throated Diver	X	X
Fulmar	X	X
Gannet	X	X
Great Skua		X
Razorbill	X	X
Guillemot	X	X
Guillemot/Razorbill	*X*	*X*
Sandwich tern	X	X
Commic Tern	X	X
Kittiwake	X	X
Black-headed Gull	X	X
Little Gull	X	X
Common Gull	X	X
Small Gull Species	*X*	*X*
Lesser Black-backed Gull	X	X
Herring Gull	X	X
Great Black-backed Gull	X	X
Large Gull Species	*X*	*X*

45. This Technical Appendix has seven annexes containing additional data and analyses.

46. Appendix 12.1 Annex 1 provides tables of the median, mean and 95% confidence intervals for seabird density and abundance calculated for each calendar month for each species recorded. For each species, density and abundance are presented for all individuals observed (i.e. in flight and on the sea), and also for birds in flight only, and on the sea only. For guillemot and razorbill these tables include adjustment for availability bias (birds on the sea multiplied by species-specific correction factors for birds underwater) and for all species which were included in higher level groupings (e.g. large gulls) the unidentified individuals were added to the relevant species using the proportions of identified species.

47. Appendix 12.1 Annex 2 provides tables of density and abundance for each of the 21 individual surveys. For each species, density and abundance are presented for all individuals observed (in flight and on the sea), in flight only, and on the sea only. For guillemot and razorbill, additional tables are provided with and without the inclusion of adjustment for availability bias (birds on the sea multiplied by a correction factor) and for species which were included in higher level groupings (e.g. large gulls) tables are provided with and without the addition of unidentified individuals to the relevant species using the proportions of identified species.

48. Appendix 12.1 Annex 3 provides tables of the input parameters used for the collision risk modelling and histograms of the bootstrapped flight densities.

49. Appendix 12.1 Annex 4 provides the monthly collision mortality predictions (including uncertainty and using options 1 and 2). Collisions were calculated for three candidate turbine models (12, 15 and 19 MW), with a maximum generating capacity of 800 MW. Of the turbine options the 12 MW turbine is the worst case scenario used for collision risk.

50. Appendix 12.1 Annex 5 provides boxplots of the worst case collision mortality (for the 12MW turbine) in each month for each site obtained using option 2 and modelled with uncertainty in seabird densities, avoidance rates, flight heights and nocturnal activity. These outputs correspond to those in tables 1 to 9 in Appendix 12.1 Annex 4, using predictions in the top row of each table, labelled 'Full'.

51. Appendix 12.1 Annex 6 provides graphs of monthly population abundance on East Anglia ONE North, with and without the 4km buffer and with design-based confidence intervals. These are for all birds observed (i.e. both in flight and on the water) and include assignment of unidentified birds (see above for details) and adjustments for availability bias in razorbill and guillemot.

52. Appendix 12.1 Annex 7 provides maps illustrating where birds were recorded on East Anglia ONE North during all aerial surveys combined.

5.2 Summary species accounts

53. The following species accounts use the values in Technical Appendix 12.1 Annex 1 for birds recorded both in flight and on the sea surface and include unidentified birds apportioned as detailed above and, for guillemot and razorbill, adjustment for birds expected to be underwater during the surveys.

5.2.1 Red-throated diver

54. Red-throated divers were recorded between November and April on East Anglia ONE North and the survey buffer (Annex 1 Table 1.1a). The estimated mean peak wind farm population estimate was 156 (February). Figure 12.7.1 provides locations for all diver species recorded.

5.2.2 Fulmar

55. Fulmars were recorded in all months on the East Anglia ONE North and the survey buffer (Annex 1 Table 2.1a). The estimated mean peak wind farm population was 430 (October). Figure 12.7.2 provides locations for all fulmars recorded.

5.2.3 Gannet

56. Gannets were recorded in all months on East Anglia ONE North and the survey buffer (Annex 1 Table 3.1a). The estimated mean peak wind farm population was 266 (November). Figure 12.7.3 provides locations for all gannets recorded.

5.2.4 Great skua

57. Great skuas were only recorded in October in the East Anglia ONE North survey buffer, with a wind farm and 4km buffer population estimate of 10 (Annex 1 Table 4.1a), although the estimated mean peak wind farm population was zero. Figure 12.7.4 provides locations for all skua species recorded.

5.2.5 Razorbill

58. Razorbills were recorded in all months on East Anglia ONE North and the survey buffer (Annex 1 Table 5.1a). The estimated mean peak wind farm population, including apportioned unidentified birds and adjusting for availability bias, was 233 (April). Figure 12.7.5 provides locations for all razorbills recorded and Figure 12.7.7 provides locations for all razorbills and guillemots which could not be assigned to species.

5.2.6 Guillemot

59. Guillemots were recorded in all months on East Anglia ONE North and the survey buffer (Annex 1 Table 6.1a). The estimated mean peak wind farm population, including apportioned unidentified birds and adjusting for availability bias, was 3,084 (April). Figure 12.7.6 provides locations for all guillemots recorded and Figure 12.7.7 provides locations for all razorbills and guillemots which could not be assigned to species.

5.2.7 Sandwich tern

60. Sandwich terns were recorded in May on the East Anglia ONE North site (Annex 1 Table 7.1a), but not in any other months. The estimated mean peak wind farm population was 4 individuals. Figure 12.7.8 provides locations for all tern species recorded.

5.2.8 Commic tern

61. Commic terns (common tern and Arctic tern combined due to the difficulty of distinguishing between these two species) were recorded between April and July on East Anglia ONE North and the survey buffer (Annex 1 Table 8.1a). The estimated mean peak wind farm population was 35 (May), which was the only month when commic terns were present in the wind farm area. Figure 12.7.8 provides locations for all tern species recorded.

5.2.9 Kittiwake

62. Kittiwakes were recorded in all months on East Anglia ONE North and the survey buffer (Annex 1 Table 9.1a). The estimated mean peak wind farm population, including apportioned unidentified birds, was 283 (April). Figure 12.7.9 provides locations for all kittiwakes recorded and Figure 12.7.14 provides locations for all unidentified gulls recorded.

5.2.10 Black-headed gull

63. Black-headed gulls were recorded in low numbers in August and November on East Anglia ONE North and the survey buffer (Annex 1 Table 10.1a). The estimated mean peak wind farm population, including apportioned unidentified birds, was 4 (November). Figure 12.7.10 provides locations for all small gull species (except kittiwake) recorded and Figure 12.7.14 provides locations for all unidentified gulls recorded.

5.2.11 Little gull

64. Little gulls were recorded in January, April and October on East Anglia ONE North and the survey buffer (Annex 1 Table 11.1a). The estimated mean peak wind farm population, including apportioned unidentified birds, was 19 (April). Figure 12.7.10 provides locations for all small gull species (except kittiwake) recorded and Figure 12.7.14 provides locations for all unidentified gulls recorded.

5.2.12 Common gull

65. Common gulls were recorded in January, February, March, April, July, October and November on East Anglia ONE North and the survey buffer (Annex 1 Table 12.1a). The estimated mean peak wind farm population, including apportioned unidentified birds, was 19 (February). Figure 12.7.10 provides locations for all small gull species (except kittiwake) recorded and Figure 12.7.14 provides locations for all unidentified gulls recorded.

5.2.13 Lesser black-backed gull

66. Lesser black-backed gulls were recorded in all months except January, June and August on East Anglia ONE North and the survey buffer (Annex 1 Table 12.1a). The estimated mean peak wind farm population, including apportioned unidentified birds, was 46 (July). Figure 12.7.11 provides locations for all lesser black-backed gulls recorded and Figure 12.7.14 provides locations for all unidentified gulls recorded.

5.2.14 Herring gull

67. Herring gulls were recorded in all months except January, May, June, and August on East Anglia ONE North and the survey buffer (Annex 1 Table 14.1a). The estimated mean peak wind farm population, including apportioned unidentified birds, was 58 (September). Figure 12.7.12 provides locations for all herring gulls recorded and Figure 12.7.14 provides locations for all unidentified gulls recorded.

5.2.15 Great black-backed gull

68. Great black-backed gulls were recorded in all months except May, June and August on East Anglia ONE North and the survey buffer (Annex 1 Table 15.1a). The estimated mean peak

wind farm population, including apportioned unidentified birds, was 31 (February). Figure 12.7.13 provides locations for all great black-backed gulls recorded and Figure 12.7.14 provides locations for all unidentified gulls recorded.

REFERENCES

Band, W. 2012. Using a collision risk model to assess bird collision risks for offshore wind farms. The Crown Estate Strategic Ornithological Support Services (SOSS) report SOSS-02. SOSS Website. Original published Sept 2011, extended to deal with flight height distribution data March 2012.

Cook, A.S.C.P., Humphries, E.M., Masden, E.A. and Burton, N.H.K. 2014. The avoidance rates of collision between birds and offshore turbines. BTO Research Report No 656 to Marine Scotland Science.

Furness, R.W. 2015. Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPS). Natural England Commissioned Report Number 164. 389 pp.

Furness, R.W., Garthe, S., Trinder, M., Matthiopoulos, J., Wanless, S. and Jeglinski, J. 2018. Nocturnal flight activity of northern gannets *Morus bassanus* and implications for modelling collision risk at offshore wind farms. Environmental Impact Assessment Review 73, https://doi.org/10.1016/j.eiar.2018.06.006

Garthe, S., Grémillet, D. and Furness, R.W. 1999. At-sea activity and foraging efficiency in chick-rearing northern gannets (*Sula bassana*): a case study in Shetland. Marine Ecology Progress Series, 185, 93–99.

JNCC 2013. JNCC Expert Statement on ornithological issues for written representations in respect of the East Anglia ONE offshore wind farm. 30th July 2013.

JNCC, NE, NIEA, NRW and SNH. 2014. Joint Response from the Statutory Nature Conservation Bodies to the Marine Scotland Science Avoidance Rate Review

Johnston, A., Cook, A.S.C.P., Wright, L.J., Humphreys, E.M. and Burton, E.H.K. 2014a. Modelling flight heights of marine birds to more accurately assess collision risk with offshore wind turbines. Journal of Applied Ecology, 51, 31-41.

Johnston, A., Cook, A.S.C.P., Wright, L.J., Humphreys, E.M. and Burton, N.H.K. 2014b. corrigendum. Journal of Applied Ecology, 51, doi: 10.1111/1365-2664.12260.

Natural England 2012 TIN131. Black-throated diver: species information for marine Special Protection Area consultations.

R Development Core Team 2012. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. http://www.R-project.org/

Trinder, M. 2017. Incorporating uncertainty in collision risk models: a test of Masden (2015). Commissioned Report for Natural England (NECR237).
http://publications.naturalengland.org.uk/file/5012114692898816

East Anglia ONE North Offshore Wind Farm

Appendix 12.1

Offshore Ornithology

Annex 1

Monthly seabird density and abundance

Prepared by:	Mark Trinder
Authorised by:	Bob Furness
Date:	5th September 2018
Tel:	0141 342 5404
Email:	mark.trinder@macarthurgreen.com
Web:	www.macarthurgreen.com
Address:	93 South Woodside Road | Glasgow | G20 6NT

Document Quality Record.

Version	Status	Person Responsible	Date
1	Draft	Mark Trinder	03/09/2018
2	Reviewed	Bob Furness	05/09/2018
3	Updated		
4	Internal Approval		
5	Final Client Approval		

1 INTRODUCTION

1. This appendix provides tables of seabird density and abundance in each calendar month for each species recorded on East Anglia ONE North.

2. The tables provide density and abundance estimates for species recorded on the East Anglia ONE North site and 4km buffer. These have been derived from the 21 surveyed months currently available (September 2016 – May 2018).

3. For each species the tables follow a sequence of #.1 all bird recorded, #.2 birds recorded in flight, #.3 birds recorded on the sea surface. For each table number there is a matched pair (a and b) providing abundance and density respectively.

4. A key to the table numbering is provided in Table A1.

5. Monthly densities (birds per km^2) and abundances are summarised as the median, mean and 95% confidence range, derived from 1,000 nonparametric bootstrap samples. The median and confidence intervals were calculated by pooling all the bootstrap samples for each month. Thus, for all months except June to August these have been calculated from 2,000 samples in each month, while values for these three months (which have been surveyed only once to date) were derived from 1,000 samples. The mean was calculated as the average of the individual monthly median values (i.e. across one or two estimates, dependent on the month). The median is considered to be a more robust metric for assessment than the mean, as this is less influenced by the skewed nature of the observations.

6. For species groups which include unidentified individuals (e.g. large gulls) these have been added to the contributory species (e.g. large gulls comprise herring gull, lesser black-backed gull and great black-backed gull) on the basis of the proportions of positively identified individuals in the same survey. For example, if a survey included individuals categorised as large gulls, and 35 positively identified herring gulls, 10 positively identified lesser black-backed gulls and 5 positively identified great black-backed gulls, then 70%, 20% and 10% of the large gulls would be assigned to each species respectively. If there were unidentified birds, but no positively identified birds recorded in a survey, the average species ratios from the months in which the species were recorded was used to apportion the unidentified records.

7. For guillemot and razorbill, adjustment was made to account for availability bias, with birds recorded on the sea multiplied by a species-specific correction factor to account for individuals expected to be underwater when the image was taken. The values used were those advised by JNCC (2013)[1]; 1.316 and 1.204 for guillemot and razorbill respectively, to account for estimates that 24% and 17% of these species are underwater at any given time.

[1] JNCC 2013. JNCC expert statement on ornithological issues for written representations in respect of East Anglia One offshore windfarm. 30 July 2013.

Table A1. Key to species density and abundance tables. Each table is provided as 'a' and 'b' for abundance and density respectively.

Species	All birds	In Flight	On Sea
Red-throated diver	1.1	1.2	1.3
Fulmar	2.1	2.2	2.3
Gannet	3.1	3.2	3.3
Great skua	4.1	4.2	4.3
Razorbill	5.1	5.2	5.3
Guillemot	6.1	6.2	6.3
Sandwich tern	7.1	7.2	7.3
Commic tern	8.1	8.2	8.3
Kittiwake	9.1	9.2	9.3
Black-headed gull	10.1	10.2	10.3
Little gull	11.1	11.2	11.3
Common gull	12.1	12.2	12.3
Lesser black-backed gull	13.1	13.2	13.3
Herring gull	14.1	14.2	14.3
Great black-backed gull	15.1	15.2	15.3

Table 1.1a. Red-throated Diver design-based abundance estimates of birds in flight and on sea.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	28.95	29.11	5.65-58.23	50.25	47.46	10.59-89.33	57.11	59.42	9.52-114.26
Feb	103.81	155.97	0-383.35	159.17	261.03	5.96-616.96	249.93	341.67	11.77-765.6
Mar	0.00	10.40	0-38.88	20.82	20.34	0-52.39	65.81	64.37	9.4-128.32
Apr	0.00	0.00	0-0	9.02	10.17	0-30.67	24.65	29.71	0-91.87
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0.00	14.56	0-56.64	0.00	16.95	0-61.72	0.00	14.86	0-55.65
Dec	0.00	2.08	0-18.47	23.55	33.90	0-97.85	58.07	64.37	11.61-150.98

Table 1.1b. Red-throated Diver design-based density estimates of birds in flight and on sea.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.14	0.14	0.03-0.28	0.15	0.14	0.03-0.26	0.12	0.12	0.02-0.23
Feb	0.50	0.75	0-1.84	0.47	0.77	0.02-1.82	0.50	0.69	0.02-1.55
Mar	0.00	0.05	0-0.19	0.06	0.06	0-0.15	0.13	0.13	0.02-0.26
Apr	0.00	0.00	0-0	0.03	0.03	0-0.09	0.05	0.06	0-0.19
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0.00	0.07	0-0.27	0.00	0.05	0-0.18	0.00	0.03	0-0.11
Dec	0.00	0.01	0-0.09	0.07	0.10	0-0.29	0.12	0.13	0.02-0.3

Table 1.2a. Red-throated Diver design-based abundance estimates of birds in flight.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Feb	0	4.16	0-27.38	0	3.39	0-29.85	0	4.95	0-27.02
Mar	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Apr	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
May	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Jun	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Jul	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Aug	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Sep	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Oct	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Nov	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Dec	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0

Table 1.2b. Red-throated Diver design-based density estimates of birds in flight.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Feb	0	0.02	0-0.13	0	0.01	0-0.09	0	0.01	0-0.05
Mar	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Apr	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
May	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Jun	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Jul	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Aug	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Sep	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Oct	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Nov	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Dec	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0

Table 1.3a. Red-throated Diver design-based abundance estimates of birds on the sea surface.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	28.95	29.11	0-58.23	44.66	47.46	10.59-89.33	57.11	59.42	9.52-110.55
Feb	105.44	151.81	0-374.22	182.05	257.64	0-607.01	260.32	336.72	11.77-765.6
Mar	0.00	10.40	0-48.6	20.82	20.34	0-52.39	65.81	64.37	9.4-128.45
Apr	0.00	0.00	0-0	9.02	10.17	0-30.67	24.65	29.71	0-91.87
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0.00	14.56	0-56.64	0.00	16.95	0-61.72	0.00	14.86	0-55.65
Dec	0.00	2.08	0-18.47	23.55	33.90	0-97.85	58.07	64.37	11.61-150.98

Table 1.3b. Red-throated Diver design-based density estimates of birds on the sea surface.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.14	0.14	0-0.28	0.13	0.14	0.03-0.26	0.12	0.12	0.02-0.22
Feb	0.51	0.73	0-1.8	0.54	0.76	0-1.79	0.53	0.68	0.02-1.55
Mar	0.00	0.05	0-0.23	0.06	0.06	0-0.15	0.13	0.13	0.02-0.26
Apr	0.00	0.00	0-0	0.03	0.03	0-0.09	0.05	0.06	0-0.19
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0.00	0.07	0-0.27	0.00	0.05	0-0.18	0.00	0.03	0-0.11
Dec	0.00	0.01	0-0.09	0.07	0.10	0-0.29	0.12	0.13	0.02-0.3

Table 2.1a. Fulmar design-based abundance estimates of birds in flight and on sea.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	9.90	0-38.83
Feb	24.76	29.11	0-80.46	49.75	67.80	0-167.07	88.31	94.08	0-211.93
Mar	19.44	22.88	0-64.96	46.84	50.85	0-114.5	75.21	74.28	18.8-138.58
Apr	16.24	16.64	0-46.89	20.45	23.73	0-61.34	41.08	44.57	8.22-82.69
May	0.00	0.00	0-0	28.18	33.90	0-98.83	26.68	34.66	0-88.94
Jun	18.49	18.72	0-46.22	30.33	30.51	0-70.78	45.67	44.57	9.13-91.33
Jul	44.86	45.75	8.97-80.98	98.42	98.31	39.37-157.48	258.11	257.49	169.1-347.33
Aug	63.44	64.47	23.79-111.02	104.44	105.09	52.22-165.37	110.36	108.94	55.18-165.54
Sep	15.49	16.64	0-46.48	25.40	30.51	0-84.66	30.60	34.66	0-91.79
Oct	316.76	430.47	0-955.65	541.53	661.04	0-1442.36	626.23	732.85	0-1608.1
Nov	75.53	79.02	36.94-132.17	123.45	125.43	65.47-195.46	147.14	148.55	82.25-250.44
Dec	26.89	27.03	0-61.57	29.36	30.51	0-70.65	44.40	49.52	0-104.53

Table 2.1b. Fulmar design-based density estimates of birds in flight and on sea.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.02	0-0.08
Feb	0.12	0.14	0-0.39	0.15	0.20	0-0.49	0.18	0.19	0-0.43
Mar	0.09	0.11	0-0.31	0.14	0.15	0-0.34	0.15	0.15	0.04-0.28
Apr	0.08	0.08	0-0.23	0.06	0.07	0-0.18	0.08	0.09	0.02-0.17
May	0.00	0.00	0-0	0.08	0.10	0-0.29	0.05	0.07	0-0.18
Jun	0.09	0.09	0-0.22	0.09	0.09	0-0.21	0.09	0.09	0.02-0.18
Jul	0.22	0.22	0.04-0.39	0.29	0.29	0.12-0.46	0.52	0.52	0.34-0.7
Aug	0.31	0.31	0.11-0.53	0.31	0.31	0.15-0.49	0.22	0.22	0.11-0.33
Sep	0.07	0.08	0-0.22	0.07	0.09	0-0.25	0.06	0.07	0-0.19
Oct	1.52	2.07	0-4.6	1.60	1.95	0-4.25	1.26	1.48	0-3.25
Nov	0.36	0.38	0.18-0.64	0.36	0.37	0.19-0.58	0.30	0.30	0.17-0.51
Dec	0.13	0.13	0-0.3	0.09	0.09	0-0.21	0.09	0.10	0-0.21

Table 2.2a. Fulmar design-based abundance estimates of birds in flight.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	9.90	0-38.69
Feb	12.38	14.56	0-37.14	35.77	44.07	0-113.27	52.98	59.42	0-141.29
Mar	16.24	18.72	0-48.72	31.43	30.51	0-67.66	47.01	49.52	18.8-92.39
Apr	8.12	8.32	0-28.14	10.22	13.56	0-45.12	24.65	24.76	0-57.52
May	0.00	0.00	0-0	0.00	3.39	0-28.18	0.00	4.95	0-25.99
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	8.97	8.32	0-26.92	29.53	30.51	0-68.9	62.30	64.37	17.8-107.03
Aug	15.86	16.64	0-39.65	17.41	16.95	0-43.52	31.53	29.71	7.88-63.06
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	32.21	66.55	0-182.54	124.97	183.06	0-437.39	126.28	183.21	0-443.26
Nov	12.31	14.56	0-36.94	47.62	47.46	10.29-89.28	55.65	59.42	18.55-102.03
Dec	6.16	8.32	0-26.89	5.89	6.78	0-29.36	11.61	14.86	0-44.4

Table 2.2b. Fulmar design-based density estimates of birds in flight.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.02	0-0.08
Feb	0.06	0.07	0-0.18	0.11	0.13	0-0.33	0.11	0.12	0-0.29
Mar	0.08	0.09	0-0.23	0.09	0.09	0-0.2	0.09	0.10	0.04-0.19
Apr	0.04	0.04	0-0.14	0.03	0.04	0-0.13	0.05	0.05	0-0.12
May	0.00	0.00	0-0	0.00	0.01	0-0.08	0.00	0.01	0-0.05
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.04	0.04	0-0.13	0.09	0.09	0-0.2	0.13	0.13	0.04-0.22
Aug	0.08	0.08	0-0.19	0.05	0.05	0-0.13	0.06	0.06	0.02-0.13
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.15	0.32	0-0.88	0.37	0.54	0-1.29	0.26	0.37	0-0.9
Nov	0.06	0.07	0-0.18	0.14	0.14	0.03-0.26	0.11	0.12	0.04-0.21
Dec	0.03	0.04	0-0.13	0.02	0.02	0-0.09	0.02	0.03	0-0.09

Table 2.3a. Fulmar design-based abundance estimates of birds on the sea surface.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	14.56	0-55.7	0.00	23.73	0-77.5	27.02	34.66	0-94.19
Mar	0.00	6.24	0-27.07	2.60	16.95	0-57.25	2.57	19.81	0-66.73
Apr	8.12	8.32	0-28.14	9.02	10.17	0-30.67	16.43	19.81	0-45.94
May	0.00	0.00	0-0	0.00	30.51	0-98.58	25.99	29.71	0-88.94
Jun	18.49	18.72	0-46.22	30.33	30.51	0-70.78	45.67	44.57	9.13-91.33
Jul	35.89	35.35	8.97-71.78	68.90	67.80	19.68-127.95	195.81	198.07	115.7-285.03
Aug	47.58	47.83	15.86-87.23	87.04	88.14	43.52-139.26	78.83	79.23	31.53-134.2
Sep	15.49	16.64	0-46.48	25.40	30.51	0-84.66	30.60	34.66	0-84.15
Oct	284.55	361.84	0-821.43	382.72	477.98	0-1062.24	448.41	549.64	0-1216.38
Nov	61.57	64.47	24.63-122.73	72.01	77.97	30.86-144.02	88.29	94.08	35.31-185.51
Dec	17.93	20.80	0-55.41	19.57	23.73	0-58.87	26.64	34.66	0-92.92

Table 2.3b. Fulmar design-based density estimates of birds on the sea surface.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	0.07	0-0.27	0.00	0.07	0-0.23	0.05	0.07	0-0.19
Mar	0.00	0.03	0-0.13	0.01	0.05	0-0.17	0.01	0.04	0-0.13
Apr	0.04	0.04	0-0.14	0.03	0.03	0-0.09	0.03	0.04	0-0.09
May	0.00	0.00	0-0	0.00	0.09	0-0.29	0.05	0.06	0-0.18
Jun	0.09	0.09	0-0.22	0.09	0.09	0-0.21	0.09	0.09	0.02-0.18
Jul	0.17	0.17	0.04-0.35	0.20	0.20	0.06-0.38	0.40	0.40	0.23-0.58
Aug	0.23	0.23	0.08-0.42	0.26	0.26	0.13-0.41	0.16	0.16	0.06-0.27
Sep	0.07	0.08	0-0.22	0.07	0.09	0-0.25	0.06	0.07	0-0.17
Oct	1.37	1.74	0-3.95	1.13	1.41	0-3.13	0.91	1.11	0-2.46
Nov	0.30	0.31	0.12-0.59	0.21	0.23	0.09-0.42	0.18	0.19	0.07-0.37
Dec	0.09	0.10	0-0.27	0.06	0.07	0-0.17	0.05	0.07	0-0.19

Table 3.1a. Gannet design-based abundance estimates of birds in flight and on sea.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	2.08	0-17.37	0.00	3.39	0-16.75	0.00	4.95	0-16.58
Feb	9.13	12.48	0-45.64	11.92	16.95	0-59.71	29.44	29.71	0-64.76
Mar	27.07	33.27	0-87.48	41.91	44.07	10.48-94.3	65.81	69.32	28.21-122.22
Apr	35.00	70.70	0-187.57	76.99	101.70	0-255.57	88.48	138.65	0-339.94
May	17.23	16.64	0-51.69	28.18	30.51	0-65.75	34.65	34.66	8.66-71.15
Jun	27.73	27.03	0-64.7	40.45	40.68	10.11-80.89	54.80	54.47	18.27-100.47
Jul	35.89	35.35	8.97-71.78	59.05	57.63	9.84-108.27	124.60	123.79	62.3-195.81
Aug	79.30	79.02	31.72-134.81	147.96	149.16	78.33-217.59	173.42	173.31	110.36-252.25
Sep	54.23	64.47	7.75-152.78	101.59	111.87	33.86-216.85	195.91	203.02	107.09-329.49
Oct	80.53	81.10	25.48-139.59	135.38	135.60	74.44-197.87	211.32	217.87	139.16-326.77
Nov	233.76	266.18	61.57-528.68	425.45	467.81	160.71-853.84	669.50	708.09	359.03-1131.61
Dec	0.00	6.24	0-30.79	0.00	6.78	0-29.44	17.76	19.81	0-46.46

Table 3.1b. Gannet design-based density estimates of birds in flight and on sea.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.01	0-0.08	0.00	0.01	0-0.05	0.00	0.01	0-0.03
Feb	0.04	0.06	0-0.22	0.04	0.05	0-0.18	0.06	0.06	0-0.13
Mar	0.13	0.16	0-0.42	0.12	0.13	0.03-0.28	0.13	0.14	0.06-0.25
Apr	0.17	0.34	0-0.9	0.23	0.30	0-0.75	0.18	0.28	0-0.69
May	0.08	0.08	0-0.25	0.08	0.09	0-0.19	0.07	0.07	0.02-0.14
Jun	0.13	0.13	0-0.31	0.12	0.12	0.03-0.24	0.11	0.11	0.04-0.2
Jul	0.17	0.17	0.04-0.35	0.17	0.17	0.03-0.32	0.25	0.25	0.13-0.4
Aug	0.38	0.38	0.15-0.65	0.44	0.44	0.23-0.64	0.35	0.35	0.22-0.51
Sep	0.26	0.31	0.04-0.73	0.30	0.33	0.1-0.64	0.40	0.41	0.22-0.67
Oct	0.39	0.39	0.12-0.67	0.40	0.40	0.22-0.58	0.43	0.44	0.28-0.66
Nov	1.12	1.28	0.3-2.54	1.26	1.38	0.47-2.52	1.35	1.43	0.73-2.29
Dec	0.00	0.03	0-0.15	0.00	0.02	0-0.09	0.04	0.04	0-0.09

Table 3.2a. Gannet design-based abundance estimates of birds in flight.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	9.13	12.48	0-45.64	11.92	16.95	0-59.71	29.44	29.71	5.74-63.05
Mar	16.24	27.03	0-87.48	26.02	33.90	0-94.3	46.19	54.47	10.27-122.22
Apr	28.14	45.75	0-131.3	54.15	74.58	0-194.23	70.10	99.03	0-257.25
May	0.00	0.00	0-0	0.00	3.39	0-29.57	8.89	14.86	0-44.47
Jun	18.49	18.72	0-46.22	20.22	20.34	0-50.56	18.27	19.81	0-45.67
Jul	26.92	27.03	0-62.81	39.37	40.68	9.84-78.74	62.30	64.37	17.8-115.7
Aug	55.51	56.15	15.86-103.09	95.74	94.92	43.52-147.96	110.36	108.94	63.06-165.54
Sep	0.00	8.32	0-31.18	29.57	33.90	0-69	91.79	94.08	44.53-152.99
Oct	26.84	37.43	5.37-101.93	65.13	77.97	20.83-167.49	103.08	123.79	30.92-259.74
Nov	103.85	139.33	18.47-311.54	204.06	244.08	89.28-452.64	333.92	351.57	194.23-565.8
Dec	0.00	6.24	0-24.63	0.00	6.78	0-23.55	11.61	14.86	0-34.84

Table 3.2b. Gannet design-based density estimates of birds in flight.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.04	0.06	0-0.22	0.04	0.05	0-0.18	0.06	0.06	0.01-0.13
Mar	0.08	0.13	0-0.42	0.08	0.10	0-0.28	0.09	0.11	0.02-0.25
Apr	0.14	0.22	0-0.63	0.16	0.22	0-0.57	0.14	0.20	0-0.52
May	0.00	0.00	0-0	0.00	0.01	0-0.09	0.02	0.03	0-0.09
Jun	0.09	0.09	0-0.22	0.06	0.06	0-0.15	0.04	0.04	0-0.09
Jul	0.13	0.13	0-0.3	0.12	0.12	0.03-0.23	0.13	0.13	0.04-0.23
Aug	0.27	0.27	0.08-0.5	0.28	0.28	0.13-0.44	0.22	0.22	0.13-0.33
Sep	0.00	0.04	0-0.15	0.09	0.10	0-0.2	0.19	0.19	0.09-0.31
Oct	0.13	0.18	0.03-0.49	0.19	0.23	0.06-0.49	0.21	0.25	0.06-0.52
Nov	0.50	0.67	0.09-1.5	0.60	0.72	0.26-1.34	0.67	0.71	0.39-1.14
Dec	0.00	0.03	0-0.12	0.00	0.02	0-0.07	0.02	0.03	0-0.07

Table 3.3a. Gannet design-based abundance estimates of birds on the sea surface.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	2.08	0-17.37	0.00	3.39	0-16.75	0.00	4.95	0-16.58
Feb	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0.00	6.24	0-21.65	0.00	10.17	0-36.43	0.00	14.86	0-51.33
Apr	0.00	22.88	0-84.41	0.00	27.12	0-92.01	4.59	34.66	0-119.44
May	17.23	16.64	0-51.69	19.72	23.73	0-59.15	17.79	19.81	0-53.36
Jun	9.24	8.32	0-27.73	20.22	20.34	0-50.56	36.53	34.66	9.13-73.07
Jul	8.97	8.32	0-26.92	19.68	20.34	0-49.21	62.30	64.37	17.8-106.8
Aug	23.79	22.88	0-55.51	52.22	50.85	17.41-95.74	63.06	64.37	23.65-110.36
Sep	44.94	56.15	0-144.02	69.00	81.36	8.47-177.42	99.44	108.94	30.6-222.63
Oct	10.74	43.67	0-123.48	46.69	57.63	0-135.38	87.62	89.13	16.76-175.24
Nov	104.67	126.85	30.79-264.34	183.22	220.35	47.62-462.92	312.41	356.52	135.37-640.01
Dec	0.00	0.00	0-0	0.00	0.00	0-0	5.81	4.95	0-26.64

Table 3.3b. Gannet design-based density estimates of birds on the sea surface.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.01	0-0.08	0.00	0.01	0-0.05	0.00	0.01	0-0.03
Feb	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0.00	0.03	0-0.1	0.00	0.03	0-0.11	0.00	0.03	0-0.1
Apr	0.00	0.11	0-0.41	0.00	0.08	0-0.27	0.01	0.07	0-0.24
May	0.08	0.08	0-0.25	0.06	0.07	0-0.17	0.04	0.04	0-0.11
Jun	0.04	0.04	0-0.13	0.06	0.06	0-0.15	0.07	0.07	0.02-0.15
Jul	0.04	0.04	0-0.13	0.06	0.06	0-0.15	0.13	0.13	0.04-0.22
Aug	0.11	0.11	0-0.27	0.15	0.15	0.05-0.28	0.13	0.13	0.05-0.22
Sep	0.22	0.27	0-0.69	0.20	0.24	0.02-0.52	0.20	0.22	0.06-0.45
Oct	0.05	0.21	0-0.59	0.14	0.17	0-0.4	0.18	0.18	0.03-0.35
Nov	0.50	0.61	0.15-1.27	0.54	0.65	0.14-1.37	0.63	0.72	0.27-1.29
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.01	0.01	0-0.05

Table 4.1a. Great Skua design-based abundance estimates of birds in flight and on sea.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Feb	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Mar	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Apr	0	0	0-0	0	0.00	0-0	0	0.0	0-0
May	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Jun	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Jul	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Aug	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Sep	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Oct	0	0	0-0	0	3.39	0-27.91	0	9.9	0-33.51
Nov	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Dec	0	0	0-0	0	0.00	0-0	0	0.0	0-0

Table 4.1b. Great Skua design-based density estimates of birds in flight and on sea.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Feb	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Mar	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Apr	0	0	0-0	0	0.00	0-0	0	0.00	0-0
May	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Jun	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Jul	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Aug	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Sep	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Oct	0	0	0-0	0	0.01	0-0.08	0	0.02	0-0.07
Nov	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Dec	0	0	0-0	0	0.00	0-0	0	0.00	0-0

Table 4.2a. Great Skua design-based abundance estimates of birds in flight.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Feb	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Mar	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Apr	0	0	0-0	0	0.00	0-0	0	0.0	0-0
May	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Jun	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Jul	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Aug	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Sep	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Oct	0	0	0-0	0	3.39	0-27.91	0	9.9	0-33.51
Nov	0	0	0-0	0	0.00	0-0	0	0.0	0-0
Dec	0	0	0-0	0	0.00	0-0	0	0.0	0-0

Table 4.2b. Great Skua design-based density estimates of birds in flight.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Feb	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Mar	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Apr	0	0	0-0	0	0.00	0-0	0	0.00	0-0
May	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Jun	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Jul	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Aug	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Sep	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Oct	0	0	0-0	0	0.01	0-0.08	0	0.02	0-0.07
Nov	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Dec	0	0	0-0	0	0.00	0-0	0	0.00	0-0

Table 4.3a. Great Skua design-based abundance estimates of birds on the sea surface.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0	0-0	0	0	0-0
Feb	0	0	0-0	0	0	0-0	0	0	0-0
Mar	0	0	0-0	0	0	0-0	0	0	0-0
Apr	0	0	0-0	0	0	0-0	0	0	0-0
May	0	0	0-0	0	0	0-0	0	0	0-0
Jun	0	0	0-0	0	0	0-0	0	0	0-0
Jul	0	0	0-0	0	0	0-0	0	0	0-0
Aug	0	0	0-0	0	0	0-0	0	0	0-0
Sep	0	0	0-0	0	0	0-0	0	0	0-0
Oct	0	0	0-0	0	0	0-0	0	0	0-0
Nov	0	0	0-0	0	0	0-0	0	0	0-0
Dec	0	0	0-0	0	0	0-0	0	0	0-0

Table 4.3b. Great Skua design-based density estimates of birds on the sea surface.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0	0-0	0	0	0-0
Feb	0	0	0-0	0	0	0-0	0	0	0-0
Mar	0	0	0-0	0	0	0-0	0	0	0-0
Apr	0	0	0-0	0	0	0-0	0	0	0-0
May	0	0	0-0	0	0	0-0	0	0	0-0
Jun	0	0	0-0	0	0	0-0	0	0	0-0
Jul	0	0	0-0	0	0	0-0	0	0	0-0
Aug	0	0	0-0	0	0	0-0	0	0	0-0
Sep	0	0	0-0	0	0	0-0	0	0	0-0
Oct	0	0	0-0	0	0	0-0	0	0	0-0
Nov	0	0	0-0	0	0	0-0	0	0	0-0
Dec	0	0	0-0	0	0	0-0	0	0	0-0

Table 5.1a. Razorbill design-based abundance estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	58.47	72.78	0-188.37	105.21	132.21	0-309.41	101.93	163.41	0-386.27
Feb	65.98	66.55	21.99-119.31	95.91	94.92	35.97-158.02	151.93	153.50	78.02-249.59
Mar	130.44	153.89	45.65-304.5	189.36	206.79	100.33-366.09	239.53	242.63	158.58-340.1
Apr	163.03	232.91	29.36-497.17	341.31	403.40	76.11-825.22	391.03	425.85	148.49-774.85
May	10.82	16.64	0-43.29	23.75	23.73	0-59.39	53.55	54.47	11.12-128.59
Jun	11.14	10.40	0-33.41	12.18	13.56	0-36.55	22.01	19.81	0-55.02
Jul	21.62	20.80	0-54.05	23.72	23.73	0-59.29	64.34	64.37	21.45-128.68
Aug	57.32	58.23	19.11-105.09	83.89	84.75	31.46-146.81	151.96	153.50	85.47-227.93
Sep	0.00	8.32	0-37.34	0.00	16.95	0-61.2	4.61	34.66	0-101.38
Oct	0.00	20.80	0-71.64	25.09	33.90	0-100.9	55.89	69.32	12.42-161.52
Nov	34.12	37.43	7.42-91	50.20	54.24	12.39-99.15	100.58	113.89	35.46-234.68
Dec	0.00	16.64	0-64.79	0.00	30.51	0-106.1	0.00	24.76	0-96.3

Table 5.1b. Razorbill design-based density estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.28	0.35	0-0.91	0.31	0.39	0-0.91	0.21	0.33	0-0.78
Feb	0.32	0.32	0.11-0.57	0.28	0.28	0.11-0.47	0.31	0.31	0.16-0.5
Mar	0.63	0.74	0.22-1.46	0.56	0.61	0.3-1.08	0.48	0.49	0.32-0.69
Apr	0.78	1.12	0.14-2.39	1.01	1.19	0.22-2.43	0.79	0.86	0.3-1.56
May	0.05	0.08	0-0.21	0.07	0.07	0-0.18	0.11	0.11	0.02-0.26
Jun	0.05	0.05	0-0.16	0.04	0.04	0-0.11	0.04	0.04	0-0.11
Jul	0.10	0.10	0-0.26	0.07	0.07	0-0.17	0.13	0.13	0.04-0.26
Aug	0.28	0.28	0.09-0.51	0.25	0.25	0.09-0.43	0.31	0.31	0.17-0.46
Sep	0.00	0.04	0-0.18	0.00	0.05	0-0.18	0.01	0.07	0-0.2
Oct	0.00	0.10	0-0.34	0.07	0.10	0-0.3	0.11	0.14	0.03-0.33
Nov	0.16	0.18	0.04-0.44	0.15	0.16	0.04-0.29	0.20	0.23	0.07-0.47
Dec	0.00	0.08	0-0.31	0.00	0.09	0-0.31	0.00	0.05	0-0.19

Table 5.2a. Razorbill design-based abundance estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Feb	0	0	0-0	0	0.00	0-0	0	4.95	0-27.02
Mar	0	0	0-0	0	6.78	0-31.43	0	9.90	0-37.61
Apr	0	0	0-0	0	0.00	0-0	0	0.00	0-0
May	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Jun	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Jul	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Aug	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Sep	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Oct	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Nov	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Dec	0	0	0-0	0	0.00	0-0	0	0.00	0-0

Table 5.2b. Razorbill design-based density estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Feb	0	0	0-0	0	0.00	0-0	0	0.01	0-0.05
Mar	0	0	0-0	0	0.02	0-0.09	0	0.02	0-0.08
Apr	0	0	0-0	0	0.00	0-0	0	0.00	0-0
May	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Jun	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Jul	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Aug	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Sep	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Oct	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Nov	0	0	0-0	0	0.00	0-0	0	0.00	0-0
Dec	0	0	0-0	0	0.00	0-0	0	0.00	0-0

Table 5.3a. Razorbill design-based abundance estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	55.81	72.78	0-181.39	99.17	132.21	0-316.14	121.91	163.41	0-392.93
Feb	65.98	66.55	21.99-120.97	95.91	94.92	35.97-158.02	148.95	148.55	85.11-238.74
Mar	130.44	153.89	52.18-304.5	188.12	200.01	106.6-340.84	228.81	232.73	148.42-328.49
Apr	174.33	232.91	29.36-497.17	362.33	403.40	65.24-812.9	387.42	425.85	148.49-763.78
May	10.82	16.64	0-54.12	23.75	23.73	0-59.39	44.83	54.47	10.72-128.59
Jun	11.14	10.40	0-33.41	12.18	13.56	0-36.55	22.01	19.81	0-55.02
Jul	21.62	20.80	0-54.05	23.72	23.73	0-59.29	64.34	64.37	21.45-117.96
Aug	57.32	58.23	19.11-105.09	83.89	84.75	31.46-146.81	151.96	153.50	85.47-237.43
Sep	0.00	8.32	0-46.67	0.00	16.95	0-61.2	4.61	34.66	0-101.38
Oct	0.00	20.80	0-71.9	25.09	33.90	0-100.9	55.89	69.32	12.42-171.61
Nov	34.12	37.43	7.42-91	50.20	54.24	12.39-100.4	100.58	113.89	35.46-234.68
Dec	0.00	16.64	0-64.79	0.00	30.51	0-106.1	0.00	24.76	0-96.3

Table 5.3b. Razorbill design-based density estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.27	0.35	0-0.87	0.29	0.39	0-0.93	0.25	0.33	0-0.79
Feb	0.32	0.32	0.11-0.58	0.28	0.28	0.11-0.47	0.30	0.30	0.17-0.48
Mar	0.63	0.74	0.25-1.46	0.55	0.59	0.31-1.01	0.46	0.47	0.3-0.66
Apr	0.84	1.12	0.14-2.39	1.07	1.19	0.19-2.4	0.78	0.86	0.3-1.54
May	0.05	0.08	0-0.26	0.07	0.07	0-0.18	0.09	0.11	0.02-0.26
Jun	0.05	0.05	0-0.16	0.04	0.04	0-0.11	0.04	0.04	0-0.11
Jul	0.10	0.10	0-0.26	0.07	0.07	0-0.17	0.13	0.13	0.04-0.24
Aug	0.28	0.28	0.09-0.51	0.25	0.25	0.09-0.43	0.31	0.31	0.17-0.48
Sep	0.00	0.04	0-0.22	0.00	0.05	0-0.18	0.01	0.07	0-0.2
Oct	0.00	0.10	0-0.35	0.07	0.10	0-0.3	0.11	0.14	0.03-0.35
Nov	0.16	0.18	0.04-0.44	0.15	0.16	0.04-0.3	0.20	0.23	0.07-0.47
Dec	0.00	0.08	0-0.31	0.00	0.09	0-0.31	0.00	0.05	0-0.19

Table 6.1a. Guillemot design-based abundance estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	968.29	1039.78	38.31-2125.95	1823.39	1888.20	83.64-3819.85	2407.38	2540.22	175.33-5047.58
Feb	336.27	341.05	187.31-564.46	572.62	576.29	368.68-864.16	913.30	916.06	604.2-1339.21
Mar	700.67	715.37	341.89-1240.64	1212.69	1281.40	862.89-1861.19	2306.75	2332.25	1229.15-3686.46
Apr	3031.89	3083.98	897.74-5355.55	4151.35	4183.20	1353.71-7156.03	4809.52	4902.19	1654.11-8365.43
May	368.08	426.31	59.1-872.55	476.50	559.34	90.8-1122.65	557.10	668.48	140.43-1296.33
Jun	12.16	12.48	0-36.49	13.30	13.56	0-39.91	12.02	9.90	0-36.05
Jul	165.29	164.28	82.64-247.93	336.71	335.61	220.16-466.22	480.15	480.32	351.03-632.39
Aug	386.06	386.80	271.28-511.27	629.87	630.53	469.54-790.2	1006.08	1005.20	840.13-1192.77
Sep	30.58	41.59	0-122.33	64.85	71.19	0-155.96	128.89	128.74	58.59-210.91
Oct	146.82	155.97	70.64-268.25	208.13	216.96	130.18-355.05	318.74	316.91	220.49-440.99
Nov	606.25	729.92	64.81-1540.33	1006.10	1125.47	305.44-2098.05	1381.77	1485.51	549.85-2575.17
Dec	1051.38	1066.81	648.62-1498.74	1895.50	1847.53	1171.65-2540.88	2695.85	2708.58	1624.27-3812.88

Table 6.1b. Guillemot design-based density estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	4.66	5.00	0.18-10.22	5.38	5.57	0.25-11.27	4.86	5.13	0.35-10.19
Feb	1.62	1.64	0.9-2.71	1.69	1.70	1.09-2.55	1.84	1.85	1.22-2.7
Mar	3.37	3.44	1.64-5.97	3.58	3.78	2.55-5.49	4.66	4.71	2.48-7.44
Apr	14.58	14.83	4.32-25.75	12.25	12.34	3.99-21.11	9.71	9.90	3.34-16.89
May	1.77	2.05	0.28-4.2	1.41	1.65	0.27-3.31	1.13	1.35	0.28-2.62
Jun	0.06	0.06	0-0.18	0.04	0.04	0-0.12	0.02	0.02	0-0.07
Jul	0.79	0.79	0.4-1.19	0.99	0.99	0.65-1.38	0.97	0.97	0.71-1.28
Aug	1.86	1.86	1.3-2.46	1.86	1.86	1.39-2.33	2.03	2.03	1.7-2.41
Sep	0.15	0.20	0-0.59	0.19	0.21	0-0.46	0.26	0.26	0.12-0.43
Oct	0.71	0.75	0.34-1.29	0.61	0.64	0.38-1.05	0.64	0.64	0.45-0.89
Nov	2.92	3.51	0.31-7.41	2.97	3.32	0.9-6.19	2.79	3.00	1.11-5.2

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Dec	5.06	5.13	3.12-7.21	5.59	5.45	3.46-7.5	5.44	5.47	3.28-7.7

Table 6.2a. Guillemot design-based abundance estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	6.24	0-28.95	0.00	10.17	0-44.66	0.00	14.86	0-49.75
Feb	0.00	37.43	0-109.76	9.95	50.85	0-149.51	22.52	84.18	0-234.18
Mar	38.88	97.74	0-262.45	47.15	115.26	0-314.33	108.12	198.07	0-498.29
Apr	4.69	37.43	0-112.77	10.22	71.19	0-204.46	59.72	128.74	0-330.75
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	10.17	0-37.22	0.00	9.90	0-41.89
Nov	0.00	14.56	0-56.64	0.00	30.51	0-102.87	4.64	34.66	0-120.58
Dec	0.00	8.32	0-36.94	0.00	13.56	0-52.99	0.00	14.86	0-52.26

Table 6.2b. Guillemot design-based density estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.03	0-0.14	0.00	0.03	0-0.13	0.00	0.03	0-0.1
Feb	0.00	0.18	0-0.53	0.03	0.15	0-0.44	0.05	0.17	0-0.47
Mar	0.19	0.47	0-1.26	0.14	0.34	0-0.93	0.22	0.40	0-1.01
Apr	0.02	0.18	0-0.54	0.03	0.21	0-0.6	0.12	0.26	0-0.67
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	0.03	0-0.11	0.00	0.02	0-0.08
Nov	0.00	0.07	0-0.27	0.00	0.09	0-0.3	0.01	0.07	0-0.24
Dec	0.00	0.04	0-0.18	0.00	0.04	0-0.16	0.00	0.03	0-0.11

Table 6.3a. Guillemot design-based abundance estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	963.24	1033.54	51.08-2125.76	1762.08	1878.04	83.64-3783.12	2391.82	2530.32	175.33-5018.49
Feb	293.18	303.61	187.31-444.36	520.72	525.44	368.68-720.13	813.35	826.93	604.2-1102.18
Mar	588.35	613.47	334.77-959.26	1129.98	1166.14	869.57-1544.1	2038.50	2129.23	1215.65-3166.89
Apr	2992.39	3046.54	908.43-5269.17	4017.63	4101.85	1353.71-6940.81	4695.96	4773.44	1643.3-8014.86
May	373.42	426.31	59.1-872.37	514.01	552.56	90.8-1111.28	625.31	668.48	140.43-1286.28
Jun	12.16	12.48	0-36.49	13.30	13.56	0-39.91	12.02	9.90	0-36.05
Jul	165.29	164.28	82.64-259.74	336.71	335.61	220.16-466.22	480.15	480.32	351.33-632.39
Aug	386.06	386.80	281.72-501.09	629.87	630.53	480.99-778.75	995.71	995.29	829.76-1182.4
Sep	35.48	41.59	0-112.13	64.85	71.19	12.97-155.96	128.89	128.74	60.39-210.91
Oct	145.30	155.97	77.71-268.25	205.54	210.18	122.43-318.32	308.69	307.01	217.02-418.94
Nov	618.67	711.21	56.71-1490.65	986.86	1091.57	313.27-2003.3	1350.67	1450.85	557.59-2465.32
Dec	1065.32	1054.33	636.83-1474.44	1834.84	1830.58	1158.77-2486.66	2688.44	2703.63	1624.27-3767.23

Table 6.3b. Guillemot design-based density estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	4.63	4.97	0.25-10.22	5.20	5.54	0.25-11.16	4.83	5.11	0.35-10.13
Feb	1.41	1.46	0.9-2.14	1.54	1.55	1.09-2.12	1.64	1.67	1.22-2.23
Mar	2.83	2.95	1.61-4.61	3.33	3.44	2.57-4.55	4.12	4.30	2.46-6.4
Apr	14.39	14.65	4.37-25.34	11.85	12.10	3.99-20.47	9.48	9.64	3.32-16.19
May	1.80	2.05	0.28-4.2	1.52	1.63	0.27-3.28	1.26	1.35	0.28-2.6
Jun	0.06	0.06	0-0.18	0.04	0.04	0-0.12	0.02	0.02	0-0.07
Jul	0.79	0.79	0.4-1.25	0.99	0.99	0.65-1.38	0.97	0.97	0.71-1.28
Aug	1.86	1.86	1.35-2.41	1.86	1.86	1.42-2.3	2.01	2.01	1.68-2.39
Sep	0.17	0.20	0-0.54	0.19	0.21	0.04-0.46	0.26	0.26	0.12-0.43
Oct	0.70	0.75	0.37-1.29	0.61	0.62	0.36-0.94	0.62	0.62	0.44-0.85
Nov	2.98	3.42	0.27-7.17	2.91	3.22	0.92-5.91	2.73	2.93	1.13-4.98
Dec	5.12	5.07	3.06-7.09	5.41	5.40	3.42-7.34	5.43	5.46	3.28-7.61

Table 7.1a. Sandwich Tern design-based abundance estimates of birds in flight and on sea.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Feb	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Mar	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Apr	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
May	0	4.16	0-25.85	0	3.39	0-28.18	4.33	24.76	0-86.62
Jun	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Sep	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Nov	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Dec	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0

Table 7.1b. Sandwich Tern design-based density estimates of birds in flight and on sea.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Feb	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Mar	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Apr	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
May	0	0.02	0-0.12	0	0.01	0-0.08	0.01	0.05	0-0.17
Jun	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Sep	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Nov	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Dec	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0

Table 7.2a. Sandwich Tern design-based abundance estimates of birds in flight.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Feb	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Mar	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Apr	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
May	0	4.16	0-25.85	0	3.39	0-28.18	0	24.76	0-86.62
Jun	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Jul	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Aug	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Sep	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Oct	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Nov	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Dec	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0

Table 7.2b. Sandwich Tern design-based density estimates of birds in flight.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Feb	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Mar	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Apr	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
May	0	0.02	0-0.12	0	0.01	0-0.08	0	0.05	0-0.17
Jun	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Jul	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Aug	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Sep	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Oct	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Nov	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0
Dec	0	0.00	0-0	0	0.00	0-0	0	0.00	0-0

Table 7.3a. Sandwich Tern design-based abundance estimates of birds on the sea surface.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0	0-0	0	0	0-0
Feb	0	0	0-0	0	0	0-0	0	0	0-0
Mar	0	0	0-0	0	0	0-0	0	0	0-0
Apr	0	0	0-0	0	0	0-0	0	0	0-0
May	0	0	0-0	0	0	0-0	0	0	0-0
Jun	0	0	0-0	0	0	0-0	0	0	0-0
Jul	0	0	0-0	0	0	0-0	0	0	0-0
Aug	0	0	0-0	0	0	0-0	0	0	0-0
Sep	0	0	0-0	0	0	0-0	0	0	0-0
Oct	0	0	0-0	0	0	0-0	0	0	0-0
Nov	0	0	0-0	0	0	0-0	0	0	0-0
Dec	0	0	0-0	0	0	0-0	0	0	0-0

Table 7.3b. Sandwich Tern design-based density estimates of birds on the sea surface.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0	0-0	0	0	0-0
Feb	0	0	0-0	0	0	0-0	0	0	0-0
Mar	0	0	0-0	0	0	0-0	0	0	0-0
Apr	0	0	0-0	0	0	0-0	0	0	0-0
May	0	0	0-0	0	0	0-0	0	0	0-0
Jun	0	0	0-0	0	0	0-0	0	0	0-0
Jul	0	0	0-0	0	0	0-0	0	0	0-0
Aug	0	0	0-0	0	0	0-0	0	0	0-0
Sep	0	0	0-0	0	0	0-0	0	0	0-0
Oct	0	0	0-0	0	0	0-0	0	0	0-0
Nov	0	0	0-0	0	0	0-0	0	0	0-0
Dec	0	0	0-0	0	0	0-0	0	0	0-0

Table 8.1a. Commic Tern design-based abundance estimates of birds in flight and on sea.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0.00	0.00	0-0	0.00	6.78	0-30.67	0.00	9.90	0-45.94
May	26.95	35.35	0-103.39	37.57	50.85	0-150.28	130.63	188.16	0-450.43
Jun	0.00	0.00	0-0	50.56	50.85	10.11-101.11	45.67	44.57	9.13-82.43
Jul	0.00	0.00	0-0	0.00	0.00	0-0	8.90	9.90	0-26.7
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 8.1b. Commic Tern design-based density estimates of birds in flight and on sea.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0.00	0.00	0-0	0.00	0.02	0-0.09	0.00	0.02	0-0.09
May	0.13	0.17	0-0.5	0.11	0.15	0-0.44	0.26	0.38	0-0.91
Jun	0.00	0.00	0-0	0.15	0.15	0.03-0.3	0.09	0.09	0.02-0.17
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.02	0.02	0-0.05
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 8.2a. Commic Tern design-based abundance estimates of birds in flight.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0.00	0.00	0-0	0.00	6.78	0-30.67	0.00	9.90	0-36.75
May	26.95	35.35	0-103.39	37.57	50.85	0-150.28	121.97	188.16	0-450.65
Jun	0.00	0.00	0-0	50.56	50.85	10.11-101.11	45.67	44.57	9.13-91.33
Jul	0.00	0.00	0-0	0.00	0.00	0-0	8.90	9.90	0-26.7
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 8.2b. Commic Tern design-based density estimates of birds in flight.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0.00	0.00	0-0	0.00	0.02	0-0.09	0.00	0.02	0-0.07
May	0.13	0.17	0-0.5	0.11	0.15	0-0.44	0.25	0.38	0-0.91
Jun	0.00	0.00	0-0	0.15	0.15	0.03-0.3	0.09	0.09	0.02-0.18
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.02	0.02	0-0.05
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 8.3a. Commic Tern design-based abundance estimates of birds on the sea surface.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0	0-0	0	0	0-0
Feb	0	0	0-0	0	0	0-0	0	0	0-0
Mar	0	0	0-0	0	0	0-0	0	0	0-0
Apr	0	0	0-0	0	0	0-0	0	0	0-0
May	0	0	0-0	0	0	0-0	0	0	0-0
Jun	0	0	0-0	0	0	0-0	0	0	0-0
Jul	0	0	0-0	0	0	0-0	0	0	0-0
Aug	0	0	0-0	0	0	0-0	0	0	0-0
Sep	0	0	0-0	0	0	0-0	0	0	0-0
Oct	0	0	0-0	0	0	0-0	0	0	0-0
Nov	0	0	0-0	0	0	0-0	0	0	0-0
Dec	0	0	0-0	0	0	0-0	0	0	0-0

Table 8.3b. Commic Tern design-based density estimates of birds on the sea surface.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0	0-0	0	0	0-0
Feb	0	0	0-0	0	0	0-0	0	0	0-0
Mar	0	0	0-0	0	0	0-0	0	0	0-0
Apr	0	0	0-0	0	0	0-0	0	0	0-0
May	0	0	0-0	0	0	0-0	0	0	0-0
Jun	0	0	0-0	0	0	0-0	0	0	0-0
Jul	0	0	0-0	0	0	0-0	0	0	0-0
Aug	0	0	0-0	0	0	0-0	0	0	0-0
Sep	0	0	0-0	0	0	0-0	0	0	0-0
Oct	0	0	0-0	0	0	0-0	0	0	0-0
Nov	0	0	0-0	0	0	0-0	0	0	0-0
Dec	0	0	0-0	0	0	0-0	0	0	0-0

Table 9.1a. Kittiwake design-based abundance estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	9.71	10.40	0-31.3	21.19	20.34	0-52.97	57.11	59.42	19.04-104.7
Feb	73.02	79.02	18.57-164.29	89.42	94.92	39.8-179.12	107.03	113.89	41.21-216.17
Mar	139.53	139.33	77.76-213.85	202.98	200.01	104.78-293.38	282.05	277.30	178.63-374.69
Apr	276.16	282.82	154.33-431.57	424.16	433.91	216.37-705.38	665.54	683.33	435.47-973.22
May	122.09	176.76	0-422.17	147.91	230.52	0-544.76	300.58	361.47	17.79-788.25
Jun	138.65	139.33	73.94-212.59	182.00	183.06	101.11-273.01	219.20	217.87	145.91-310.54
Jul	52.36	51.99	16.47-95.75	106.66	105.09	49.21-175.55	139.10	138.65	77.9-218.13
Aug	39.65	39.51	7.93-79.3	67.38	67.80	24.98-113.15	115.72	113.89	64.48-180.92
Sep	13.48	49.91	0-143.8	14.79	54.24	0-167.57	49.66	79.23	0-213.72
Oct	56.37	101.90	0-263.07	17.04	40.68	0-106.87	57.24	54.47	8.38-110.71
Nov	56.64	70.70	10.69-169.93	75.90	94.92	21.83-205.74	135.72	143.60	68.88-241
Dec	66.64	103.98	6.16-250.96	98.93	159.33	5.89-381.62	154.40	207.97	23.23-470.69

Table 9.1b. Kittiwake design-based density estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.05	0.05	0-0.15	0.06	0.06	0-0.16	0.12	0.12	0.04-0.21
Feb	0.35	0.38	0.09-0.79	0.26	0.28	0.12-0.53	0.22	0.23	0.08-0.44
Mar	0.67	0.67	0.37-1.03	0.60	0.59	0.31-0.87	0.57	0.56	0.36-0.76
Apr	1.33	1.36	0.74-2.08	1.25	1.28	0.64-2.08	1.34	1.38	0.88-1.97
May	0.59	0.85	0-2.03	0.44	0.68	0-1.61	0.61	0.73	0.04-1.59
Jun	0.67	0.67	0.36-1.02	0.54	0.54	0.3-0.81	0.44	0.44	0.29-0.63
Jul	0.25	0.25	0.08-0.46	0.31	0.31	0.15-0.52	0.28	0.28	0.16-0.44
Aug	0.19	0.19	0.04-0.38	0.20	0.20	0.07-0.33	0.23	0.23	0.13-0.37
Sep	0.06	0.24	0-0.69	0.04	0.16	0-0.49	0.10	0.16	0-0.43
Oct	0.27	0.49	0-1.27	0.05	0.12	0-0.32	0.12	0.11	0.02-0.22
Nov	0.27	0.34	0.05-0.82	0.22	0.28	0.06-0.61	0.27	0.29	0.14-0.49
Dec	0.32	0.50	0.03-1.21	0.29	0.47	0.02-1.13	0.31	0.42	0.05-0.95

Table 9.2a. Kittiwake design-based abundance estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	5.79	8.32	0-29.12	11.17	16.95	0-52.97	42.84	44.57	11.06-85.66
Feb	37.14	43.67	9.13-91.27	48.72	50.85	17.88-99.51	63.05	69.32	23.55-135.11
Mar	81.20	85.26	38.88-136.09	124.91	122.04	52.39-188.6	164.25	163.41	102.65-235.04
Apr	178.19	180.92	81.22-300.11	270.74	284.76	135.37-470.25	395.06	406.04	238.28-606.37
May	64.62	124.77	0-327.39	123.50	169.50	0-413.26	169.72	227.78	0-537.05
Jun	46.22	45.75	9.24-83.42	60.67	61.02	20.22-111.22	63.93	64.37	18.27-118.73
Jul	35.89	35.35	8.97-71.78	88.58	88.14	39.37-147.64	89.00	89.13	35.6-142.63
Aug	39.65	39.51	7.93-79.3	46.74	47.46	17.38-89.7	75.60	74.28	31.53-122.89
Sep	0.00	4.16	0-26.96	0.00	3.39	0-29.57	0.00	4.95	0-26.72
Oct	0.00	8.32	0-32.21	0.00	6.78	0-31.24	16.76	14.86	0-41.89
Nov	29.55	54.07	0-151.05	41.15	67.80	0-185.17	83.48	99.03	29.42-194.79
Dec	30.79	56.15	0-161.33	54.85	105.09	0-264.2	83.86	133.70	0-337.47

Table 9.2b. Kittiwake design-based density estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.03	0.04	0-0.14	0.03	0.05	0-0.16	0.09	0.09	0.02-0.17
Feb	0.18	0.21	0.04-0.44	0.14	0.15	0.05-0.29	0.13	0.14	0.05-0.27
Mar	0.39	0.41	0.19-0.65	0.37	0.36	0.15-0.56	0.33	0.33	0.21-0.47
Apr	0.86	0.87	0.39-1.44	0.80	0.84	0.4-1.39	0.80	0.82	0.48-1.22
May	0.31	0.60	0-1.57	0.36	0.50	0-1.22	0.34	0.46	0-1.08
Jun	0.22	0.22	0.04-0.4	0.18	0.18	0.06-0.33	0.13	0.13	0.04-0.24
Jul	0.17	0.17	0.04-0.35	0.26	0.26	0.12-0.44	0.18	0.18	0.07-0.29
Aug	0.19	0.19	0.04-0.38	0.14	0.14	0.05-0.26	0.15	0.15	0.06-0.25
Sep	0.00	0.02	0-0.13	0.00	0.01	0-0.09	0.00	0.01	0-0.05
Oct	0.00	0.04	0-0.15	0.00	0.02	0-0.09	0.03	0.03	0-0.08
Nov	0.14	0.26	0-0.73	0.12	0.20	0-0.55	0.17	0.20	0.06-0.39
Dec	0.15	0.27	0-0.78	0.16	0.31	0-0.78	0.17	0.27	0-0.68

Table 9.3a. Kittiwake design-based abundance estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	4.16	0-22.07	0.00	3.39	0-19.63	13.81	14.86	0-38.07
Feb	30.95	37.43	0-91.27	39.80	44.07	9.95-99.51	41.21	44.57	11.77-108.08
Mar	53.52	56.15	19.44-97.2	82.23	77.97	20.96-134.8	117.27	113.89	47.01-184.4
Apr	100.77	101.90	40.61-176.27	142.14	152.55	45.12-294.51	274.97	282.25	147.9-441.18
May	43.08	51.99	0-129.23	49.29	61.02	0-150.28	100.89	133.70	8.89-311.84
Jun	92.43	91.50	36.97-157.13	121.34	122.04	60.67-192.12	155.27	153.50	82.2-228.34
Jul	16.47	16.64	0-41.92	18.08	16.95	0-44.43	51.20	49.52	16.67-93.5
Aug	0.00	0.00	0-0	20.63	20.34	0-51.1	40.84	39.61	12.54-81.67
Sep	8.99	45.75	0-135.03	9.86	50.85	0-147.85	33.11	74.28	0-204.82
Oct	45.63	93.58	0-236.23	15.56	33.90	0-86.1	33.75	39.61	0-91.23
Nov	16.85	18.72	0-47.2	26.79	27.12	0-56.55	43.21	44.57	12.19-79.86
Dec	35.85	45.75	0-125.48	35.32	54.24	0-146.78	62.17	74.28	11.61-168.74

Table 9.3b. Kittiwake design-based density estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.02	0-0.11	0.00	0.01	0-0.06	0.03	0.03	0-0.08
Feb	0.15	0.18	0-0.44	0.12	0.13	0.03-0.29	0.08	0.09	0.02-0.22
Mar	0.26	0.27	0.09-0.47	0.24	0.23	0.06-0.4	0.24	0.23	0.09-0.37
Apr	0.48	0.49	0.2-0.85	0.42	0.45	0.13-0.87	0.56	0.57	0.3-0.89
May	0.21	0.25	0-0.62	0.15	0.18	0-0.44	0.20	0.27	0.02-0.63
Jun	0.44	0.44	0.18-0.76	0.36	0.36	0.18-0.57	0.31	0.31	0.17-0.46
Jul	0.08	0.08	0-0.2	0.05	0.05	0-0.13	0.10	0.10	0.03-0.19
Aug	0.00	0.00	0-0	0.06	0.06	0-0.15	0.08	0.08	0.03-0.16
Sep	0.04	0.22	0-0.65	0.03	0.15	0-0.44	0.07	0.15	0-0.41
Oct	0.22	0.45	0-1.14	0.05	0.10	0-0.25	0.07	0.08	0-0.18
Nov	0.08	0.09	0-0.23	0.08	0.08	0-0.17	0.09	0.09	0.02-0.16
Dec	0.17	0.22	0-0.6	0.10	0.16	0-0.43	0.13	0.15	0.02-0.34

Table 10.1a. Black-headed Gull design-based abundance estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
May	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	86.27	84.75	39.73-140.39	80.63	79.23	37.99-132.58
Sep	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0	4.16	0-28.32	0.00	27.12	0-92.58	4.64	34.66	0-114.31
Dec	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 10.1b. Black-headed Gull design-based density estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
May	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	0.25	0.25	0.12-0.41	0.16	0.16	0.08-0.27
Sep	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0	0.02	0-0.14	0.00	0.08	0-0.27	0.01	0.07	0-0.23
Dec	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 10.2a. Black-headed Gull design-based abundance estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
May	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	79.46	77.97	34.81-140.39	74.17	74.28	31.53-126.12
Sep	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0	4.16	0-28.32	0.00	27.12	0-92.58	0.00	34.66	0-102.03
Dec	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 10.2b. Black-headed Gull design-based density estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
May	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	0.23	0.23	0.1-0.41	0.15	0.15	0.06-0.25
Sep	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0	0.02	0-0.14	0.00	0.08	0-0.27	0.00	0.07	0-0.21
Dec	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 10.3a. Black-headed Gull design-based abundance estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
May	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0	0-0	4.92	3.39	0-14.75	6.46	4.95	0-16.15
Sep	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0	0	0-0	0.00	0.00	0-0	0.00	4.95	0-14.74
Dec	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 10.3b. Black-headed Gull design-based density estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
May	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0	0-0	0.01	0.01	0-0.04	0.01	0.01	0-0.03
Sep	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Nov	0	0	0-0	0.00	0.00	0-0	0.00	0.01	0-0.03
Dec	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 11.1a. Little Gull design-based abundance estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	2.08	0-18.52	0.00	3.39	0-17.67	0.0	4.95	0-17.98
Feb	0	0.00	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Mar	0	0.00	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Apr	0	18.72	0-75.03	0.00	27.12	0-92.82	0.0	24.76	0-83.16
May	0	0.00	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Jun	0	0.00	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Jul	0	0.00	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Aug	0	0.00	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Sep	0	0.00	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Oct	0	0.00	0-0	54.25	88.14	0-222.22	70.3	118.84	0-297.08
Nov	0	0.00	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Dec	0	0.00	0-0	0.00	0.00	0-0	0.0	0.00	0-0

Table 11.1b. Little Gull design-based density estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.01	0-0.09	0.00	0.01	0-0.05	0.00	0.01	0-0.04
Feb	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	0.09	0-0.36	0.00	0.08	0-0.27	0.00	0.05	0-0.17
May	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0.16	0.26	0-0.66	0.14	0.24	0-0.6
Nov	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 11.2a. Little Gull design-based abundance estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	2.08	0-17.37	0.00	3.39	0-16.75	0.00	4.95	0-17.05
Feb	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	18.72	0-65.65	0.00	27.12	0-92.01	0.00	24.76	0-82.69
May	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	5.21	33.90	0-98.93	5.15	34.66	0-108.24
Nov	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 11.2b. Little Gull design-based density estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.01	0-0.08	0.00	0.01	0-0.05	0.00	0.01	0-0.03
Feb	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	0.09	0-0.32	0.00	0.08	0-0.27	0.00	0.05	0-0.17
May	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0.02	0.10	0-0.29	0.01	0.07	0-0.22
Nov	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 11.3a. Little Gull design-based abundance estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-3.44	0.00	0.00	0-2.76	0.00	0.00	0-2.33
Feb	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Mar	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Apr	0	0	0-2.87	0.00	0.00	0-2.43	0.00	0.00	0-1.41
May	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0	0	0-0	28.97	54.24	0-141.65	47.68	84.18	0-212.18
Nov	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0	0	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 11.3b. Little Gull design-based density estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0.02	0.00	0.00	0-0.01	0.0	0.00	0-0
Feb	0	0	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Mar	0	0	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Apr	0	0	0-0.01	0.00	0.00	0-0.01	0.0	0.00	0-0
May	0	0	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Jun	0	0	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Jul	0	0	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Aug	0	0	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Sep	0	0	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Oct	0	0	0-0	0.09	0.16	0-0.42	0.1	0.17	0-0.43
Nov	0	0	0-0	0.00	0.00	0-0	0.0	0.00	0-0
Dec	0	0	0-0	0.00	0.00	0-0	0.0	0.00	0-0

Table 12.1a. Common Gull design-based abundance estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	6.24	0-27.75	0.00	6.78	0-27.91	14.73	14.86	0-47.59
Feb	0.00	18.72	0-61.89	0.00	16.95	0-59.62	2.94	19.81	0-64.91
Mar	0.00	8.32	0-33.1	0.00	13.56	0-47.37	0.00	14.86	0-46.19
Apr	0.00	0.00	0-0	0.00	6.78	0-30.83	0.00	9.90	0-37.86
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	8.97	8.32	0-31.34	19.68	20.34	0-50.82	18.90	19.81	1.1-47.8
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	5.31	13.56	0-42.57	3.48	9.90	0-34.94
Nov	9.44	10.40	0-28.32	10.29	13.56	0-41.15	11.42	14.86	0.87-46.38
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 12.1b. Common Gull design-based density estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.03	0-0.13	0.00	0.02	0-0.08	0.03	0.03	0-0.1
Feb	0.00	0.09	0-0.3	0.00	0.05	0-0.18	0.01	0.04	0-0.13
Mar	0.00	0.04	0-0.16	0.00	0.04	0-0.14	0.00	0.03	0-0.09
Apr	0.00	0.00	0-0	0.00	0.02	0-0.09	0.00	0.02	0-0.08
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.04	0.04	0-0.15	0.06	0.06	0-0.15	0.04	0.04	0-0.1
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.02	0.04	0-0.13	0.01	0.02	0-0.07
Nov	0.05	0.05	0-0.14	0.03	0.04	0-0.12	0.02	0.03	0-0.09
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 12.2a. Common Gull design-based abundance estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	6.24	0-28.95	0	6.78	0-27.91	12.89	14.86	0-47.59
Feb	0	14.56	0-55.7	0	13.56	0-53.65	0.00	19.81	0-58.87
Mar	0	2.08	0-16.24	0	6.78	0-26.02	0.00	4.95	0-25.66
Apr	0	0.00	0-0	0	6.78	0-30.67	0.00	9.90	0-45.94
May	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Jun	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Sep	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0	6.78	0-20.83	0.00	4.95	0-25.77
Nov	0	2.08	0-18.47	0	3.39	0-17.86	0.00	4.95	0-17.66
Dec	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0

Table 12.2b. Common Gull design-based density estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0.03	0-0.14	0	0.02	0-0.08	0.03	0.03	0-0.1
Feb	0	0.07	0-0.27	0	0.04	0-0.16	0.00	0.04	0-0.12
Mar	0	0.01	0-0.08	0	0.02	0-0.08	0.00	0.01	0-0.05
Apr	0	0.00	0-0	0	0.02	0-0.09	0.00	0.02	0-0.09
May	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Jun	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Jul	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Aug	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Sep	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0
Oct	0	0.00	0-0	0	0.02	0-0.06	0.00	0.01	0-0.05
Nov	0	0.01	0-0.09	0	0.01	0-0.05	0.00	0.01	0-0.04
Dec	0	0.00	0-0	0	0.00	0-0	0.00	0.00	0-0

Table 12.3a. Common Gull design-based abundance estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	2.08	0-6.88	0.00	0.00	0-5.35	0.00	0.00	0-4.6
Feb	0.00	2.08	0-18.57	0.00	3.39	0-17.88	0.00	4.95	0-17.66
Mar	0.00	6.24	0-27.07	0.00	6.78	0-31.75	0.00	9.90	0-31.58
Apr	0.00	0.00	0-0	0.00	0.00	0-0.5	0.00	0.00	0-0.54
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	10.45	10.40	0-29.86	19.68	20.34	0-52.43	20.00	19.81	1.1-47.8
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	4.55	10.17	0-22.25	2.69	4.95	0-13.91
Nov	4.86	6.24	0-28.32	4.95	10.17	0-51.44	3.49	9.90	0.71-40.67
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 12.3b. Common Gull design-based density estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.01	0-0.03	0.00	0.00	0-0.02	0.00	0.00	0-0.01
Feb	0.00	0.01	0-0.09	0.00	0.01	0-0.05	0.00	0.01	0-0.04
Mar	0.00	0.03	0-0.13	0.00	0.02	0-0.09	0.00	0.02	0-0.06
Apr	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.05	0.05	0-0.14	0.06	0.06	0-0.15	0.04	0.04	0-0.1
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Oct	0.00	0.00	0-0	0.01	0.03	0-0.07	0.01	0.01	0-0.03
Nov	0.02	0.03	0-0.14	0.01	0.03	0-0.15	0.01	0.02	0-0.08
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 13.1a. Lesser Black-backed Gull design-based abundance estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	6.19	8.32	0-27.38	5.96	6.78	0-29.85	11.77	14.86	0-51.2
Mar	5.41	8.32	0-29.16	5.20	6.78	0-31.43	11.01	9.90	0-30.8
Apr	0.00	0.00	0-0	0.00	0.00	0-0	0.00	4.95	0-30.63
May	0.00	0.00	0-0	0.00	3.39	0-29.57	8.66	9.90	0-26.68
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	44.86	45.75	8.97-89.73	49.21	50.85	9.84-98.42	133.50	133.70	71.2-204.71
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	17.97	27.03	0-80.88	33.86	37.29	0-98.57	47.57	54.47	7.65-133.58
Oct	18.19	39.51	0-116.04	48.06	57.63	0-143.74	83.79	84.18	25.14-144.02
Nov	0.00	4.16	0-21.47	14.77	16.95	0-37.69	18.40	19.81	1.52-46.38
Dec	0.00	0.00	0-0	0.00	3.39	0-17.66	0.00	4.95	0-17.42

Table 13.1b. Lesser Black-backed Gull design-based density estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.03	0.04	0-0.13	0.02	0.02	0-0.09	0.02	0.03	0-0.1
Mar	0.03	0.04	0-0.14	0.02	0.02	0-0.09	0.02	0.02	0-0.06
Apr	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.01	0-0.06
May	0.00	0.00	0-0	0.00	0.01	0-0.09	0.02	0.02	0-0.05
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.22	0.22	0.04-0.43	0.15	0.15	0.03-0.29	0.27	0.27	0.14-0.41
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.09	0.13	0-0.39	0.10	0.11	0-0.29	0.10	0.11	0.02-0.27
Oct	0.09	0.19	0-0.56	0.14	0.17	0-0.42	0.17	0.17	0.05-0.29
Nov	0.00	0.02	0-0.1	0.04	0.05	0-0.11	0.04	0.04	0-0.09
Dec	0.00	0.00	0-0	0.00	0.01	0-0.05	0.00	0.01	0-0.04

Table 13.2a. Lesser Black-backed Gull design-based abundance estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	4.16	0-27.38	0.00	3.39	0-29.85	0.00	9.90	0-36.25
Mar	0.00	2.08	0-16.24	0.00	3.39	0-15.61	0.00	4.95	0-20.53
Apr	0.00	0.00	0-0	0.00	0.00	0-0	0.00	4.95	0-27.56
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	4.95	0-25.99
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	8.97	8.32	0-26.92	9.84	10.17	0-29.53	17.80	19.81	0-44.5
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	1.67	4.95	0-22.02
Oct	0.00	0.00	0-0	0.00	6.78	0-31.24	0.00	9.90	0-30.92
Nov	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 13.2b. Lesser Black-backed Gull design-based density estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	0.02	0-0.13	0.00	0.01	0-0.09	0.00	0.02	0-0.07
Mar	0.00	0.01	0-0.08	0.00	0.01	0-0.05	0.00	0.01	0-0.04
Apr	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.01	0-0.06
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.01	0-0.05
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.04	0.04	0-0.13	0.03	0.03	0-0.09	0.04	0.04	0-0.09
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.01	0-0.04
Oct	0.00	0.00	0-0	0.00	0.02	0-0.09	0.00	0.02	0-0.06
Nov	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 13.3a. Lesser Black-backed Gull design-based abundance estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	2.08	0-18.57	0.00	3.39	0-17.88	5.89	4.95	0-17.66
Mar	0.00	4.16	0-29.16	0.00	6.78	0-33.12	3.22	4.95	0-29.82
Apr	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-6.13
May	0.00	0.00	0-0	0.00	3.39	0-29.57	0.00	4.95	0-26.68
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	35.89	35.35	8.97-71.78	39.37	40.68	9.84-78.74	115.70	113.89	62.3-178.01
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	17.97	27.03	0-80.88	29.57	37.29	0-98.57	44.53	49.52	7.65-124.67
Oct	18.25	39.51	0-111.88	41.48	50.85	0-122.91	75.41	74.28	25.14-126.41
Nov	0.00	4.16	0-21.47	14.77	16.95	0-37.69	18.40	19.81	2.67-45.2
Dec	0.00	0.00	0-0	0.00	3.39	0-17.66	0.00	4.95	0-17.42

Table 13.3b. Lesser Black-backed Gull design-based density estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	0.01	0-0.09	0.00	0.01	0-0.05	0.01	0.01	0-0.04
Mar	0.00	0.02	0-0.14	0.00	0.02	0-0.1	0.01	0.01	0-0.06
Apr	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0.01
May	0.00	0.00	0-0	0.00	0.01	0-0.09	0.00	0.01	0-0.05
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.17	0.17	0.04-0.35	0.12	0.12	0.03-0.23	0.23	0.23	0.13-0.36
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.09	0.13	0-0.39	0.09	0.11	0-0.29	0.09	0.10	0.02-0.25
Oct	0.09	0.19	0-0.54	0.12	0.15	0-0.36	0.15	0.15	0.05-0.26
Nov	0.00	0.02	0-0.1	0.04	0.05	0-0.11	0.04	0.04	0.01-0.09
Dec	0.00	0.00	0-0	0.00	0.01	0-0.05	0.00	0.01	0-0.04

Table 14.1a. Herring Gull design-based abundance estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	2.08	0-18.57	5.96	6.78	0-29.85	17.66	14.86	0-48.03
Mar	5.41	8.32	0-29.16	10.41	13.56	0-52.39	15.40	14.86	0-47.01
Apr	0.00	0.00	0-0	0.00	13.56	0-51.33	0.00	19.81	0-67.45
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	9.84	10.17	0-29.53	8.90	9.90	0-26.7
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	54.23	58.23	17.97-100.72	59.26	64.41	19.71-110.06	71.24	74.28	26.72-124.67
Oct	0.00	0.00	0-0	0.00	3.39	0-27.91	0.00	24.76	0-83.79
Nov	0.00	0.00	0-0	0.00	6.78	0-34.35	22.88	29.71	5.67-79.42
Dec	0.00	0.00	0-0	0.00	0.00	0-0	8.88	9.90	0-29.04

Table 14.1b. Herring Gull design-based density estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	0.01	0-0.09	0.02	0.02	0-0.09	0.04	0.03	0-0.1
Mar	0.03	0.04	0-0.14	0.03	0.04	0-0.15	0.03	0.03	0-0.09
Apr	0.00	0.00	0-0	0.00	0.04	0-0.15	0.00	0.04	0-0.14
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.03	0.03	0-0.09	0.02	0.02	0-0.05
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.26	0.28	0.09-0.48	0.17	0.19	0.06-0.32	0.14	0.15	0.05-0.25
Oct	0.00	0.00	0-0	0.00	0.01	0-0.08	0.00	0.05	0-0.17
Nov	0.00	0.00	0-0	0.00	0.02	0-0.1	0.05	0.06	0.01-0.16
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.02	0.02	0-0.06

Table 14.2a. Herring Gull design-based abundance estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Feb	0	0	0-0	0	0	0-0	0.00	4.95	0-27.02
Mar	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Apr	0	0	0-0	0	0	0-0	0.00	0.00	0-0
May	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Jun	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Jul	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Aug	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Sep	0	0	0-0	0	0	0-0	0.00	4.95	0-16.35
Oct	0	0	0-0	0	0	0-0	0.00	4.95	0-25.14
Nov	0	0	0-0	0	0	0-0	5.89	9.90	0-27.83
Dec	0	0	0-0	0	0	0-0	0.00	0.00	0-0

Table 14.2b. Herring Gull design-based density estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Feb	0	0	0-0	0	0	0-0	0.00	0.01	0-0.05
Mar	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Apr	0	0	0-0	0	0	0-0	0.00	0.00	0-0
May	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Jun	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Jul	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Aug	0	0	0-0	0	0	0-0	0.00	0.00	0-0
Sep	0	0	0-0	0	0	0-0	0.00	0.01	0-0.03
Oct	0	0	0-0	0	0	0-0	0.00	0.01	0-0.05
Nov	0	0	0-0	0	0	0-0	0.01	0.02	0-0.06
Dec	0	0	0-0	0	0	0-0	0.00	0.00	0-0

Table 14.3a. Herring Gull design-based abundance estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	2.08	0-18.57	5.96	6.78	0-29.85	11.77	14.86	0-35.32
Mar	5.41	8.32	0-29.16	10.41	13.56	0-52.39	15.40	14.86	0-47.01
Apr	0.00	0.00	0-0	0.00	13.56	0-51.33	0.00	14.86	0-67.37
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	9.84	10.17	0-39.37	8.90	9.90	0-26.7
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	54.23	58.23	17.97-107.85	59.26	64.41	19.71-118.53	68.85	69.32	26.72-122.45
Oct	0.00	0.00	0-0	0.00	3.39	0-27.91	0.00	19.81	0-75.41
Nov	0.00	0.00	0-0	0.00	6.78	0-34.35	14.17	19.81	4.25-66.09
Dec	0.00	0.00	0-0	0.00	0.00	0-0	8.88	9.90	0-29.04

Table 14.3b. Herring Gull design-based density estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Feb	0.00	0.01	0-0.09	0.02	0.02	0-0.09	0.02	0.03	0-0.07
Mar	0.03	0.04	0-0.14	0.03	0.04	0-0.15	0.03	0.03	0-0.09
Apr	0.00	0.00	0-0	0.00	0.04	0-0.15	0.00	0.03	0-0.14
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.03	0.03	0-0.12	0.02	0.02	0-0.05
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.26	0.28	0.09-0.52	0.17	0.19	0.06-0.35	0.14	0.14	0.05-0.25
Oct	0.00	0.00	0-0	0.00	0.01	0-0.08	0.00	0.04	0-0.15
Nov	0.00	0.00	0-0	0.00	0.02	0-0.1	0.03	0.04	0.01-0.13
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.02	0.02	0-0.06

Table 15.1a. Great Black-backed Gull design-based abundance estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	2.08	0-17.37	0.00	6.78	0-22.33	2.76	19.81	0-66.33
Feb	6.19	31.19	0-99.03	41.73	54.24	0-137.12	67.44	79.23	2.93-188.39
Mar	5.41	8.32	0-29.16	10.48	20.34	0-68.08	12.25	19.81	0-61.06
Apr	0.00	14.56	0-56.27	0.00	13.56	0-51.11	2.55	29.71	0-98
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	17.95	18.72	0-44.86	19.68	20.34	0-49.21	17.80	19.81	0-44.5
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	4.16	0-26.96	8.47	10.17	0-29.57	10.29	14.86	0-41.94
Oct	16.99	16.64	0-39.77	13.84	13.56	0-32.55	28.36	39.61	9.31-108.92
Nov	9.44	10.40	0-28.32	14.95	13.56	0-37.62	20.41	19.81	0-52.52
Dec	0.00	6.24	0-24.63	0.00	10.17	0-35.32	0.00	9.90	0-34.84

Table 15.1b. Great Black-backed Gull design-based density estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.01	0-0.08	0.00	0.02	0-0.07	0.01	0.04	0-0.13
Feb	0.03	0.15	0-0.48	0.12	0.16	0-0.4	0.14	0.16	0.01-0.38
Mar	0.03	0.04	0-0.14	0.03	0.06	0-0.2	0.02	0.04	0-0.12
Apr	0.00	0.07	0-0.27	0.00	0.04	0-0.15	0.01	0.06	0-0.2
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.09	0.09	0-0.22	0.06	0.06	0-0.15	0.04	0.04	0-0.09
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.02	0-0.13	0.02	0.03	0-0.09	0.02	0.03	0-0.08
Oct	0.08	0.08	0-0.19	0.04	0.04	0-0.1	0.06	0.08	0.02-0.22
Nov	0.05	0.05	0-0.14	0.04	0.04	0-0.11	0.04	0.04	0-0.11
Dec	0.00	0.03	0-0.12	0.00	0.03	0-0.1	0.00	0.02	0-0.07

Table 15.2a. Great Black-backed Gull design-based abundance estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	4.95	0-27.64
Feb	0.00	8.32	0-37.14	17.88	16.95	0-47.69	18.01	19.81	0-47.1
Mar	5.41	8.32	0-29.16	10.41	13.56	0-41.91	9.40	9.90	0-37.61
Apr	0.00	10.40	0-46.89	0.00	10.17	0-51.11	0.00	19.81	0-73.5
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	1.06	4.95	0-28.28
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	29.71	0-100.54
Nov	0.00	2.08	0-18.47	0.00	3.39	0-17.86	0.00	4.95	0-23.54
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 15.2b. Great Black-backed Gull design-based density estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.01	0-0.06
Feb	0.00	0.04	0-0.18	0.05	0.05	0-0.14	0.04	0.04	0-0.1
Mar	0.03	0.04	0-0.14	0.03	0.04	0-0.12	0.02	0.02	0-0.08
Apr	0.00	0.05	0-0.23	0.00	0.03	0-0.15	0.00	0.04	0-0.15
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.01	0-0.06
Oct	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.06	0-0.2
Nov	0.00	0.01	0-0.09	0.00	0.01	0-0.05	0.00	0.01	0-0.05
Dec	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0

Table 15.3a. Great Black-backed Gull design-based abundance estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Abundance								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	2.08	0-17.37	0.00	6.78	0-27.91	0.00	14.86	0-49.75
Feb	0.00	20.80	0-68.08	8.94	37.29	0-107.31	30.85	59.42	0-164.84
Mar	0.00	0.00	0-0	0.00	6.78	0-36.64	1.99	9.90	0-32.85
Apr	0.00	4.16	0-28.14	0.00	3.39	0-15.02	0.00	9.90	0-47.98
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	17.95	18.72	0-53.84	19.68	20.34	0-49.21	17.80	19.81	0-44.5
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	4.16	0-26.96	8.47	10.17	0-29.57	7.65	9.90	0-26.72
Oct	16.99	16.64	0-39.65	14.43	13.56	0-30.06	13.61	14.86	0-29.79
Nov	3.15	6.24	0-28.32	11.99	13.56	0-34.24	14.53	14.86	0-34.86
Dec	0.00	6.24	0-30.79	0.00	10.17	0-35.32	0.00	9.90	0-34.84

Table 15.3b. Great Black-backed Gull design-based density estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Month	Density								
	Wind farm			Wind farm & 2km buffer			Wind farm & 4km buffer		
	Median	Mean	Confidence interval	Median	Mean	Confidence interval	Median	Mean	Confidence interval
Jan	0.00	0.01	0-0.08	0.00	0.02	0-0.08	0.00	0.03	0-0.1
Feb	0.00	0.10	0-0.33	0.03	0.11	0-0.32	0.06	0.12	0-0.33
Mar	0.00	0.00	0-0	0.00	0.02	0-0.11	0.00	0.02	0-0.07
Apr	0.00	0.02	0-0.14	0.00	0.01	0-0.04	0.00	0.02	0-0.1
May	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jun	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Jul	0.09	0.09	0-0.26	0.06	0.06	0-0.15	0.04	0.04	0-0.09
Aug	0.00	0.00	0-0	0.00	0.00	0-0	0.00	0.00	0-0
Sep	0.00	0.02	0-0.13	0.02	0.03	0-0.09	0.02	0.02	0-0.05
Oct	0.08	0.08	0-0.19	0.04	0.04	0-0.09	0.03	0.03	0-0.06
Nov	0.02	0.03	0-0.14	0.04	0.04	0-0.1	0.03	0.03	0-0.07
Dec	0.00	0.03	0-0.15	0.00	0.03	0-0.1	0.00	0.02	0-0.07

East Anglia ONE North Wind Farm

Appendix 12.1

Ornithology Technical Appendix

Annex 2

Survey seabird density and abundance

Prepared by:	Mark Trinder
Authorised by:	Bob Furness
Date:	5th September 2018
Tel:	0141 342 5404
Email:	mark.trinder@macarthurgreen.com
Web:	www.macarthurgreen.com
Address:	93 South Woodside Road | Glasgow | G20 6NT

Document Quality Record.

Version	Status	Person Responsible	Date
1	Draft	Mark Trinder	03/09/2018
2	Reviewed	Bob Furness	05/09/2018
3	Updated		
4	Internal Approval		
5	Final Client Approval		

1 INTRODUCTION

1. This appendix provides tables of seabird density and abundance for each species recorded on East Anglia ONE North in each survey.

2. The tables provide density and abundance estimates for species recorded in each of the 21 surveyed months available for the current assessment (September 2016 to May 2018).

3. A key to the table numbering is provided in Table A2. Tables are presented for all birds (on the sea and in flight), in flight, and on the sea, separately. Tables are presented with and without the inclusion of birds not identified to species level (e.g. large gulls, etc) and for guillemot and razorbill, with and without adjustment for availability bias to account for the estimated proportion of individuals underwater when images were captured. Methods for assigning unidentified records and adjustment for availability bias are provided in Technical Appendix 12.1.

4. Monthly densities (birds per km^2) and abundances are summarised as the median and 95% confidence range, derived from 1,000 nonparametric bootstrap samples.

Table A2. Key to species density and abundance tables.

Species	All birds				In Flight		On Sea			
	Positive ID only	Plus availability bias	Plus unidentified	Plus availability bias and unidentified	Positive ID only	Plus unidentified	Positive ID only	Plus availability bias	Plus unidentified	Plus availability bias and unidentified
Red-throated diver	1.1				1.2		1.3			
Fulmar	2.1				2.2		2.3			
Gannet	3.1				3.2		3.3			
Great skua	4.1				4.2		4.3			
Razorbill	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	5.10
Guillemot	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	6.10
Sandwich tern	7.1				7.2		7.3			
Commic tern	8.1				8.2		8.3			
Kittiwake	9.1		9.2		9.3	9.4	9.5		9.6	
Black-headed gull	10.1		10.2		10.3	10.4	10.5		10.6	
Little gull	11.1		11.2		11.3	11.4	11.5		11.6	
Common gull	12.1		12.2		12.3	12.4	12.5		12.6	
Lesser black-backed gull	13.1		13.2		13.3	13.4	13.5		13.6	
Herring gull	14.1		14.2		14.3	14.4	14.5		14.6	
Great black-backed gull	15.1		15.2		15.3	15.4	15.5		15.6	

Table 1.1. Red-throated Diver design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	6.16	0-18.47	11.77	0-29.44	34.84	11.61-63.88	0.03	0-0.09	0.03	0-0.09	0.07	0.02-0.13
Jan-17	28.95	5.79-57.91	55.83	27.91-89.33	77.39	38.69-121.61	0.14	0.03-0.28	0.16	0.08-0.26	0.16	0.08-0.25
Feb-17	12.38	0-30.95	17.88	0-41.73	29.44	5.89-58.87	0.06	0-0.15	0.05	0-0.12	0.06	0.01-0.12
Mar-17	0.00	0-0	20.82	5.2-46.84	92.39	51.33-138.58	0.00	0-0	0.06	0.02-0.14	0.19	0.1-0.28
Apr-17	0.00	0-0	9.02	0-27.07	8.22	0-24.65	0.00	0-0	0.03	0-0.08	0.02	0-0.05
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	28.32	0-66.09	30.86	0-72.01	27.83	0-64.93	0.14	0-0.32	0.09	0-0.21	0.06	0-0.13
Dec-17	0.00	0-0	58.71	19.33-107.64	97.69	44.4-159.86	0.00	0-0	0.17	0.06-0.32	0.20	0.09-0.32
Jan-18	29.12	0-58.23	42.38	10.59-95.35	38.07	9.52-76.15	0.14	0-0.28	0.13	0.03-0.28	0.08	0.02-0.15
Feb-18	301.20	209.93-401.6	507.50	378.14-636.86	657.52	513.4-792.85	1.45	1.01-1.93	1.50	1.12-1.88	1.33	1.04-1.6
Mar-18	19.44	0-48.6	20.96	0-52.39	37.61	9.4-75.21	0.09	0-0.23	0.06	0-0.15	0.08	0.02-0.15
Apr-18	0.00	0-0	10.22	0-30.67	55.12	18.37-101.06	0.00	0-0	0.03	0-0.09	0.11	0.04-0.2
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 1.2. Red-throated Diver design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	9.13	0-27.38	9.95	0-29.85	9.01	0-27.02	0.04	0-0.13	0.03	0-0.09	0.02	0-0.05
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 1.3. Red-throated Diver design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	6.16	0-18.47	11.77	0-29.44	34.84	11.61-63.88	0.03	0-0.09	0.03	0-0.09	0.07	0.02-0.13
Jan-17	28.95	5.79-57.91	55.83	27.91-89.33	77.39	38.69-116.08	0.14	0.03-0.28	0.16	0.08-0.26	0.16	0.08-0.23
Feb-17	12.38	0-30.95	17.88	0-41.73	29.44	5.89-58.87	0.06	0-0.15	0.05	0-0.12	0.06	0.01-0.12
Mar-17	0.00	0-0	20.82	5.2-41.64	92.39	51.33-138.58	0.00	0-0	0.06	0.02-0.12	0.19	0.1-0.28
Apr-17	0.00	0-0	9.02	0-27.07	8.22	0-24.65	0.00	0-0	0.03	0-0.08	0.02	0-0.05
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	28.32	0-66.09	30.86	0-72.01	27.83	0-64.93	0.14	0-0.32	0.09	0-0.21	0.06	0-0.13
Dec-17	0.00	0-0	58.71	19.57-107.64	97.69	53.29-159.86	0.00	0-0	0.17	0.06-0.32	0.20	0.11-0.32
Jan-18	29.12	0-67.94	42.38	10.59-84.75	38.07	9.52-76.15	0.14	0-0.33	0.13	0.03-0.25	0.08	0.02-0.15
Feb-18	292.08	200.8-392.48	497.55	368.18-626.91	648.51	513.4-801.63	1.40	0.97-1.89	1.47	1.09-1.85	1.31	1.04-1.62
Mar-18	19.44	0-48.6	20.96	0-52.39	37.61	9.4-75.21	0.09	0-0.23	0.06	0-0.15	0.08	0.02-0.15
Apr-18	0.00	0-0	10.22	0-30.67	55.12	18.37-101.06	0.00	0-0	0.03	0-0.09	0.11	0.04-0.2
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 2.1. Fulmar design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	9.86	0-29.57	17.81	0-44.53	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Oct-16	859.01	746.13-977.12	1322.59	1176.8-1468.39	1468.94	1319.47-1623.56	4.13	3.59-4.7	3.90	3.47-4.33	2.97	2.66-3.28
Nov-16	73.88	36.94-116.98	119.04	71.42-172.61	123.60	70.63-182.46	0.36	0.18-0.56	0.35	0.21-0.51	0.25	0.14-0.37
Dec-16	36.94	12.31-67.73	41.21	11.77-76.54	69.69	34.84-104.53	0.18	0.06-0.33	0.12	0.03-0.23	0.14	0.07-0.21
Jan-17	0.00	0-0	0.00	0-0	22.11	5.53-44.36	0.00	0-0	0.00	0-0	0.04	0.01-0.09
Feb-17	49.52	18.57-86.65	125.19	77.5-178.85	158.95	105.97-223.71	0.24	0.09-0.42	0.37	0.23-0.53	0.32	0.21-0.45
Mar-17	37.89	16.1-70.37	78.07	41.64-124.91	97.52	56.46-143.72	0.18	0.08-0.34	0.23	0.12-0.37	0.20	0.11-0.29
Apr-17	16.24	0-40.61	27.07	0-63.17	41.08	8.22-73.95	0.08	0-0.2	0.08	0-0.19	0.08	0.02-0.15
May-17	0.00	0-0	59.15	19.72-118.3	53.36	17.79-97.83	0.00	0-0	0.17	0.06-0.35	0.11	0.04-0.2
Jun-17	18.49	0-46.22	30.33	0-70.78	45.67	9.13-91.33	0.09	0-0.22	0.09	0-0.21	0.09	0.02-0.18
Jul-17	44.86	8.97-80.98	98.42	39.37-157.48	258.11	169.1-347.33	0.22	0.04-0.39	0.29	0.12-0.46	0.52	0.34-0.7
Aug-17	63.44	23.79-111.02	104.44	52.22-165.37	110.36	55.18-165.54	0.31	0.11-0.53	0.31	0.15-0.49	0.22	0.11-0.33
Sep-17	23.24	0-54.23	50.80	16.93-93.13	53.55	15.3-91.79	0.11	0-0.26	0.15	0.05-0.27	0.11	0.03-0.19
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	84.97	37.76-141.61	133.73	61.72-206	176.23	102.03-268.99	0.41	0.18-0.68	0.39	0.18-0.61	0.36	0.21-0.54
Dec-17	17.93	0-44.81	19.57	0-48.93	26.64	0-62.17	0.09	0-0.22	0.06	0-0.14	0.05	0-0.13
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	9.13	0-27.38	9.95	0-29.85	27.02	0-63.05	0.04	0-0.13	0.03	0-0.09	0.05	0-0.13
Mar-18	9.72	0-29.16	20.96	0-52.39	47.01	9.4-94.02	0.05	0-0.14	0.06	0-0.15	0.09	0.02-0.19
Apr-18	18.76	0-46.89	20.45	0-51.11	45.94	9.19-91.87	0.09	0-0.23	0.06	0-0.15	0.09	0.02-0.19
May-18	0.00	0-0	9.39	0-28.18	17.32	0-43.31	0.00	0-0	0.03	0-0.08	0.03	0-0.09

Table 2.2. Fulmar design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	134.22	85.9-187.91	364.49	275.97-447.81	371.10	293.79-453.57	0.65	0.41-0.9	1.08	0.81-1.32	0.75	0.59-0.92
Nov-16	18.47	0-43.1	53.57	23.81-89.28	58.86	23.54-94.17	0.09	0-0.21	0.16	0.07-0.26	0.12	0.05-0.19
Dec-16	6.16	0-18.47	5.89	0-23.55	11.61	0-29.04	0.03	0-0.09	0.02	0-0.07	0.02	0-0.06
Jan-17	0.00	0-0	0.00	0-0	22.11	5.53-44.22	0.00	0-0	0.00	0-0	0.04	0.01-0.09
Feb-17	18.57	0-43.33	77.50	35.77-119.23	100.08	52.98-147.18	0.09	0-0.21	0.23	0.11-0.35	0.20	0.11-0.3
Mar-17	27.07	5.41-54.13	41.64	15.61-72.87	56.46	25.66-92.39	0.13	0.03-0.26	0.12	0.05-0.21	0.11	0.05-0.19
Apr-17	8.12	0-24.37	18.05	0-45.12	24.65	0-57.52	0.04	0-0.12	0.05	0-0.13	0.05	0-0.12
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	8.97	0-26.92	29.53	0-68.9	62.30	17.8-107.03	0.04	0-0.13	0.09	0-0.2	0.13	0.04-0.22
Aug-17	15.86	0-39.65	17.41	0-43.52	31.53	7.88-63.06	0.08	0-0.19	0.05	0-0.13	0.06	0.02-0.13
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	9.44	0-28.32	41.15	10.29-82.3	55.65	18.55-102.03	0.05	0-0.14	0.12	0.03-0.24	0.11	0.04-0.21
Dec-17	8.96	0-26.89	9.79	0-29.36	17.76	0-44.4	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	9.13	0-36.51	9.95	0-29.85	18.01	0-45.04	0.04	0-0.18	0.03	0-0.09	0.04	0-0.09
Mar-18	9.72	0-29.16	20.96	0-52.39	47.01	9.4-94.02	0.05	0-0.14	0.06	0-0.15	0.09	0.02-0.19
Apr-18	9.38	0-28.14	10.22	0-30.67	27.56	0-64.31	0.05	0-0.14	0.03	0-0.09	0.06	0-0.13
May-18	0.00	0-0	9.39	0-28.18	8.66	0-25.99	0.00	0-0	0.03	0-0.08	0.02	0-0.05

Table 2.3. Fulmar design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	9.86	0-29.57	17.81	0-44.53	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Oct-16	724.79	628.02-837.53	958.10	838.34-1077.99	1097.84	974.01-1242.15	3.49	3.02-4.03	2.83	2.47-3.18	2.22	1.97-2.51
Nov-16	55.41	24.63-92.36	65.47	29.76-107.14	64.74	29.43-105.94	0.27	0.12-0.44	0.19	0.09-0.32	0.13	0.06-0.21
Dec-16	30.79	6.16-61.57	35.32	11.77-64.76	58.07	23.23-98.72	0.15	0.03-0.3	0.10	0.03-0.19	0.12	0.05-0.2
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	30.95	6.19-61.89	47.69	17.88-83.46	58.87	29.29-100.08	0.15	0.03-0.3	0.14	0.05-0.25	0.12	0.06-0.2
Mar-17	10.83	0-27.07	36.43	10.41-67.66	41.06	15.4-71.86	0.05	0-0.13	0.11	0.03-0.2	0.08	0.03-0.15
Apr-17	8.12	0-24.37	9.02	0-27.07	16.43	0-41.08	0.04	0-0.12	0.03	0-0.08	0.03	0-0.08
May-17	0.00	0-0	59.15	19.72-108.44	53.36	8.89-97.83	0.00	0-0	0.17	0.06-0.32	0.11	0.02-0.2
Jun-17	18.49	0-46.22	30.33	0-70.78	45.67	9.13-91.33	0.09	0-0.22	0.09	0-0.21	0.09	0.02-0.18
Jul-17	35.89	8.97-71.78	68.90	19.68-127.95	195.81	115.7-285.03	0.17	0.04-0.35	0.20	0.06-0.38	0.40	0.23-0.58
Aug-17	47.58	15.86-87.23	87.04	43.52-139.26	78.83	31.53-134.2	0.23	0.08-0.42	0.26	0.13-0.41	0.16	0.06-0.27
Sep-17	23.24	0-54.23	50.80	16.93-93.13	53.55	22.95-91.79	0.11	0-0.26	0.15	0.05-0.27	0.11	0.05-0.19
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	75.53	28.32-132.17	92.58	41.15-154.31	120.58	64.93-194.79	0.36	0.14-0.64	0.27	0.12-0.46	0.24	0.13-0.39
Dec-17	8.96	0-26.89	9.79	0-29.36	8.88	0-26.64	0.04	0-0.13	0.03	0-0.09	0.02	0-0.05
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	9.01	0-27.02	0.00	0-0	0.00	0-0	0.02	0-0.05
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	9.38	0-28.14	10.22	0-30.67	18.37	0-45.94	0.05	0-0.14	0.03	0-0.09	0.04	0-0.09
May-18	0.00	0-0	0.00	0-0	8.66	0-25.99	0.00	0-0	0.00	0-0	0.02	0-0.05

Table 3.1. Gannet design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	98.86	44.94-161.77	157.71	78.86-236.57	249.34	169.2-338.61	0.48	0.22-0.78	0.47	0.23-0.7	0.50	0.34-0.68
Oct-16	102.01	59.06-150.33	140.59	93.73-197.87	185.55	133.88-252.55	0.49	0.28-0.72	0.41	0.28-0.58	0.37	0.27-0.51
Nov-16	98.51	55.26-147.77	214.27	154.75-285.7	435.54	347.26-535.6	0.47	0.27-0.71	0.63	0.46-0.84	0.88	0.7-1.08
Dec-16	12.31	0-30.79	11.77	0-29.44	23.23	5.81-46.46	0.06	0-0.15	0.03	0-0.09	0.05	0.01-0.09
Jan-17	5.79	0-17.37	5.58	0-16.75	5.53	0-16.58	0.03	0-0.08	0.02	0-0.05	0.01	0-0.03
Feb-17	6.19	0-18.57	5.96	0-17.88	35.32	11.77-64.76	0.03	0-0.09	0.02	0-0.05	0.07	0.02-0.13
Mar-17	16.24	0-37.89	36.43	10.41-67.66	61.59	30.8-97.52	0.08	0-0.18	0.11	0.03-0.2	0.12	0.06-0.2
Apr-17	8.12	0-24.37	18.05	0-45.12	16.43	0-41.08	0.04	0-0.12	0.05	0-0.13	0.03	0-0.08
May-17	8.98	0-27.17	29.57	0-69.01	35.58	8.89-71.15	0.04	0-0.13	0.09	0-0.2	0.07	0.02-0.14
Jun-17	27.73	0-64.7	40.45	10.11-80.89	54.80	18.27-100.47	0.13	0-0.31	0.12	0.03-0.24	0.11	0.04-0.2
Jul-17	35.89	8.97-71.78	59.05	9.84-108.27	124.60	62.3-195.81	0.17	0.04-0.35	0.17	0.03-0.32	0.25	0.13-0.4
Aug-17	79.30	31.72-134.81	147.96	78.33-217.59	173.42	110.36-252.25	0.38	0.15-0.65	0.44	0.23-0.64	0.35	0.22-0.51
Sep-17	30.99	7.75-61.98	67.73	25.4-118.53	160.64	99.44-229.49	0.15	0.04-0.3	0.20	0.07-0.35	0.32	0.2-0.46
Oct-17	59.46	25.48-110.43	130.27	65.13-204.7	251.36	167.57-335.36	0.29	0.12-0.53	0.38	0.19-0.6	0.51	0.34-0.68
Nov-17	434.27	320.99-547.56	720.10	565.8-874.41	983.20	825.29-1168.71	2.09	1.54-2.63	2.12	1.67-2.58	1.99	1.67-2.36
Dec-17	0.00	0-0	0.00	0-0	17.76	0-44.4	0.00	0-0	0.00	0-0	0.04	0-0.09
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	18.25	0-45.64	29.85	0-69.66	27.02	0-63.05	0.09	0-0.22	0.09	0-0.21	0.05	0-0.13
Mar-18	48.60	9.72-97.2	52.39	10.48-104.78	75.21	28.21-131.62	0.23	0.05-0.47	0.15	0.03-0.31	0.15	0.06-0.27
Apr-18	131.30	75.03-197.18	184.01	102.23-276.02	257.25	165.37-358.31	0.63	0.36-0.95	0.54	0.3-0.81	0.52	0.33-0.72
May-18	25.85	0-60.31	28.18	0-65.75	34.65	8.66-69.3	0.12	0-0.29	0.08	0-0.19	0.07	0.02-0.14

Table 3.2. Gannet design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	39.43	9.86-78.86	89.05	35.62-151.39	0.00	0-0	0.12	0.03-0.23	0.18	0.07-0.31
Oct-16	16.11	0-37.58	41.66	15.62-72.9	56.70	25.77-92.77	0.08	0-0.18	0.12	0.05-0.22	0.11	0.05-0.19
Nov-16	43.10	18.47-73.88	130.95	77.38-184.51	247.20	182.46-329.6	0.21	0.09-0.36	0.39	0.23-0.54	0.50	0.37-0.67
Dec-16	12.31	0-30.79	11.77	0-29.44	17.42	0-40.65	0.06	0-0.15	0.03	0-0.09	0.04	0-0.08
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-17.88	35.32	11.77-64.76	0.03	0-0.09	0.02	0-0.05	0.07	0.02-0.13
Mar-17	5.41	0-16.24	15.61	0-36.43	30.80	10.27-56.46	0.03	0-0.08	0.05	0-0.11	0.06	0.02-0.11
Apr-17	8.12	0-24.37	18.05	0-45.12	16.43	0-41.08	0.04	0-0.12	0.05	0-0.13	0.03	0-0.08
May-17	0.00	0-0	9.86	0-29.57	17.79	0-44.47	0.00	0-0	0.03	0-0.09	0.04	0-0.09
Jun-17	18.49	0-46.22	20.22	0-50.56	18.27	0-45.67	0.09	0-0.22	0.06	0-0.15	0.04	0-0.09
Jul-17	26.92	0-62.81	39.37	9.84-78.74	62.30	17.8-115.7	0.13	0-0.3	0.12	0.03-0.23	0.13	0.04-0.23
Aug-17	55.51	15.86-103.09	95.74	43.52-147.96	110.36	63.06-165.54	0.27	0.08-0.5	0.28	0.13-0.44	0.22	0.13-0.33
Sep-17	15.49	0-38.74	25.40	0-59.26	99.44	53.55-160.64	0.07	0-0.19	0.07	0-0.17	0.20	0.11-0.32
Oct-17	59.46	16.99-110.43	111.66	55.83-176.79	192.71	125.68-276.5	0.29	0.08-0.53	0.33	0.16-0.52	0.39	0.25-0.56
Nov-17	236.02	151.05-320.99	360.05	256.92-473.47	454.50	342.96-584.36	1.13	0.73-1.54	1.06	0.76-1.4	0.92	0.69-1.18
Dec-17	0.00	0-0	0.00	0-0	8.88	0-26.64	0.00	0-0	0.00	0-0	0.02	0-0.05
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	18.25	0-45.64	29.85	0-69.66	27.02	0-63.05	0.09	0-0.22	0.09	0-0.21	0.05	0-0.13
Mar-18	48.60	9.72-87.48	52.39	10.48-104.78	75.21	28.21-131.62	0.23	0.05-0.42	0.15	0.03-0.31	0.15	0.06-0.27
Apr-18	84.41	37.51-140.91	132.90	71.56-204.46	183.75	110.25-266.44	0.41	0.18-0.68	0.39	0.21-0.6	0.37	0.22-0.54
May-18	0.00	0-0	0.00	0-0	8.66	0-25.99	0.00	0-0	0.00	0-0	0.02	0-0.05

Table 3.3. Gannet design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	98.86	44.94-161.77	118.28	59.14-187.28	160.29	97.96-231.53	0.48	0.22-0.78	0.35	0.17-0.55	0.32	0.2-0.47
Oct-16	85.90	48.32-128.85	98.93	57.28-145.8	128.85	82.47-185.55	0.41	0.23-0.62	0.29	0.17-0.43	0.26	0.17-0.37
Nov-16	55.41	18.47-92.36	83.33	41.66-130.95	188.34	123.6-253.09	0.27	0.09-0.44	0.25	0.12-0.39	0.38	0.25-0.51
Dec-16	0.00	0-0	0.00	0-0	5.81	0-23.23	0.00	0-0	0.00	0-0	0.01	0-0.05
Jan-17	5.79	0-17.37	5.58	0-16.75	5.53	0-16.58	0.03	0-0.08	0.02	0-0.05	0.01	0-0.03
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	10.83	0-27.07	20.82	5.2-41.64	30.80	10.27-56.46	0.05	0-0.13	0.06	0.02-0.12	0.06	0.02-0.11
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	8.98	0-35.93	19.72	0-49.29	17.79	0-53.36	0.04	0-0.17	0.06	0-0.15	0.04	0-0.11
Jun-17	9.24	0-27.73	20.22	0-50.56	36.53	9.13-73.07	0.04	0-0.13	0.06	0-0.15	0.07	0.02-0.15
Jul-17	8.97	0-26.92	19.68	0-49.21	62.30	17.8-106.8	0.04	0-0.13	0.06	0-0.15	0.13	0.04-0.22
Aug-17	23.79	0-55.51	52.22	17.41-95.74	63.06	23.65-110.36	0.11	0-0.27	0.15	0.05-0.28	0.13	0.05-0.22
Sep-17	15.49	0-38.74	42.33	8.47-84.66	61.20	22.95-107.09	0.07	0-0.19	0.12	0.02-0.25	0.12	0.05-0.22
Oct-17	0.00	0-0	18.61	0-46.52	50.27	16.76-92.17	0.00	0-0	0.05	0-0.14	0.10	0.03-0.19
Nov-17	198.26	122.73-283.46	360.05	246.89-483.5	528.70	408.12-658.56	0.95	0.59-1.36	1.06	0.73-1.43	1.07	0.82-1.33
Dec-17	0.00	0-0	0.00	0-0	8.88	0-26.64	0.00	0-0	0.00	0-0	0.02	0-0.05
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	46.89	9.38-93.78	51.11	10.22-102.23	73.50	27.56-119.44	0.23	0.05-0.45	0.15	0.03-0.3	0.15	0.06-0.24
May-18	25.85	0-60.31	28.18	0-65.75	25.99	0-60.63	0.12	0-0.29	0.08	0-0.19	0.05	0-0.12

Table 4.1. Great Skua design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-16	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Nov-16	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Dec-16	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Mar-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Apr-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jun-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jul-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Aug-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Sep-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-17	0	0-0	9.3	0-27.91	16.76	0-41.89	0	0-0	0.03	0-0.08	0.03	0-0.08
Nov-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Dec-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Mar-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Apr-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0

Table 4.2. Great Skua design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-16	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Nov-16	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Dec-16	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Mar-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Apr-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jun-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jul-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Aug-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Sep-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-17	0	0-0	9.3	0-37.22	16.76	0-41.89	0	0-0	0.03	0-0.11	0.03	0-0.08
Nov-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Dec-17	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Mar-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Apr-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-18	0	0-0	0.0	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0

Table 4.3. Great Skua design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Oct-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Nov-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Dec-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jan-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Feb-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Mar-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Apr-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
May-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jun-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jul-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Aug-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Sep-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Oct-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Nov-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Dec-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jan-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Feb-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Mar-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Apr-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
May-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0

Table 5.1. Razorbill design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	10.41	0-26.04	25.77	5.15-51.54	0.00	0-0	0.03	0-0.08	0.05	0.01-0.1
Nov-16	24.63	6.16-49.26	47.62	17.86-83.33	58.86	23.54-100.06	0.12	0.03-0.24	0.14	0.05-0.25	0.12	0.05-0.2
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	110.02	63.7-162.14	206.57	145.15-273.56	259.80	187.94-331.66	0.53	0.31-0.78	0.61	0.43-0.81	0.52	0.38-0.67
Feb-17	55.70	24.6-92.84	89.42	47.69-137.12	111.85	64.76-164.84	0.27	0.12-0.45	0.26	0.14-0.4	0.23	0.13-0.33
Mar-17	70.37	32.48-113.68	124.91	78.07-176.96	189.91	133.45-256.64	0.34	0.16-0.55	0.37	0.23-0.52	0.38	0.27-0.52
Apr-17	56.86	16.24-97.47	108.30	45.12-171.47	180.76	106.81-254.71	0.27	0.08-0.47	0.32	0.13-0.51	0.37	0.22-0.51
May-17	17.97	0-44.92	19.72	0-49.29	62.26	17.79-106.95	0.09	0-0.22	0.06	0-0.15	0.13	0.04-0.22
Jun-17	9.24	0-27.73	10.11	0-30.33	18.27	0-45.67	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Jul-17	17.95	0-44.86	19.68	0-49.21	53.40	17.8-106.8	0.09	0-0.22	0.06	0-0.15	0.11	0.04-0.22
Aug-17	47.58	15.86-87.23	69.63	26.11-121.85	126.12	70.94-189.18	0.23	0.08-0.42	0.21	0.08-0.36	0.25	0.14-0.38
Sep-17	15.49	0-38.74	25.40	0-59.26	53.55	15.3-91.99	0.07	0-0.19	0.07	0-0.17	0.11	0.03-0.19
Oct-17	33.98	8.49-67.96	46.52	9.3-83.98	92.17	41.89-150.82	0.16	0.04-0.33	0.14	0.03-0.25	0.19	0.08-0.3
Nov-17	37.76	9.44-75.76	41.15	10.29-82.3	129.86	64.93-204.06	0.18	0.05-0.36	0.12	0.03-0.24	0.26	0.13-0.41
Dec-17	26.89	0-62.74	48.93	9.79-97.85	44.40	8.88-88.81	0.13	0-0.3	0.14	0.03-0.29	0.09	0.02-0.18
Jan-18	9.71	0-29.12	10.59	0-31.78	9.52	0-28.55	0.05	0-0.14	0.03	0-0.09	0.02	0-0.06
Feb-18	54.76	18.25-100.4	69.66	19.9-119.66	144.11	72.06-225.18	0.26	0.09-0.48	0.21	0.06-0.35	0.29	0.15-0.45
Mar-18	184.69	106.93-272.17	220.03	136.21-314.33	216.24	131.62-300.85	0.89	0.51-1.31	0.65	0.4-0.93	0.44	0.27-0.61
Apr-18	328.24	234.46-431.41	562.26	429.36-705.38	523.69	413.44-652.54	1.58	1.13-2.07	1.66	1.27-2.08	1.06	0.83-1.32
May-18	8.62	0-25.85	18.78	0-46.96	25.99	0-60.63	0.04	0-0.12	0.06	0-0.14	0.05	0-0.12

Table 5.2. Razorbill design based estimates of birds in flight and on sea and accounting for availability bias.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	12.55	0-31.37	31.05	6.21-61.04	0.00	0-0	0.04	0-0.09	0.06	0.01-0.12
Nov-16	29.67	7.42-59.35	57.37	21.51-100.4	70.91	28.36-120.55	0.14	0.04-0.29	0.17	0.06-0.3	0.14	0.06-0.24
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	132.56	77.93-194.16	248.87	174.88-329.59	313.01	226.43-401.85	0.64	0.37-0.93	0.73	0.52-0.97	0.63	0.46-0.81
Feb-17	67.11	29.64-111.86	107.74	57.46-165.2	134.76	78.02-198.63	0.32	0.14-0.54	0.32	0.17-0.49	0.27	0.16-0.4
Mar-17	84.79	40.24-135.86	150.50	94.06-213.21	228.81	159.73-307.1	0.41	0.19-0.65	0.44	0.28-0.63	0.46	0.32-0.62
Apr-17	68.50	19.57-117.43	130.48	56.21-206.59	217.79	130.38-306.92	0.33	0.09-0.56	0.38	0.17-0.61	0.44	0.26-0.62
May-17	21.65	0-54.12	23.75	0-59.39	75.01	21.43-130.63	0.10	0-0.26	0.07	0-0.18	0.15	0.04-0.26
Jun-17	11.14	0-33.41	12.18	0-36.55	22.01	0-55.02	0.05	0-0.16	0.04	0-0.11	0.04	0-0.11
Jul-17	21.62	0-54.05	23.72	0-59.29	64.34	21.45-126.86	0.10	0-0.26	0.07	0-0.17	0.13	0.04-0.26
Aug-17	57.32	19.11-105.09	83.89	31.46-146.81	151.96	85.47-229.55	0.28	0.09-0.51	0.25	0.09-0.43	0.31	0.17-0.46
Sep-17	18.67	0-46.67	30.60	0-71.4	64.51	18.43-110.79	0.09	0-0.22	0.09	0-0.21	0.13	0.04-0.22
Oct-17	40.94	10.23-81.92	56.05	11.21-103.03	111.04	50.47-181.71	0.20	0.05-0.39	0.17	0.03-0.3	0.22	0.1-0.37
Nov-17	45.50	11.37-93.16	49.58	12.39-99.15	156.45	78.23-245.86	0.22	0.05-0.45	0.15	0.04-0.29	0.32	0.16-0.5
Dec-17	32.40	0-75.59	58.95	11.79-117.89	53.50	10.7-107	0.16	0-0.36	0.17	0.03-0.35	0.11	0.02-0.22
Jan-18	11.69	0-35.08	12.76	0-38.29	11.47	0-36.35	0.06	0-0.17	0.04	0-0.11	0.02	0-0.07
Feb-18	65.98	21.99-120.97	83.92	23.98-146.16	171.79	86.82-267.61	0.32	0.11-0.58	0.25	0.07-0.43	0.35	0.18-0.54
Mar-18	222.52	128.83-325.93	262.95	161.91-376.57	256.68	156.66-360.55	1.07	0.62-1.57	0.78	0.48-1.11	0.52	0.32-0.73
Apr-18	395.47	280.56-517.84	677.42	517.3-849.86	630.95	494.35-788.03	1.90	1.35-2.49	2.00	1.53-2.51	1.27	1-1.59
May-18	10.38	0-31.14	22.63	0-56.58	31.31	0-71.28	0.05	0-0.15	0.07	0-0.17	0.06	0-0.14

Table 5.3. Razorbill design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	10.41	0-26.04	25.77	5.15-51.54	0.00	0-0	0.03	0-0.08	0.05	0.01-0.1
Nov-16	24.63	6.16-49.26	47.62	17.86-83.33	58.86	23.54-100.06	0.12	0.03-0.24	0.14	0.05-0.25	0.12	0.05-0.2
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	110.02	63.7-162.14	206.57	145.15-273.56	259.80	187.94-331.66	0.53	0.31-0.78	0.61	0.43-0.81	0.52	0.38-0.67
Feb-17	55.70	24.6-92.84	89.42	47.69-137.12	111.85	64.76-164.84	0.27	0.12-0.45	0.26	0.14-0.4	0.23	0.13-0.33
Mar-17	70.37	32.48-113.68	124.91	78.07-176.96	189.91	133.45-256.64	0.34	0.16-0.55	0.37	0.23-0.52	0.38	0.27-0.52
Apr-17	56.86	16.24-97.47	108.30	45.12-171.47	180.76	106.81-254.71	0.27	0.08-0.47	0.32	0.13-0.51	0.37	0.22-0.51
May-17	17.97	0-44.92	19.72	0-49.29	62.26	17.79-106.95	0.09	0-0.22	0.06	0-0.15	0.13	0.04-0.22
Jun-17	9.24	0-27.73	10.11	0-30.33	18.27	0-45.67	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Jul-17	17.95	0-44.86	19.68	0-49.21	53.40	17.8-106.8	0.09	0-0.22	0.06	0-0.15	0.11	0.04-0.22
Aug-17	47.58	15.86-87.23	69.63	26.11-121.85	126.12	70.94-189.18	0.23	0.08-0.42	0.21	0.08-0.36	0.25	0.14-0.38
Sep-17	15.49	0-38.74	25.40	0-59.26	53.55	15.3-91.99	0.07	0-0.19	0.07	0-0.17	0.11	0.03-0.19
Oct-17	33.98	8.49-67.96	46.52	9.3-83.98	92.17	41.89-150.82	0.16	0.04-0.33	0.14	0.03-0.25	0.19	0.08-0.3
Nov-17	37.76	9.44-75.76	41.15	10.29-82.3	129.86	64.93-204.06	0.18	0.05-0.36	0.12	0.03-0.24	0.26	0.13-0.41
Dec-17	26.89	0-62.74	48.93	9.79-97.85	44.40	8.88-88.81	0.13	0-0.3	0.14	0.03-0.29	0.09	0.02-0.18
Jan-18	9.71	0-29.12	10.59	0-31.78	9.52	0-28.55	0.05	0-0.14	0.03	0-0.09	0.02	0-0.06
Feb-18	54.76	18.25-100.4	69.66	19.9-119.66	144.11	72.06-225.18	0.26	0.09-0.48	0.21	0.06-0.35	0.29	0.15-0.45
Mar-18	184.69	106.93-272.17	220.03	136.21-314.33	216.24	131.62-300.85	0.89	0.51-1.31	0.65	0.4-0.93	0.44	0.27-0.61
Apr-18	328.24	234.46-431.41	562.26	429.36-705.38	523.69	413.44-652.54	1.58	1.13-2.07	1.66	1.27-2.08	1.06	0.83-1.32
May-18	8.75	0-26.38	19.53	0.74-48.2	27.69	2.27-62.91	0.04	0-0.13	0.06	0-0.14	0.06	0-0.13

Table 5.4. Razorbill design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	12.55	0-31.37	31.05	6.21-61.04	0.00	0-0	0.04	0-0.09	0.06	0.01-0.12
Nov-16	29.67	7.42-59.35	57.37	21.51-100.4	70.91	28.36-120.55	0.14	0.04-0.29	0.17	0.06-0.3	0.14	0.06-0.24
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	132.56	77.93-194.16	248.87	174.88-329.59	313.01	226.43-401.85	0.64	0.37-0.93	0.73	0.52-0.97	0.63	0.46-0.81
Feb-17	67.11	29.64-111.86	107.74	57.46-165.2	134.76	78.02-198.63	0.32	0.14-0.54	0.32	0.17-0.49	0.27	0.16-0.4
Mar-17	84.79	40.24-135.86	150.50	94.06-213.21	228.81	159.73-307.1	0.41	0.19-0.65	0.44	0.28-0.63	0.46	0.32-0.62
Apr-17	68.50	19.57-117.43	130.48	56.21-206.59	217.79	130.38-306.92	0.33	0.09-0.56	0.38	0.17-0.61	0.44	0.26-0.62
May-17	21.65	0-54.12	23.75	0-59.39	75.01	21.43-130.63	0.10	0-0.26	0.07	0-0.18	0.15	0.04-0.26
Jun-17	11.14	0-33.41	12.18	0-36.55	22.01	0-55.02	0.05	0-0.16	0.04	0-0.11	0.04	0-0.11
Jul-17	21.62	0-54.05	23.72	0-59.29	64.34	21.45-126.86	0.10	0-0.26	0.07	0-0.17	0.13	0.04-0.26
Aug-17	57.32	19.11-105.09	83.89	31.46-146.81	151.96	85.47-229.55	0.28	0.09-0.51	0.25	0.09-0.43	0.31	0.17-0.46
Sep-17	18.67	0-46.67	30.60	0-71.4	64.51	18.43-110.79	0.09	0-0.22	0.09	0-0.21	0.13	0.04-0.22
Oct-17	40.94	10.23-81.92	56.05	11.21-103.03	111.04	50.47-181.71	0.20	0.05-0.39	0.17	0.03-0.3	0.22	0.1-0.37
Nov-17	45.50	11.37-93.16	49.58	12.39-99.15	156.45	78.23-245.86	0.22	0.05-0.45	0.15	0.04-0.29	0.32	0.16-0.5
Dec-17	32.40	0-75.59	58.95	11.79-117.89	53.50	10.7-107	0.16	0-0.36	0.17	0.03-0.35	0.11	0.02-0.22
Jan-18	11.69	0-35.08	12.76	0-38.29	11.47	0-36.35	0.06	0-0.17	0.04	0-0.11	0.02	0-0.07
Feb-18	65.98	21.99-120.97	83.92	23.98-146.16	171.79	86.82-267.61	0.32	0.11-0.58	0.25	0.07-0.43	0.35	0.18-0.54
Mar-18	222.52	128.83-325.93	262.95	161.91-376.57	256.68	156.66-360.55	1.07	0.62-1.57	0.78	0.48-1.11	0.52	0.32-0.73
Apr-18	395.47	280.56-517.84	677.42	517.3-849.86	630.95	494.35-788.03	1.90	1.35-2.49	2.00	1.53-2.51	1.27	1-1.59
May-18	10.54	0-31.78	23.53	0.85-58.08	33.31	2.68-74.26	0.05	0-0.15	0.07	0-0.17	0.07	0.01-0.15

Table 5.5. Razorbill design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Nov-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Dec-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Mar-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Apr-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jun-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jul-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Aug-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Sep-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Nov-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Dec-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-18	0	0-0	0.00	0-0	9.01	0-27.02	0	0-0	0.00	0-0	0.02	0-0.05
Mar-18	0	0-0	10.48	0-31.43	18.80	0-47.01	0	0-0	0.03	0-0.09	0.04	0-0.09
Apr-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0

Table 5.6. Razorbill design based estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Nov-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Dec-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Mar-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Apr-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jun-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jul-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Aug-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Sep-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Nov-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Dec-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-18	0	0-0	0.00	0-0	9.01	0-27.02	0	0-0	0.00	0-0	0.02	0-0.05
Mar-18	0	0-0	10.48	0-31.43	18.80	0-47.01	0	0-0	0.03	0-0.09	0.04	0-0.09
Apr-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0

Table 5.7. Razorbill design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	10.41	0-26.04	25.77	5.15-46.39	0.00	0-0	0.03	0-0.08	0.05	0.01-0.09
Nov-16	24.63	6.16-49.26	47.62	17.86-83.33	58.86	23.54-100.06	0.12	0.03-0.24	0.14	0.05-0.25	0.12	0.05-0.2
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	110.02	69.49-156.35	206.57	145.15-273.56	259.80	187.94-342.71	0.53	0.33-0.75	0.61	0.43-0.81	0.52	0.38-0.69
Feb-17	55.70	24.6-92.84	89.42	47.69-137.12	111.85	64.76-164.99	0.27	0.12-0.45	0.26	0.14-0.4	0.23	0.13-0.33
Mar-17	70.37	37.89-108.27	124.91	78.07-176.96	189.91	128.32-246.37	0.34	0.18-0.52	0.37	0.23-0.52	0.38	0.26-0.5
Apr-17	56.86	16.24-97.47	108.30	54.15-171.47	180.76	115.03-254.92	0.27	0.08-0.47	0.32	0.16-0.51	0.37	0.23-0.51
May-17	17.97	0-44.92	19.72	0-49.29	62.26	17.79-115.62	0.09	0-0.22	0.06	0-0.15	0.13	0.04-0.23
Jun-17	9.24	0-27.73	10.11	0-30.33	18.27	0-45.67	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Jul-17	17.95	0-44.86	19.68	0-49.21	53.40	17.8-97.9	0.09	0-0.22	0.06	0-0.15	0.11	0.04-0.2
Aug-17	47.58	15.86-87.23	69.63	26.11-121.85	126.12	70.94-197.07	0.23	0.08-0.42	0.21	0.08-0.36	0.25	0.14-0.4
Sep-17	15.49	0-38.74	25.40	0-59.26	53.55	15.3-91.79	0.07	0-0.19	0.07	0-0.17	0.11	0.03-0.19
Oct-17	33.98	8.49-68.17	46.52	9.3-93.05	92.17	41.89-150.82	0.16	0.04-0.33	0.14	0.03-0.27	0.19	0.08-0.3
Nov-17	37.76	9.44-84.97	41.15	10.29-82.3	129.86	64.93-204.06	0.18	0.05-0.41	0.12	0.03-0.24	0.26	0.13-0.41
Dec-17	26.89	0-62.74	48.93	9.79-97.85	44.40	8.88-88.81	0.13	0-0.3	0.14	0.03-0.29	0.09	0.02-0.18
Jan-18	9.71	0-29.12	10.59	0-31.78	9.52	0-38.07	0.05	0-0.14	0.03	0-0.09	0.02	0-0.08
Feb-18	54.76	18.25-100.4	69.66	19.9-129.36	135.11	72.06-207.16	0.26	0.09-0.48	0.21	0.06-0.38	0.27	0.15-0.42
Mar-18	184.69	106.93-262.45	209.56	125.47-303.86	197.44	122.22-291.45	0.89	0.51-1.26	0.62	0.37-0.9	0.40	0.25-0.59
Apr-18	328.24	225.08-422.03	562.26	429.36-705.38	523.69	395.06-661.5	1.58	1.08-2.03	1.66	1.27-2.08	1.06	0.8-1.34
May-18	8.62	0-25.85	18.78	0-46.96	25.99	0-51.97	0.04	0-0.12	0.06	0-0.14	0.05	0-0.1

Table 5.8. Razorbill design based estimates of birds on the sea surface and accounting for availability bias.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	12.55	0-31.37	31.05	6.21-55.89	0.00	0-0	0.04	0-0.09	0.06	0.01-0.11
Nov-16	29.67	7.42-59.35	57.37	21.51-100.4	70.91	28.36-120.55	0.14	0.04-0.29	0.17	0.06-0.3	0.14	0.06-0.24
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	132.56	83.72-188.37	248.87	174.88-329.59	313.01	226.43-412.91	0.64	0.4-0.91	0.73	0.52-0.97	0.63	0.46-0.83
Feb-17	67.11	29.64-111.86	107.74	57.46-165.2	134.76	78.02-198.78	0.32	0.14-0.54	0.32	0.17-0.49	0.27	0.16-0.4
Mar-17	84.79	45.65-130.44	150.50	94.06-213.21	228.81	154.6-296.83	0.41	0.22-0.63	0.44	0.28-0.63	0.46	0.31-0.6
Apr-17	68.50	19.57-117.43	130.48	65.24-206.59	217.79	138.59-307.13	0.33	0.09-0.56	0.38	0.19-0.61	0.44	0.28-0.62
May-17	21.65	0-54.12	23.75	0-59.39	75.01	21.43-139.3	0.10	0-0.26	0.07	0-0.18	0.15	0.04-0.28
Jun-17	11.14	0-33.41	12.18	0-36.55	22.01	0-55.02	0.05	0-0.16	0.04	0-0.11	0.04	0-0.11
Jul-17	21.62	0-54.05	23.72	0-59.29	64.34	21.45-117.96	0.10	0-0.26	0.07	0-0.17	0.13	0.04-0.24
Aug-17	57.32	19.11-105.09	83.89	31.46-146.81	151.96	85.47-237.43	0.28	0.09-0.51	0.25	0.09-0.43	0.31	0.17-0.48
Sep-17	18.67	0-46.67	30.60	0-71.4	64.51	18.43-110.6	0.09	0-0.22	0.09	0-0.21	0.13	0.04-0.22
Oct-17	40.94	10.23-82.13	56.05	11.21-112.11	111.04	50.47-181.71	0.20	0.05-0.39	0.17	0.03-0.33	0.22	0.1-0.37
Nov-17	45.50	11.37-102.37	49.58	12.39-99.15	156.45	78.23-245.86	0.22	0.05-0.49	0.15	0.04-0.29	0.32	0.16-0.5
Dec-17	32.40	0-75.59	58.95	11.79-117.89	53.50	10.7-107	0.16	0-0.36	0.17	0.03-0.35	0.11	0.02-0.22
Jan-18	11.69	0-35.08	12.76	0-38.29	11.47	0-45.87	0.06	0-0.17	0.04	0-0.11	0.02	0-0.09
Feb-18	65.98	21.99-120.97	83.92	23.98-155.86	162.78	86.82-249.59	0.32	0.11-0.58	0.25	0.07-0.46	0.33	0.18-0.5
Mar-18	222.52	128.83-316.21	252.48	151.17-366.09	237.87	147.26-351.15	1.07	0.62-1.52	0.74	0.45-1.08	0.48	0.3-0.71
Apr-18	395.47	271.18-508.47	677.42	517.3-849.86	630.95	475.98-796.99	1.90	1.3-2.45	2.00	1.53-2.51	1.27	0.96-1.61
May-18	10.38	0-31.14	22.63	0-56.58	31.31	0-62.62	0.05	0-0.15	0.07	0-0.17	0.06	0-0.13

Table 5.9. Razorbill design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	10.41	0-26.04	25.77	5.15-46.39	0.00	0-0	0.03	0-0.08	0.05	0.01-0.09
Nov-16	24.63	6.16-49.26	47.62	17.86-83.33	58.86	23.54-100.06	0.12	0.03-0.24	0.14	0.05-0.25	0.12	0.05-0.2
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	110.02	69.49-156.35	206.57	145.15-273.56	259.80	187.94-342.71	0.53	0.33-0.75	0.61	0.43-0.81	0.52	0.38-0.69
Feb-17	55.70	24.6-92.84	89.42	47.69-137.12	111.85	64.76-164.99	0.27	0.12-0.45	0.26	0.14-0.4	0.23	0.13-0.33
Mar-17	70.37	37.89-108.27	124.91	78.07-176.96	189.91	128.32-246.37	0.34	0.18-0.52	0.37	0.23-0.52	0.38	0.26-0.5
Apr-17	56.86	16.24-97.47	108.30	54.15-171.47	180.76	115.03-254.92	0.27	0.08-0.47	0.32	0.16-0.51	0.37	0.23-0.51
May-17	17.97	0-44.92	19.72	0-49.29	62.26	17.79-115.62	0.09	0-0.22	0.06	0-0.15	0.13	0.04-0.23
Jun-17	9.24	0-27.73	10.11	0-30.33	18.27	0-45.67	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Jul-17	17.95	0-44.86	19.68	0-49.21	53.40	17.8-97.9	0.09	0-0.22	0.06	0-0.15	0.11	0.04-0.2
Aug-17	47.58	15.86-87.23	69.63	26.11-121.85	126.12	70.94-197.07	0.23	0.08-0.42	0.21	0.08-0.36	0.25	0.14-0.4
Sep-17	15.49	0-38.74	25.40	0-59.26	53.55	15.3-91.79	0.07	0-0.19	0.07	0-0.17	0.11	0.03-0.19
Oct-17	33.98	8.49-68.17	46.52	9.3-93.05	92.17	41.89-150.82	0.16	0.04-0.33	0.14	0.03-0.27	0.19	0.08-0.3
Nov-17	37.76	9.44-84.97	41.15	10.29-82.3	129.86	64.93-204.06	0.18	0.05-0.41	0.12	0.03-0.24	0.26	0.13-0.41
Dec-17	26.89	0-62.74	48.93	9.79-97.85	44.40	8.88-88.81	0.13	0-0.3	0.14	0.03-0.29	0.09	0.02-0.18
Jan-18	9.71	0-29.12	10.59	0-31.78	9.52	0-38.07	0.05	0-0.14	0.03	0-0.09	0.02	0-0.08
Feb-18	54.76	18.25-100.4	69.66	19.9-129.36	135.11	72.06-207.16	0.26	0.09-0.48	0.21	0.06-0.38	0.27	0.15-0.42
Mar-18	184.69	106.93-262.45	209.56	125.47-303.86	197.44	122.22-291.45	0.89	0.51-1.26	0.62	0.37-0.9	0.40	0.25-0.59
Apr-18	328.24	225.08-422.03	562.26	429.36-705.38	523.69	395.06-661.5	1.58	1.08-2.03	1.66	1.27-2.08	1.06	0.8-1.34
May-18	8.75	0-26.38	19.53	0.5-48.21	27.41	1.99-55.4	0.04	0-0.13	0.06	0-0.14	0.06	0-0.11

Table 5.10. Razorbill design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	12.55	0-31.37	31.05	6.21-55.89	0.00	0-0	0.04	0-0.09	0.06	0.01-0.11
Nov-16	29.67	7.42-59.35	57.37	21.51-100.4	70.91	28.36-120.55	0.14	0.04-0.29	0.17	0.06-0.3	0.14	0.06-0.24
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	132.56	83.72-188.37	248.87	174.88-329.59	313.01	226.43-412.91	0.64	0.4-0.91	0.73	0.52-0.97	0.63	0.46-0.83
Feb-17	67.11	29.64-111.86	107.74	57.46-165.2	134.76	78.02-198.78	0.32	0.14-0.54	0.32	0.17-0.49	0.27	0.16-0.4
Mar-17	84.79	45.65-130.44	150.50	94.06-213.21	228.81	154.6-296.83	0.41	0.22-0.63	0.44	0.28-0.63	0.46	0.31-0.6
Apr-17	68.50	19.57-117.43	130.48	65.24-206.59	217.79	138.59-307.13	0.33	0.09-0.56	0.38	0.19-0.61	0.44	0.28-0.62
May-17	21.65	0-54.12	23.75	0-59.39	75.01	21.43-139.3	0.10	0-0.26	0.07	0-0.18	0.15	0.04-0.28
Jun-17	11.14	0-33.41	12.18	0-36.55	22.01	0-55.02	0.05	0-0.16	0.04	0-0.11	0.04	0-0.11
Jul-17	21.62	0-54.05	23.72	0-59.29	64.34	21.45-117.96	0.10	0-0.26	0.07	0-0.17	0.13	0.04-0.24
Aug-17	57.32	19.11-105.09	83.89	31.46-146.81	151.96	85.47-237.43	0.28	0.09-0.51	0.25	0.09-0.43	0.31	0.17-0.48
Sep-17	18.67	0-46.67	30.60	0-71.4	64.51	18.43-110.6	0.09	0-0.22	0.09	0-0.21	0.13	0.04-0.22
Oct-17	40.94	10.23-82.13	56.05	11.21-112.11	111.04	50.47-181.71	0.20	0.05-0.39	0.17	0.03-0.33	0.22	0.1-0.37
Nov-17	45.50	11.37-102.37	49.58	12.39-99.15	156.45	78.23-245.86	0.22	0.05-0.49	0.15	0.04-0.29	0.32	0.16-0.5
Dec-17	32.40	0-75.59	58.95	11.79-117.89	53.50	10.7-107	0.16	0-0.36	0.17	0.03-0.35	0.11	0.02-0.22
Jan-18	11.69	0-35.08	12.76	0-38.29	11.47	0-45.87	0.06	0-0.17	0.04	0-0.11	0.02	0-0.09
Feb-18	65.98	21.99-120.97	83.92	23.98-155.86	162.78	86.82-249.59	0.32	0.11-0.58	0.25	0.07-0.46	0.33	0.18-0.5
Mar-18	222.52	128.83-316.21	252.48	151.17-366.09	237.87	147.26-351.15	1.07	0.62-1.52	0.74	0.45-1.08	0.48	0.3-0.71
Apr-18	395.47	271.18-508.47	677.42	517.3-849.86	630.95	475.98-796.99	1.90	1.3-2.45	2.00	1.53-2.51	1.27	0.96-1.61
May-18	10.54	0-31.78	23.53	0.6-58.08	33.02	2.4-66.75	0.05	0-0.15	0.07	0-0.17	0.07	0-0.13

Table 6.1. Guillemot design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	29.57	0-69	97.96	44.53-151.39	0.04	0-0.13	0.09	0-0.2	0.20	0.09-0.31
Oct-16	91.27	53.69-134.22	140.59	88.52-197.87	226.78	164.93-293.79	0.44	0.26-0.65	0.41	0.26-0.58	0.46	0.33-0.59
Nov-16	80.04	43.1-129.3	303.56	220.23-386.88	506.17	406.11-612.12	0.38	0.21-0.62	0.90	0.65-1.14	1.02	0.82-1.24
Dec-16	1028.22	904.93-1163.67	1789.77	1636.7-1960.51	2729.38	2549.21-2932.63	4.94	4.35-5.6	5.28	4.83-5.78	5.51	5.15-5.92
Jan-17	1505.55	1372.37-1644.53	2752.35	2573.69-2931.14	3670.33	3460.28-3863.8	7.24	6.6-7.91	8.12	7.59-8.65	7.41	6.99-7.8
Feb-17	198.06	136.17-266.15	351.73	262.31-435.34	547.50	441.53-659.35	0.95	0.65-1.28	1.04	0.77-1.28	1.11	0.89-1.33
Mar-17	319.39	249.01-400.59	754.69	640.18-853.71	1036.81	903.36-1185.66	1.54	1.2-1.93	2.23	1.89-2.52	2.09	1.82-2.39
Apr-17	795.99	657.91-925.95	1164.19	992.72-1335.66	1405.02	1240.69-1594	3.83	3.16-4.45	3.43	2.93-3.94	2.84	2.51-3.22
May-17	89.83	35.93-152.71	118.30	59.15-187.3	168.99	97.83-240.14	0.43	0.17-0.73	0.35	0.17-0.55	0.34	0.2-0.48
Jun-17	9.24	0-27.73	10.11	0-30.33	9.13	0-27.4	0.04	0-0.13	0.03	0-0.09	0.02	0-0.06
Jul-17	125.62	62.81-188.43	255.90	167.32-354.33	364.91	266.79-480.61	0.60	0.3-0.91	0.75	0.49-1.05	0.74	0.54-0.97
Aug-17	293.40	206.18-388.56	478.70	356.85-600.55	764.62	638.5-906.51	1.41	0.99-1.87	1.41	1.05-1.77	1.54	1.29-1.83
Sep-17	54.23	15.49-100.72	76.20	33.86-135.46	99.44	53.55-160.64	0.26	0.07-0.48	0.22	0.1-0.4	0.20	0.11-0.32
Oct-17	144.41	76.45-220.86	195.40	111.66-279.14	259.74	167.57-343.53	0.69	0.37-1.06	0.58	0.33-0.82	0.52	0.34-0.69
Nov-17	1038.48	896.87-1198.98	1419.63	1213.89-1625.63	1771.62	1558.28-2003.5	4.99	4.31-5.77	4.19	3.58-4.8	3.58	3.15-4.05
Dec-17	600.51	475.03-734.95	1027.44	861.1-1193.79	1394.30	1198.92-1581.02	2.89	2.28-3.53	3.03	2.54-3.52	2.82	2.42-3.19
Jan-18	77.65	29.12-135.88	116.54	52.97-190.7	199.88	123.74-285.55	0.37	0.14-0.65	0.34	0.16-0.56	0.40	0.25-0.58
Feb-18	337.71	237.31-438.11	547.30	427.89-686.61	882.69	720.56-1053.83	1.62	1.14-2.11	1.61	1.26-2.03	1.78	1.46-2.13

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Mar-18	816.52	670.71-962.33	1246.86	1058.26-1445.94	2604.28	2359.83-2839.55	3.93	3.23-4.63	3.68	3.12-4.27	5.26	4.77-5.73
Apr-18	3910.78	3713.84-4107.73	5223.90	4968.33-5469.5	6109.67	5806.48-6422.04	18.81	17.86-19.75	15.41	14.66-16.13	12.34	11.73-12.97
May-18	542.78	422.17-663.4	695.04	563.31-826.53	788.25	649.66-952.83	2.61	2.03-3.19	2.05	1.66-2.44	1.59	1.31-1.92

Table 6.2. Guillemot design based estimates of birds in flight and on sea and accounting for availability bias.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	11.83	0-35.48	38.91	0-90.79	128.89	58.59-202	0.06	0-0.17	0.11	0-0.27	0.26	0.12-0.41
Oct-16	120.09	70.64-176.61	184.99	116.47-258.71	298.40	217.02-384.93	0.58	0.34-0.85	0.55	0.34-0.76	0.60	0.44-0.78
Nov-16	105.32	54.77-168.19	399.42	291.65-510.94	666.02	534.32-803.6	0.51	0.26-0.81	1.18	0.86-1.51	1.35	1.08-1.62
Dec-16	1347.09	1184.86-1523.42	2345.67	2138.63-2566.6	3582.12	3337.77-3844.06	6.48	5.7-7.33	6.92	6.31-7.57	7.23	6.74-7.76
Jan-17	1977.34	1803.92-2160.2	3614.46	3384.68-3847.9	4820.66	4542.49-5076.96	9.51	8.67-10.39	10.66	9.98-11.35	9.74	9.17-10.25
Feb-17	260.61	177.21-348.24	462.81	347.03-574.65	720.39	582.82-863.9	1.25	0.85-1.67	1.37	1.02-1.7	1.45	1.18-1.74
Mar-17	420.25	325.94-527.09	993.01	842.35-1126.54	1364.22	1188.63-1555.22	2.02	1.57-2.53	2.93	2.48-3.32	2.76	2.4-3.14
Apr-17	1047.36	868.18-1215.79	1531.83	1309.06-1757.45	1848.71	1624.7-2097.37	5.04	4.17-5.85	4.52	3.86-5.18	3.73	3.28-4.24
May-17	118.20	47.28-200.94	155.65	77.83-246.45	222.35	128.73-316.04	0.57	0.23-0.97	0.46	0.23-0.73	0.45	0.26-0.64
Jun-17	12.16	0-36.49	13.30	0-39.91	12.02	0-36.05	0.06	0-0.18	0.04	0-0.12	0.02	0-0.07
Jul-17	165.29	82.64-250.77	336.71	220.16-466.22	480.15	351.1-632.39	0.79	0.4-1.21	0.99	0.65-1.38	0.97	0.71-1.28
Aug-17	386.06	273.79-508.82	629.87	472.29-787.45	1006.08	837.64-1190.28	1.86	1.32-2.45	1.86	1.39-2.32	2.03	1.69-2.4
Sep-17	71.36	22.83-130.08	100.26	44.56-175.56	130.85	68.04-208.95	0.34	0.11-0.63	0.30	0.13-0.52	0.26	0.14-0.42
Oct-17	190.01	100.59-287.92	251.23	143.98-361.49	336.47	217.85-449.36	0.91	0.48-1.38	0.74	0.42-1.07	0.68	0.44-0.91
Nov-17	1357.48	1168.09-1562.69	1848.45	1580.98-2116.25	2307.64	2024.01-2604.04	6.53	5.62-7.51	5.45	4.66-6.24	4.66	4.09-5.26
Dec-17	790.14	622.21-967.04	1351.90	1133.02-1576.96	1834.61	1580.33-2083.03	3.80	2.99-4.65	3.99	3.34-4.65	3.71	3.19-4.21

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Jan-18	102.16	38.31-178.79	153.34	69.7-250.92	263.00	162.81-375.79	0.49	0.18-0.86	0.45	0.21-0.74	0.53	0.33-0.76
Feb-18	421.30	289.19-550.53	688.71	531.59-865.73	1107.39	899.76-1326.88	2.03	1.39-2.65	2.03	1.57-2.55	2.24	1.82-2.68
Mar-18	1012.98	827.27-1198.69	1567.81	1322.96-1826.44	3301.98	2983.31-3614.45	4.87	3.98-5.76	4.62	3.9-5.39	6.67	6.02-7.3
Apr-18	5122.07	4865.9-5384.18	6828.35	6495.3-7148.21	7957.80	7570.4-8363.02	24.63	23.4-25.89	20.14	19.16-21.09	16.07	15.29-16.89
May-18	714.19	555.48-872.9	914.52	738.3-1087.54	1037.18	852.01-1250.99	3.43	2.67-4.2	2.70	2.18-3.21	2.09	1.72-2.53

Table 6.3. Guillemot design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	29.57	0-69	97.96	44.53-151.39	0.04	0-0.13	0.09	0-0.2	0.20	0.09-0.31
Oct-16	91.27	53.69-134.22	140.59	88.52-197.87	226.78	164.93-293.79	0.44	0.26-0.65	0.41	0.26-0.58	0.46	0.33-0.59
Nov-16	80.04	43.1-129.3	303.56	220.23-386.88	506.17	406.11-612.12	0.38	0.21-0.62	0.90	0.65-1.14	1.02	0.82-1.24
Dec-16	1028.22	904.93-1163.67	1789.77	1636.7-1960.51	2729.38	2549.21-2932.63	4.94	4.35-5.6	5.28	4.83-5.78	5.51	5.15-5.92
Jan-17	1505.55	1372.37-1644.53	2757.93	2573.69-2931.14	3670.33	3460.28-3863.8	7.24	6.6-7.91	8.14	7.59-8.65	7.41	6.99-7.8
Feb-17	198.06	136.17-266.15	351.73	262.31-435.34	547.50	441.53-659.35	0.95	0.65-1.28	1.04	0.77-1.28	1.11	0.89-1.33
Mar-17	319.39	249.01-400.59	754.69	640.18-853.71	1036.81	903.36-1185.66	1.54	1.2-1.93	2.23	1.89-2.52	2.09	1.82-2.39
Apr-17	795.99	657.91-925.95	1164.19	992.72-1335.66	1405.02	1240.69-1594	3.83	3.16-4.45	3.43	2.93-3.94	2.84	2.51-3.22
May-17	89.83	35.93-152.71	118.30	59.15-187.3	168.99	97.83-240.14	0.43	0.17-0.73	0.35	0.17-0.55	0.34	0.2-0.48
Jun-17	9.24	0-27.73	10.11	0-30.33	9.13	0-27.4	0.04	0-0.13	0.03	0-0.09	0.02	0-0.06
Jul-17	125.62	62.81-188.43	255.90	167.32-354.33	364.91	266.79-480.61	0.60	0.3-0.91	0.75	0.49-1.05	0.74	0.54-0.97
Aug-17	293.40	206.18-388.56	478.70	356.85-600.55	764.62	638.5-906.51	1.41	0.99-1.87	1.41	1.05-1.77	1.54	1.29-1.83
Sep-17	54.23	15.49-100.72	76.20	33.86-135.46	99.44	53.55-160.64	0.26	0.07-0.48	0.22	0.1-0.4	0.20	0.11-0.32
Oct-17	144.41	76.45-220.86	195.40	111.66-279.14	259.74	167.57-343.53	0.69	0.37-1.06	0.58	0.33-0.82	0.52	0.34-0.69
Nov-17	1038.48	896.87-1198.98	1419.63	1213.89-1625.63	1771.62	1558.28-2003.5	4.99	4.31-5.77	4.19	3.58-4.8	3.58	3.15-4.05
Dec-17	600.51	475.03-734.95	1027.44	861.1-1193.79	1394.30	1198.92-1581.02	2.89	2.28-3.53	3.03	2.54-3.52	2.82	2.42-3.19
Jan-18	77.65	29.12-135.88	116.54	52.97-190.7	199.88	123.74-285.55	0.37	0.14-0.65	0.34	0.16-0.56	0.40	0.25-0.58
Feb-18	337.71	237.31-438.11	547.30	427.89-686.61	882.69	720.56-1053.83	1.62	1.14-2.11	1.61	1.26-2.03	1.78	1.46-2.13

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Mar-18	816.52	670.71-962.33	1246.86	1058.26-1445.94	2604.28	2359.83-2839.55	3.93	3.23-4.63	3.68	3.12-4.27	5.26	4.77-5.73
Apr-18	3910.78	3713.84-4107.73	5234.12	4968.33-5469.5	6109.67	5806.48-6422.04	18.81	17.86-19.75	15.44	14.66-16.13	12.34	11.73-12.97
May-18	559.48	439.13-680.83	731.49	590.72-871.52	847.18	699.92-1035.77	2.69	2.11-3.27	2.16	1.74-2.57	1.71	1.41-2.09

Table 6.4. Guillemot design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	11.83	0-35.48	38.91	0-90.79	128.89	58.59-202	0.06	0-0.17	0.11	0-0.27	0.26	0.12-0.41
Oct-16	120.09	70.64-176.61	184.99	116.47-258.71	298.40	217.02-384.93	0.58	0.34-0.85	0.55	0.34-0.76	0.60	0.44-0.78
Nov-16	105.32	54.77-168.19	399.42	291.65-510.94	666.02	534.32-803.6	0.51	0.26-0.81	1.18	0.86-1.51	1.35	1.08-1.62
Dec-16	1347.09	1184.86-1523.42	2343.81	2138.63-2566.6	3583.96	3337.77-3844.06	6.48	5.7-7.33	6.91	6.31-7.57	7.24	6.74-7.76
Jan-17	1977.34	1803.92-2160.2	3621.80	3384.68-3847.9	4820.66	4542.49-5076.96	9.51	8.67-10.39	10.68	9.98-11.35	9.74	9.17-10.25
Feb-17	260.61	177.21-348.24	462.81	347.03-574.65	720.39	582.82-863.9	1.25	0.85-1.67	1.37	1.02-1.7	1.45	1.18-1.74
Mar-17	420.25	325.94-527.09	993.01	842.35-1126.54	1364.22	1188.63-1555.22	2.02	1.57-2.53	2.93	2.48-3.32	2.76	2.4-3.14
Apr-17	1047.36	868.18-1215.79	1531.83	1309.06-1757.45	1848.71	1624.7-2097.37	5.04	4.17-5.85	4.52	3.86-5.18	3.73	3.28-4.24
May-17	118.20	47.28-200.94	155.65	77.83-246.45	222.35	128.73-316.04	0.57	0.23-0.97	0.46	0.23-0.73	0.45	0.26-0.64
Jun-17	12.16	0-36.49	13.30	0-39.91	12.02	0-36.05	0.06	0-0.18	0.04	0-0.12	0.02	0-0.07
Jul-17	165.29	82.64-250.77	336.71	220.16-466.22	480.15	351.1-632.39	0.79	0.4-1.21	0.99	0.65-1.38	0.97	0.71-1.28
Aug-17	386.06	273.79-508.82	629.87	472.29-787.45	1003.59	837.64-1190.28	1.86	1.32-2.45	1.86	1.39-2.32	2.03	1.69-2.4
Sep-17	71.36	22.83-130.08	100.26	44.56-175.56	130.85	68.04-208.95	0.34	0.11-0.63	0.30	0.13-0.52	0.26	0.14-0.42
Oct-17	190.01	100.59-287.92	251.23	143.98-361.49	336.47	217.85-449.36	0.91	0.48-1.38	0.74	0.42-1.07	0.68	0.44-0.91
Nov-17	1354.50	1168.09-1562.69	1848.45	1580.98-2116.25	2307.64	2024.01-2604.04	6.51	5.62-7.51	5.45	4.66-6.24	4.66	4.09-5.26
Dec-17	787.31	622.21-967.04	1351.90	1133.02-	1837.41	1580.33-	3.79	2.99-4.65	3.99	3.34-4.65	3.71	3.19-4.21

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
				1576.96		2083.03						
Jan-18	102.16	38.31-178.79	153.34	69.7-250.92	263.00	162.81-375.79	0.49	0.18-0.86	0.45	0.21-0.74	0.53	0.33-0.76
Feb-18	421.30	289.19-550.53	688.71	531.59-865.73	1107.39	899.76-1326.88	2.03	1.39-2.65	2.03	1.57-2.55	2.24	1.82-2.68
Mar-18	1009.91	827.27-1198.69	1567.81	1322.96-1826.44	3299.01	2983.31-3614.45	4.86	3.98-5.76	4.62	3.9-5.39	6.66	6.02-7.3
Apr-18	5122.07	4865.9-5384.18	6835.35	6495.3-7148.21	7957.80	7570.4-8363.02	24.63	23.4-25.89	20.16	19.16-21.09	16.07	15.29-16.89
May-18	736.16	577.88-895.73	959.79	774.53-1146.81	1114.71	918.21-1352.59	3.54	2.78-4.31	2.83	2.28-3.38	2.25	1.85-2.73

Table 6.5. Guillemot design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	18.47	0-43.1	29.44	5.89-58.87	29.04	5.81-58.07	0.09	0-0.21	0.09	0.02-0.17	0.06	0.01-0.12
Jan-17	11.58	0-28.95	22.33	5.58-50.25	27.64	5.53-55.28	0.06	0-0.14	0.07	0.02-0.15	0.06	0.01-0.11
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	18.61	0-46.52	16.76	0-41.89	0.00	0-0	0.05	0-0.14	0.03	0-0.08
Nov-17	28.32	0-66.09	61.72	20.57-113.16	74.20	27.83-129.86	0.14	0-0.32	0.18	0.06-0.33	0.15	0.06-0.26
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	73.02	27.38-127.78	99.51	39.8-159.46	171.13	99.08-252.2	0.35	0.13-0.61	0.29	0.12-0.47	0.35	0.2-0.51
Mar-18	194.41	116.65-281.89	230.51	146.69-335.29	394.87	282.05-517.09	0.93	0.56-1.36	0.68	0.43-0.99	0.80	0.57-1.04
Apr-18	75.03	28.14-131.3	143.12	71.56-214.68	257.25	165.37-349.12	0.36	0.14-0.63	0.42	0.21-0.63	0.52	0.33-0.71
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 6.6. Guillemot design based estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	18.47	0-43.1	29.44	5.89-58.87	29.04	5.81-58.07	0.09	0-0.21	0.09	0.02-0.17	0.06	0.01-0.12
Jan-17	11.58	0-28.95	22.33	5.58-50.25	27.64	5.53-55.28	0.06	0-0.14	0.07	0.02-0.15	0.06	0.01-0.11
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	18.61	0-46.52	16.76	0-41.89	0.00	0-0	0.05	0-0.14	0.03	0-0.08
Nov-17	28.32	0-66.09	61.72	20.57-113.16	74.20	27.83-129.86	0.14	0-0.32	0.18	0.06-0.33	0.15	0.06-0.26
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	73.02	27.38-127.78	99.51	39.8-159.46	171.13	99.08-252.2	0.35	0.13-0.61	0.29	0.12-0.47	0.35	0.2-0.51
Mar-18	194.41	116.65-281.89	230.51	146.69-335.29	394.87	282.05-517.09	0.93	0.56-1.36	0.68	0.43-0.99	0.80	0.57-1.04
Apr-18	75.03	28.14-131.3	143.12	71.56-214.68	257.25	165.37-349.12	0.36	0.14-0.63	0.42	0.21-0.63	0.52	0.33-0.71
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 6.7. Guillemot design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	29.57	0-69	97.96	44.53-160.29	0.04	0-0.13	0.09	0-0.2	0.20	0.09-0.32
Oct-16	91.27	53.69-134.22	140.59	88.52-192.66	226.78	164.93-288.63	0.44	0.26-0.65	0.41	0.26-0.57	0.46	0.33-0.58
Nov-16	80.04	36.94-123.14	303.56	226.18-392.84	506.17	405.97-606.38	0.38	0.18-0.59	0.90	0.67-1.16	1.02	0.82-1.22
Dec-16	1009.75	886.45-1139.2	1760.34	1589.45-1919.3	2700.35	2497.09-2886.18	4.86	4.26-5.48	5.19	4.69-5.66	5.45	5.04-5.83
Jan-17	1493.97	1366.58-1632.95	2730.01	2568.11-2903.08	3642.69	3426.98-3841.69	7.18	6.57-7.85	8.05	7.58-8.56	7.36	6.92-7.76
Feb-17	198.06	129.98-259.96	351.73	268.27-441.16	547.50	447.42-647.73	0.95	0.63-1.25	1.04	0.79-1.3	1.11	0.9-1.31
Mar-17	319.39	243.6-400.59	754.69	640.18-863.99	1036.81	903.36-1170.26	1.54	1.17-1.93	2.23	1.89-2.55	2.09	1.82-2.36
Apr-17	795.99	665.83-917.83	1164.19	1001.75-1335.66	1405.02	1216.04-1594	3.83	3.2-4.41	3.43	2.96-3.94	2.84	2.46-3.22
May-17	89.83	35.93-152.71	118.30	59.15-187.3	168.99	97.83-240.36	0.43	0.17-0.73	0.35	0.17-0.55	0.34	0.2-0.49
Jun-17	9.24	0-27.73	10.11	0-30.33	9.13	0-27.4	0.04	0-0.13	0.03	0-0.09	0.02	0-0.06
Jul-17	125.62	62.81-197.4	255.90	167.32-354.33	364.91	267.01-480.61	0.60	0.3-0.95	0.75	0.49-1.05	0.74	0.54-0.97
Aug-17	293.40	214.11-380.83	478.70	365.55-591.85	764.62	630.61-898.62	1.41	1.03-1.83	1.41	1.08-1.75	1.54	1.27-1.81
Sep-17	54.23	23.24-92.97	76.20	33.86-126.99	99.44	45.9-152.99	0.26	0.11-0.45	0.22	0.1-0.37	0.20	0.09-0.31
Oct-17	144.41	76.45-212.36	176.79	102.35-260.77	242.98	159.2-335.15	0.69	0.37-1.02	0.52	0.3-0.77	0.49	0.32-0.68
Nov-17	1010.16	858.87-1151.77	1357.91	1162.45-1553.62	1697.41	1474.8-1901.71	4.86	4.13-5.54	4.01	3.43-4.58	3.43	2.98-3.84
Dec-17	600.51	466.07-734.95	1027.44	861.1-1213.36	1394.30	1207.8-1589.68	2.89	2.24-3.53	3.03	2.54-3.58	2.82	2.44-3.21
Jan-18	77.65	29.12-135.88	116.54	52.97-190.7	199.88	123.74-285.78	0.37	0.14-0.65	0.34	0.16-0.56	0.40	0.25-0.58
Feb-18	264.69	164.29-355.97	447.79	328.38-567.2	711.56	567.44-864.68	1.27	0.79-1.71	1.32	0.97-1.67	1.44	1.15-1.75

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Mar-18	622.11	495.75-748.48	1016.35	838.22-1204.95	2209.40	1974.36-2453.85	2.99	2.38-3.6	3.00	2.47-3.55	4.46	3.99-4.96
Apr-18	3835.76	3648.19-4042.08	5080.78	4835.43-5315.9	5852.42	5585.75-6146.42	18.45	17.54-19.44	14.99	14.26-15.68	11.82	11.28-12.41
May-18	542.78	422.17-663.4	695.04	554.15-826.53	788.25	640.78-944.17	2.61	2.03-3.19	2.05	1.63-2.44	1.59	1.29-1.91

Table 6.8. Guillemot design based estimates of birds on the sea surface and accounting for availability bias.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	11.83	0-35.48	38.91	0-90.79	128.89	58.59-210.91	0.06	0-0.17	0.11	0-0.27	0.26	0.12-0.43
Oct-16	120.09	70.64-176.61	184.99	116.47-253.5	298.40	217.02-379.78	0.58	0.34-0.85	0.55	0.34-0.75	0.60	0.44-0.77
Nov-16	105.32	48.61-162.03	399.42	297.6-516.89	666.02	534.17-797.86	0.51	0.23-0.78	1.18	0.88-1.52	1.35	1.08-1.61
Dec-16	1328.62	1166.39-1498.95	2316.23	2091.39-2525.39	3553.09	3285.65-3797.6	6.39	5.61-7.21	6.83	6.17-7.45	7.18	6.64-7.67
Jan-17	1965.75	1798.13-2148.62	3592.12	3379.09-3819.85	4793.02	4509.18-5054.85	9.45	8.65-10.33	10.60	9.97-11.27	9.68	9.11-10.21
Feb-17	260.61	171.02-342.05	462.81	352.99-580.47	720.39	588.71-852.27	1.25	0.82-1.64	1.37	1.04-1.71	1.45	1.19-1.72
Mar-17	420.25	320.53-527.09	993.01	842.35-1136.82	1364.22	1188.63-1539.82	2.02	1.54-2.53	2.93	2.48-3.35	2.76	2.4-3.11
Apr-17	1047.36	876.1-1207.67	1531.83	1318.09-1757.45	1848.71	1600.06-2097.37	5.04	4.21-5.81	4.52	3.89-5.18	3.73	3.23-4.24
May-17	118.20	47.28-200.94	155.65	77.83-246.45	222.35	128.73-316.27	0.57	0.23-0.97	0.46	0.23-0.73	0.45	0.26-0.64
Jun-17	12.16	0-36.49	13.30	0-39.91	12.02	0-36.05	0.06	0-0.18	0.04	0-0.12	0.02	0-0.07
Jul-17	165.29	82.64-259.74	336.71	220.16-466.22	480.15	351.33-632.39	0.79	0.4-1.25	0.99	0.65-1.38	0.97	0.71-1.28
Aug-17	386.06	281.72-501.09	629.87	480.99-778.75	1006.08	829.76-1182.4	1.86	1.35-2.41	1.86	1.42-2.3	2.03	1.68-2.39
Sep-17	71.36	30.58-122.33	100.26	44.56-167.1	130.85	60.39-201.3	0.34	0.15-0.59	0.30	0.13-0.49	0.26	0.12-0.41
Oct-17	190.01	100.59-279.42	232.62	134.67-343.11	319.71	209.47-440.99	0.91	0.48-1.34	0.69	0.4-1.01	0.65	0.42-0.89
Nov-17	1329.16	1130.1-1515.49	1786.72	1529.54-2044.24	2233.44	1940.53-2502.24	6.39	5.43-7.29	5.27	4.51-6.03	4.51	3.92-5.05
Dec-17	790.14	613.24-967.04	1351.90	1133.02-1596.53	1834.61	1589.21-2091.69	3.80	2.95-4.65	3.99	3.34-4.71	3.71	3.21-4.22

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Jan-18	102.16	38.31-178.79	153.34	69.7-250.92	263.00	162.81-376.03	0.49	0.18-0.86	0.45	0.21-0.74	0.53	0.33-0.76
Feb-18	348.28	216.17-468.38	589.20	432.08-746.32	936.26	746.64-1137.73	1.67	1.04-2.25	1.74	1.27-2.2	1.89	1.51-2.3
Mar-18	818.57	652.3-984.84	1337.30	1102.93-1585.46	2907.11	2597.84-3228.75	3.94	3.14-4.74	3.94	3.25-4.68	5.87	5.25-6.52
Apr-18	5047.05	4800.25-5318.53	6685.23	6362.41-6994.61	7700.55	7349.67-8087.39	24.27	23.08-25.58	19.72	18.77-20.63	15.55	14.84-16.33
May-18	714.19	555.48-872.9	914.52	729.14-1087.54	1037.18	843.13-1242.33	3.43	2.67-4.2	2.70	2.15-3.21	2.09	1.7-2.51

Table 6.9. Guillemot design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	29.57	0-69	97.96	44.53-160.29	0.04	0-0.13	0.09	0-0.2	0.20	0.09-0.32
Oct-16	91.27	53.69-134.22	140.59	88.52-192.66	226.78	164.93-288.63	0.44	0.26-0.65	0.41	0.26-0.57	0.46	0.33-0.58
Nov-16	80.04	36.94-123.14	303.56	226.18-392.84	506.17	405.97-606.38	0.38	0.18-0.59	0.90	0.67-1.16	1.02	0.82-1.22
Dec-16	1009.75	886.45-1139.2	1754.45	1589.45-1919.3	2706.15	2497.09-2886.18	4.86	4.26-5.48	5.18	4.69-5.66	5.47	5.04-5.83
Jan-17	1493.97	1366.58-1632.95	2735.60	2568.11-2903.08	3642.69	3426.98-3841.69	7.18	6.57-7.85	8.07	7.58-8.56	7.36	6.92-7.76
Feb-17	198.06	129.98-259.96	351.73	268.27-441.16	547.50	447.42-647.73	0.95	0.63-1.25	1.04	0.79-1.3	1.11	0.9-1.31
Mar-17	319.39	243.6-400.59	754.69	640.18-863.99	1036.81	903.36-1170.26	1.54	1.17-1.93	2.23	1.89-2.55	2.09	1.82-2.36
Apr-17	795.99	665.83-917.83	1164.19	1001.75-1335.66	1405.02	1216.04-1594	3.83	3.2-4.41	3.43	2.96-3.94	2.84	2.46-3.22
May-17	89.83	35.93-152.71	118.30	59.15-187.3	168.99	97.83-240.36	0.43	0.17-0.73	0.35	0.17-0.55	0.34	0.2-0.49
Jun-17	9.24	0-27.73	10.11	0-30.33	9.13	0-27.4	0.04	0-0.13	0.03	0-0.09	0.02	0-0.06
Jul-17	125.62	62.81-197.4	255.90	167.32-354.33	364.91	267.01-480.61	0.60	0.3-0.95	0.75	0.49-1.05	0.74	0.54-0.97
Aug-17	293.40	214.11-380.83	478.70	365.55-591.85	756.74	630.61-898.62	1.41	1.03-1.83	1.41	1.08-1.75	1.53	1.27-1.81
Sep-17	54.23	23.24-92.97	76.20	33.86-126.99	99.44	45.9-152.99	0.26	0.11-0.45	0.22	0.1-0.37	0.20	0.09-0.31
Oct-17	144.41	76.45-212.36	176.79	102.35-260.77	242.98	159.2-335.15	0.69	0.37-1.02	0.52	0.3-0.77	0.49	0.32-0.68
Nov-17	1000.72	858.87-1151.77	1357.91	1162.45-1553.62	1697.41	1474.8-1901.71	4.81	4.13-5.54	4.01	3.43-4.58	3.43	2.98-3.84
Dec-17	591.54	466.07-734.95	1027.44	861.1-1213.36	1403.18	1207.8-1589.68	2.84	2.24-3.53	3.03	2.54-3.58	2.83	2.44-3.21
Jan-18	77.65	29.12-135.88	116.54	52.97-190.7	199.88	123.74-285.78	0.37	0.14-0.65	0.34	0.16-0.56	0.40	0.25-0.58
Feb-18	264.69	164.29-355.97	447.79	328.38-567.2	711.56	567.44-864.68	1.27	0.79-1.71	1.32	0.97-1.67	1.44	1.15-1.75

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Mar-18	612.39	495.75-748.48	1016.35	838.22-1204.95	2200.00	1974.36-2453.85	2.94	2.38-3.6	3.00	2.47-3.55	4.44	3.99-4.96
Apr-18	3835.76	3648.19-4042.08	5070.56	4835.43-5315.9	5852.42	5585.75-6146.42	18.45	17.54-19.44	14.96	14.26-15.68	11.82	11.28-12.41
May-18	559.48	439.4-680.5	722.96	582.07-871.76	847.18	691.26-1003.27	2.69	2.11-3.27	2.13	1.72-2.57	1.71	1.4-2.03

Table 6.10. Guillemot design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions and accounting for availability bias.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	11.83	0-35.48	38.91	0-90.79	128.89	58.59-210.91	0.06	0-0.17	0.11	0-0.27	0.26	0.12-0.43
Oct-16	120.09	70.64-176.61	184.99	116.47-253.5	298.40	217.02-379.78	0.58	0.34-0.85	0.55	0.34-0.75	0.60	0.44-0.77
Nov-16	105.32	48.61-162.03	399.42	297.6-516.89	666.02	534.17-797.86	0.51	0.23-0.78	1.18	0.88-1.52	1.35	1.08-1.61
Dec-16	1328.62	1166.39-1498.95	2308.49	2091.39-2525.39	3560.73	3285.65-3797.6	6.39	5.61-7.21	6.81	6.17-7.45	7.19	6.64-7.67
Jan-17	1965.75	1798.13-2148.62	3599.47	3379.09-3819.85	4793.02	4509.18-5054.85	9.45	8.65-10.33	10.62	9.97-11.27	9.68	9.11-10.21
Feb-17	260.61	171.02-342.05	462.81	352.99-580.47	720.39	588.71-852.27	1.25	0.82-1.64	1.37	1.04-1.71	1.45	1.19-1.72
Mar-17	420.25	320.53-527.09	993.01	842.35-1136.82	1364.22	1188.63-1539.82	2.02	1.54-2.53	2.93	2.48-3.35	2.76	2.4-3.11
Apr-17	1047.36	876.1-1207.67	1531.83	1318.09-1757.45	1848.71	1600.06-2097.37	5.04	4.21-5.81	4.52	3.89-5.18	3.73	3.23-4.24
May-17	118.20	47.28-200.94	155.65	77.83-246.45	222.35	128.73-316.27	0.57	0.23-0.97	0.46	0.23-0.73	0.45	0.26-0.64
Jun-17	12.16	0-36.49	13.30	0-39.91	12.02	0-36.05	0.06	0-0.18	0.04	0-0.12	0.02	0-0.07
Jul-17	165.29	82.64-259.74	336.71	220.16-466.22	480.15	351.33-632.39	0.79	0.4-1.25	0.99	0.65-1.38	0.97	0.71-1.28
Aug-17	386.06	281.72-501.09	629.87	480.99-778.75	995.71	829.76-1182.4	1.86	1.35-2.41	1.86	1.42-2.3	2.01	1.68-2.39
Sep-17	71.36	30.58-122.33	100.26	44.56-167.1	130.85	60.39-201.3	0.34	0.15-0.59	0.30	0.13-0.49	0.26	0.12-0.41
Oct-17	190.01	100.59-279.42	232.62	134.67-343.11	319.71	209.47-440.99	0.91	0.48-1.34	0.69	0.4-1.01	0.65	0.42-0.89
Nov-17	1316.74	1130.1-1515.49	1786.72	1529.54-2044.24	2233.44	1940.53-2502.24	6.33	5.43-7.29	5.27	4.51-6.03	4.51	3.92-5.05
Dec-17	778.35	613.24-967.04	1351.90	1133.02-	1846.29	1589.21-	3.74	2.95-4.65	3.99	3.34-4.71	3.73	3.21-4.22

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
				1596.53		2091.69						
Jan-18	102.16	38.31-178.79	153.34	69.7-250.92	263.00	162.81-376.03	0.49	0.18-0.86	0.45	0.21-0.74	0.53	0.33-0.76
Feb-18	348.28	216.17-468.38	589.20	432.08-746.32	936.26	746.64-1137.73	1.67	1.04-2.25	1.74	1.27-2.2	1.89	1.51-2.3
Mar-18	805.78	652.3-984.84	1337.30	1102.93-1585.46	2894.74	2597.84-3228.75	3.87	3.14-4.74	3.94	3.25-4.68	5.85	5.25-6.52
Apr-18	5047.05	4800.25-5318.53	6671.78	6362.41-6994.61	7700.55	7349.67-8087.39	24.27	23.08-25.58	19.68	18.77-20.63	15.55	14.84-16.33
May-18	736.16	578.15-895.4	951.27	765.89-1147.05	1114.71	909.56-1320.1	3.54	2.78-4.31	2.81	2.26-3.38	2.25	1.84-2.67

Table 7.1. Sandwich Tern design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Apr-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
May-18	8.62	0-25.85	9.39	0-28.18	51.97	17.32-95.28	0.04	0-0.12	0.03	0-0.08	0.1	0.03-0.19

Table 7.2. Sandwich Tern design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
Apr-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.0	0-0
May-18	8.62	0-25.85	9.39	0-28.18	51.97	17.32-95.28	0.04	0-0.12	0.03	0-0.08	0.1	0.03-0.19

Table 7.3. Sandwich Tern design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Oct-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Nov-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Dec-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jan-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Feb-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Mar-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Apr-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
May-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jun-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jul-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Aug-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Sep-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Oct-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Nov-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Dec-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jan-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Feb-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Mar-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Apr-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
May-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0

Table 8.1. Commic Tern design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	8.98	0-26.95	9.86	0-29.57	8.89	0-26.68	0.04	0-0.13	0.03	0-0.09	0.02	0-0.05
Jun-17	0.00	0-0	50.56	10.11-101.11	45.67	9.13-82.43	0.00	0-0	0.15	0.03-0.3	0.09	0.02-0.17
Jul-17	0.00	0-0	0.00	0-0	8.90	0-26.7	0.00	0-0	0.00	0-0	0.02	0-0.05
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	10.22	0-30.67	18.37	0-45.94	0.00	0-0	0.03	0-0.09	0.04	0-0.09
May-18	60.31	25.85-103.39	93.92	37.57-150.51	363.81	259.86-467.97	0.29	0.12-0.5	0.28	0.11-0.44	0.73	0.52-0.95

Table 8.2. Commic Tern design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	8.98	0-26.95	9.86	0-29.57	8.89	0-26.68	0.04	0-0.13	0.03	0-0.09	0.02	0-0.05
Jun-17	0.00	0-0	50.56	10.11-101.11	45.67	9.13-91.33	0.00	0-0	0.15	0.03-0.3	0.09	0.02-0.18
Jul-17	0.00	0-0	0.00	0-0	8.90	0-26.7	0.00	0-0	0.00	0-0	0.02	0-0.05
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	10.22	0-30.67	18.37	0-45.94	0.00	0-0	0.03	0-0.09	0.04	0-0.09
May-18	60.31	17.23-103.6	93.92	37.57-159.67	363.81	259.86-476.42	0.29	0.08-0.5	0.28	0.11-0.47	0.73	0.52-0.96

Table 8.3. Commic Tern design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Oct-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Nov-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Dec-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jan-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Feb-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Mar-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Apr-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
May-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jun-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jul-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Aug-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Sep-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Oct-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Nov-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Dec-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jan-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Feb-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Mar-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Apr-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
May-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0

Table 9.1. Kittiwake design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	89.87	35.95-143.8	98.57	49.28-167.57	142.48	80.15-213.94	0.43	0.17-0.69	0.29	0.15-0.49	0.29	0.16-0.43
Oct-16	21.48	5.37-42.95	31.24	10.41-57.28	41.23	15.46-72.16	0.10	0.03-0.21	0.09	0.03-0.17	0.08	0.03-0.15
Nov-16	18.47	0-43.1	29.76	5.95-53.57	76.51	35.31-117.71	0.09	0-0.21	0.09	0.02-0.16	0.15	0.07-0.24
Dec-16	6.16	0-18.47	11.77	0-29.44	17.42	0-40.65	0.03	0-0.09	0.03	0-0.09	0.04	0-0.08
Jan-17	11.58	0-28.95	16.75	0-39.08	49.75	16.58-82.91	0.06	0-0.14	0.05	0-0.12	0.10	0.03-0.17
Feb-17	49.52	18.57-86.65	71.54	35.77-113.27	76.53	41.21-117.74	0.24	0.09-0.42	0.21	0.11-0.33	0.15	0.08-0.24
Mar-17	129.92	81.2-184.05	229.01	166.55-296.67	297.70	220.71-374.69	0.62	0.39-0.89	0.68	0.49-0.88	0.60	0.45-0.76
Apr-17	211.18	138.08-292.41	279.77	189.52-379.04	525.86	410.82-649.1	1.02	0.66-1.41	0.83	0.56-1.12	1.06	0.83-1.31
May-17	8.98	0-26.95	19.72	0-49.29	35.58	8.67-80.05	0.04	0-0.13	0.06	0-0.15	0.07	0.02-0.16
Jun-17	120.16	64.7-194.11	151.67	80.89-242.67	191.80	118.73-274	0.58	0.31-0.93	0.45	0.24-0.72	0.39	0.24-0.55
Jul-17	44.86	8.97-89.73	98.42	39.37-167.32	124.60	62.3-195.81	0.22	0.04-0.43	0.29	0.12-0.49	0.25	0.13-0.4
Aug-17	31.72	7.93-63.44	60.93	17.41-104.44	102.47	55.18-165.54	0.15	0.04-0.31	0.18	0.05-0.31	0.21	0.11-0.33
Sep-17	0.00	0-0	0.00	0-0	7.65	0-22.95	0.00	0-0	0.00	0-0	0.02	0-0.05
Oct-17	0.00	0-0	0.00	0-0	25.14	0-58.65	0.00	0-0	0.00	0-0	0.05	0-0.12
Nov-17	113.29	56.64-179.37	144.02	72.01-216.29	157.68	83.48-231.89	0.54	0.27-0.86	0.42	0.21-0.64	0.32	0.17-0.47
Dec-17	188.22	116.52-268.88	293.56	195.7-401.19	373.00	266.43-479.57	0.91	0.56-1.29	0.87	0.58-1.18	0.75	0.54-0.97
Jan-18	9.71	0-29.12	21.19	0-52.97	57.11	19.04-104.7	0.05	0-0.14	0.06	0-0.16	0.12	0.04-0.21
Feb-18	100.40	45.64-164.29	109.46	49.75-179.12	135.11	72.06-207.16	0.48	0.22-0.79	0.32	0.15-0.53	0.27	0.15-0.42
Mar-18	116.65	58.32-184.69	136.21	62.87-220.03	216.24	140.79-301.09	0.56	0.28-0.89	0.40	0.19-0.65	0.44	0.28-0.61
Apr-18	337.62	234.46-440.78	572.48	449.55-715.6	826.87	661.5-983.06	1.62	1.13-2.12	1.69	1.33-2.11	1.67	1.34-1.99
May-18	327.39	232.62-422.17	422.66	309.71-554.38	641.00	502.4-779.59	1.57	1.12-2.03	1.25	0.91-1.64	1.29	1.01-1.57

Table 9.2. Kittiwake design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	98.86	44.94-161.77	108.43	49.28-177.42	151.39	89.05-231.53	0.48	0.22-0.78	0.32	0.15-0.52	0.31	0.18-0.47
Oct-16	204.01	144.96-268.44	80.87	53.43-112.19	85.17	55.74-117.36	0.98	0.7-1.29	0.24	0.16-0.33	0.17	0.11-0.24
Nov-16	29.17	9.08-58.01	44.15	16.87-76.42	107.46	62.56-157.63	0.14	0.04-0.28	0.13	0.05-0.23	0.22	0.13-0.32
Dec-16	18.47	0-43.1	23.55	5.89-47.25	46.46	17.42-81.3	0.09	0-0.21	0.07	0.02-0.14	0.09	0.04-0.16
Jan-17	11.58	0-33.65	19.63	5.58-42.14	62.17	27.64-99.47	0.06	0-0.16	0.06	0.02-0.12	0.13	0.06-0.2
Feb-17	49.52	18.57-86.65	71.54	35.77-113.27	76.53	41.21-117.74	0.24	0.09-0.42	0.21	0.11-0.33	0.15	0.08-0.24
Mar-17	134.72	86-188.86	234.21	171.74-305.5	307.18	234.93-383.79	0.65	0.41-0.91	0.69	0.51-0.9	0.62	0.47-0.78
Apr-17	219.30	146-300.53	288.79	198.54-388.06	534.07	419.04-657.32	1.05	0.7-1.45	0.85	0.59-1.14	1.08	0.85-1.33
May-17	17.97	0-44.92	29.57	0-69.01	53.36	17.79-106.73	0.09	0-0.22	0.09	0-0.2	0.11	0.04-0.22
Jun-17	138.65	73.94-212.59	182.00	101.11-273.01	219.20	145.91-310.54	0.67	0.36-1.02	0.54	0.3-0.81	0.44	0.29-0.63
Jul-17	52.36	16.47-95.75	106.66	49.21-175.55	139.10	77.9-218.13	0.25	0.08-0.46	0.31	0.15-0.52	0.28	0.16-0.44
Aug-17	39.65	7.93-79.3	67.38	24.98-113.15	115.72	64.48-180.92	0.19	0.04-0.38	0.20	0.07-0.33	0.23	0.13-0.37
Sep-17	0.00	0-0	0.00	0-0	7.65	0-22.95	0.00	0-0	0.00	0-0	0.02	0-0.05
Oct-17	0.00	0-0	0.00	0-0	25.14	0-58.65	0.00	0-0	0.00	0-0	0.05	0-0.12
Nov-17	113.29	56.64-179.37	144.02	72.01-216.29	175.76	101.79-259.24	0.54	0.27-0.86	0.42	0.21-0.64	0.35	0.21-0.52
Dec-17	188.22	116.52-268.88	293.56	195.7-401.19	373.00	266.43-479.57	0.91	0.56-1.29	0.87	0.58-1.18	0.75	0.54-0.97
Jan-18	9.71	0-29.12	21.19	0-52.97	57.11	19.04-104.7	0.05	0-0.14	0.06	0-0.16	0.12	0.04-0.21
Feb-18	109.53	54.76-173.42	119.41	59.46-189.07	153.12	81.06-234.18	0.53	0.26-0.83	0.35	0.18-0.56	0.31	0.16-0.47
Mar-18	145.81	77.76-223.57	167.64	94.3-261.94	244.44	169.23-347.86	0.70	0.37-1.08	0.49	0.28-0.77	0.49	0.34-0.7
Apr-18	346.04	243.84-457.63	581.73	456.92-735.07	835.41	670.03-990.96	1.66	1.17-2.2	1.72	1.35-2.17	1.69	1.35-2
May-18	336.01	241.24-430.78	432.05	319.34-563.54	666.98	519.51-805.58	1.62	1.16-2.07	1.27	0.94-1.66	1.35	1.05-1.63

Table 9.3. Kittiwake design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	9.86	0-29.57	8.91	0-26.72	0.04	0-0.13	0.03	0-0.09	0.02	0-0.05
Oct-16	16.11	0-37.58	15.62	0-36.45	15.46	0-36.08	0.08	0-0.18	0.05	0-0.11	0.03	0-0.07
Nov-16	6.16	0-18.47	11.90	0-29.76	52.97	23.54-88.29	0.03	0-0.09	0.04	0-0.09	0.11	0.05-0.18
Dec-16	6.16	0-18.62	11.77	0-29.44	11.61	0-29.04	0.03	0-0.09	0.03	0-0.09	0.02	0-0.06
Jan-17	5.79	0-17.37	11.17	0-27.91	38.69	11.06-66.47	0.03	0-0.08	0.03	0-0.08	0.08	0.02-0.13
Feb-17	30.95	6.19-61.89	41.73	11.92-77.5	47.10	17.66-82.42	0.15	0.03-0.3	0.12	0.04-0.23	0.10	0.04-0.17
Mar-17	81.20	43.31-124.51	140.53	93.56-197.78	169.38	118.05-225.84	0.39	0.21-0.6	0.41	0.28-0.58	0.34	0.24-0.46
Apr-17	138.08	73.1-203.06	198.54	117.32-279.77	320.44	221.85-419.04	0.66	0.35-0.98	0.59	0.35-0.83	0.65	0.45-0.85
May-17	0.00	0-0	9.86	0-29.57	17.79	0-44.47	0.00	0-0	0.03	0-0.09	0.04	0-0.09
Jun-17	46.22	9.24-83.42	60.67	20.22-111.22	63.93	18.27-118.73	0.22	0.04-0.4	0.18	0.06-0.33	0.13	0.04-0.24
Jul-17	35.89	8.97-71.78	88.58	39.37-147.64	89.00	35.6-142.63	0.17	0.04-0.35	0.26	0.12-0.44	0.18	0.07-0.29
Aug-17	31.72	7.93-63.44	43.52	8.7-87.04	70.94	31.53-118.24	0.15	0.04-0.31	0.13	0.03-0.26	0.14	0.06-0.24
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	16.76	0-41.89	0.00	0-0	0.00	0-0	0.03	0-0.08
Nov-17	103.85	47.2-169.93	123.45	61.72-195.46	139.13	74.2-213.34	0.50	0.23-0.82	0.36	0.18-0.58	0.28	0.15-0.43
Dec-17	107.55	53.78-170.29	195.70	117.18-283.77	257.55	168.74-346.36	0.52	0.26-0.82	0.58	0.35-0.84	0.52	0.34-0.7
Jan-18	9.71	0-29.12	21.19	0-52.97	47.59	9.52-95.18	0.05	0-0.14	0.06	0-0.16	0.10	0.02-0.19
Feb-18	54.76	18.25-100.4	59.71	19.9-109.46	90.07	45.04-144.11	0.26	0.09-0.48	0.18	0.06-0.32	0.18	0.09-0.29
Mar-18	87.48	38.64-145.81	104.78	52.39-178.12	159.83	94.02-244.44	0.42	0.19-0.7	0.31	0.15-0.53	0.32	0.19-0.49
Apr-18	225.08	140.68-309.49	368.02	255.57-490.7	486.94	367.5-624.75	1.08	0.68-1.49	1.09	0.75-1.45	0.98	0.74-1.26
May-18	249.85	163.7-344.63	328.73	225.42-422.89	424.44	311.84-545.71	1.20	0.79-1.66	0.97	0.66-1.25	0.86	0.63-1.1

Table 9.4. Kittiwake design based estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	9.86	0-29.57	8.91	0-26.72	0.04	0-0.13	0.03	0-0.09	0.02	0-0.05
Oct-16	16.11	0-37.58	15.62	0-36.45	15.46	0-36.08	0.08	0-0.18	0.05	0-0.11	0.03	0-0.07
Nov-16	6.16	0-18.47	11.90	0-29.76	58.42	23.54-94.17	0.03	0-0.09	0.04	0-0.09	0.12	0.05-0.19
Dec-16	6.16	0-18.62	11.77	0-29.44	11.61	0-29.04	0.03	0-0.09	0.03	0-0.09	0.02	0-0.06
Jan-17	5.79	0-17.37	11.17	0-27.91	42.84	16.55-74.65	0.03	0-0.08	0.03	0-0.08	0.09	0.03-0.15
Feb-17	30.95	6.19-61.89	41.73	11.92-77.5	47.10	17.66-82.42	0.15	0.03-0.3	0.12	0.04-0.23	0.10	0.04-0.17
Mar-17	81.20	43.31-124.51	140.53	93.56-197.78	169.38	118.05-225.84	0.39	0.21-0.6	0.41	0.28-0.58	0.34	0.24-0.46
Apr-17	138.08	73.1-203.06	198.54	117.32-279.77	320.44	221.85-419.04	0.66	0.35-0.98	0.59	0.35-0.83	0.65	0.45-0.85
May-17	0.00	0-0	9.86	0-29.57	17.79	0-44.47	0.00	0-0	0.03	0-0.09	0.04	0-0.09
Jun-17	46.22	9.24-83.42	60.67	20.22-111.22	63.93	18.27-118.73	0.22	0.04-0.4	0.18	0.06-0.33	0.13	0.04-0.24
Jul-17	35.89	8.97-71.78	88.58	39.37-147.64	89.00	35.6-142.63	0.17	0.04-0.35	0.26	0.12-0.44	0.18	0.07-0.29
Aug-17	39.65	7.93-79.3	46.74	17.38-89.7	75.60	31.53-122.89	0.19	0.04-0.38	0.14	0.05-0.26	0.15	0.06-0.25
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	16.76	0-41.89	0.00	0-0	0.00	0-0	0.03	0-0.08
Nov-17	103.85	47.2-169.93	123.45	61.72-195.46	139.13	74.2-213.34	0.50	0.23-0.82	0.36	0.18-0.58	0.28	0.15-0.43
Dec-17	107.55	53.78-170.29	195.70	117.18-283.77	257.55	168.74-346.36	0.52	0.26-0.82	0.58	0.35-0.84	0.52	0.34-0.7
Jan-18	9.71	0-29.12	21.19	0-52.97	47.59	9.52-95.18	0.05	0-0.14	0.06	0-0.16	0.10	0.02-0.19
Feb-18	54.76	18.25-100.4	59.71	19.9-109.46	90.07	45.04-144.11	0.26	0.09-0.48	0.18	0.06-0.32	0.18	0.09-0.29
Mar-18	87.48	38.64-145.81	104.78	52.39-178.12	159.83	94.02-244.44	0.42	0.19-0.7	0.31	0.15-0.53	0.32	0.19-0.49
Apr-18	225.08	140.68-309.49	368.02	255.57-490.7	486.94	367.5-624.75	1.08	0.68-1.49	1.09	0.75-1.45	0.98	0.74-1.26
May-18	249.85	163.7-344.63	328.73	225.42-422.89	433.11	329.16-554.38	1.20	0.79-1.66	0.97	0.66-1.25	0.87	0.66-1.12

Table 9.5. Kittiwake design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	80.88	35.95-134.81	88.71	39.43-147.85	133.58	71.24-204.82	0.39	0.17-0.65	0.26	0.12-0.44	0.27	0.14-0.41
Oct-16	5.37	0-16.11	15.62	0-36.45	25.77	5.15-51.54	0.03	0-0.08	0.05	0-0.11	0.05	0.01-0.1
Nov-16	12.31	0-30.79	17.86	0-41.66	23.54	5.89-47.09	0.06	0-0.15	0.05	0-0.12	0.05	0.01-0.1
Dec-16	0.00	0-0	0.00	0-0	5.81	0-17.42	0.00	0-0	0.00	0-0	0.01	0-0.04
Jan-17	5.79	0-17.37	5.58	0-16.75	11.06	0-27.64	0.03	0-0.08	0.02	0-0.05	0.02	0-0.06
Feb-17	18.57	0-43.33	29.81	5.96-59.62	29.44	5.89-58.87	0.09	0-0.21	0.09	0.02-0.18	0.06	0.01-0.12
Mar-17	48.72	21.65-81.2	88.48	46.84-135.32	128.32	76.99-179.77	0.23	0.1-0.39	0.26	0.14-0.4	0.26	0.16-0.36
Apr-17	73.10	32.49-121.84	81.22	36.1-135.37	205.41	131.46-287.58	0.35	0.16-0.59	0.24	0.11-0.4	0.41	0.27-0.58
May-17	8.98	0-26.95	9.86	0-29.57	17.79	0-44.47	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Jun-17	73.94	27.73-129.4	91.00	40.45-151.67	127.87	63.93-192.03	0.36	0.13-0.62	0.27	0.12-0.45	0.26	0.13-0.39
Jul-17	8.97	0-26.92	9.84	0-29.53	35.60	8.9-71.2	0.04	0-0.13	0.03	0-0.09	0.07	0.02-0.14
Aug-17	0.00	0-0	17.41	0-43.52	31.53	7.88-63.26	0.00	0-0	0.05	0-0.13	0.06	0.02-0.13
Sep-17	0.00	0-0	0.00	0-0	7.65	0-22.95	0.00	0-0	0.00	0-0	0.02	0-0.05
Oct-17	0.00	0-0	0.00	0-0	8.38	0-25.14	0.00	0-0	0.00	0-0	0.02	0-0.05
Nov-17	9.44	0-28.32	20.57	0-51.44	18.55	0-46.38	0.05	0-0.14	0.06	0-0.15	0.04	0-0.09
Dec-17	80.67	26.89-134.44	97.85	39.14-166.35	115.45	62.17-177.62	0.39	0.13-0.65	0.29	0.12-0.49	0.23	0.13-0.36
Jan-18	0.00	0-0	0.00	0-0	9.52	0-28.55	0.00	0-0	0.00	0-0	0.02	0-0.06
Feb-18	45.64	9.13-91.27	49.75	9.95-99.51	45.04	9.01-90.07	0.22	0.04-0.44	0.15	0.03-0.29	0.09	0.02-0.18
Mar-18	29.16	0-68.04	31.43	0-73.34	56.41	18.8-103.42	0.14	0-0.33	0.09	0-0.22	0.11	0.04-0.21
Apr-18	112.54	56.27-178.19	204.46	122.67-296.46	339.94	238.87-450.42	0.54	0.27-0.86	0.60	0.36-0.87	0.69	0.48-0.91
May-18	77.54	34.46-129.23	93.92	37.57-150.28	216.55	138.59-303.17	0.37	0.17-0.62	0.28	0.11-0.44	0.44	0.28-0.61

Table 9.6. Kittiwake design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	89.87	44.71-152.78	98.57	39.43-167.57	142.48	71.24-204.82	0.43	0.22-0.73	0.29	0.12-0.49	0.29	0.14-0.41
Oct-16	187.91	128.85-246.97	65.29	42.26-92.05	67.19	42.92-98.26	0.90	0.62-1.19	0.19	0.12-0.27	0.14	0.09-0.2
Nov-16	25.93	6.12-50.24	32.74	10.91-60.52	50.35	22.67-84.79	0.12	0.03-0.24	0.10	0.03-0.18	0.10	0.05-0.17
Dec-16	12.31	0-36.94	11.77	0-29.44	34.84	11.61-63.88	0.06	0-0.18	0.03	0-0.09	0.07	0.02-0.13
Jan-17	8.14	0-23.36	8.46	0-22.51	19.34	4.14-40.06	0.04	0-0.11	0.02	0-0.07	0.04	0.01-0.08
Feb-17	18.57	0-43.33	29.81	5.96-59.62	29.44	5.89-58.87	0.09	0-0.21	0.09	0.02-0.18	0.06	0.01-0.12
Mar-17	53.52	21.65-86	93.16	51.52-140	137.41	87.26-193.09	0.26	0.1-0.41	0.27	0.15-0.41	0.28	0.18-0.39
Apr-17	81.22	32.49-138.08	90.25	36.1-144.4	213.63	131.46-296	0.39	0.16-0.66	0.27	0.11-0.43	0.43	0.27-0.6
May-17	17.97	0-44.92	19.72	0-49.54	35.58	8.89-71.15	0.09	0-0.22	0.06	0-0.15	0.07	0.02-0.14
Jun-17	92.43	36.97-157.13	121.34	60.67-192.12	155.27	82.2-228.34	0.44	0.18-0.76	0.36	0.18-0.57	0.31	0.17-0.46
Jul-17	16.47	0-41.92	18.08	0-44.43	51.20	16.67-93.5	0.08	0-0.2	0.05	0-0.13	0.10	0.03-0.19
Aug-17	0.00	0-0	20.63	0-51.1	40.84	12.54-81.67	0.00	0-0	0.06	0-0.15	0.08	0.03-0.16
Sep-17	0.00	0-0	0.00	0-0	7.65	0-22.95	0.00	0-0	0.00	0-0	0.02	0-0.05
Oct-17	0.00	0-0	0.00	0-0	8.38	0-25.14	0.00	0-0	0.00	0-0	0.02	0-0.05
Nov-17	9.44	0-28.32	20.57	0-51.44	36.86	6.1-74.04	0.05	0-0.14	0.06	0-0.15	0.07	0.01-0.15
Dec-17	80.67	26.89-134.44	97.85	39.14-166.35	115.45	62.17-177.62	0.39	0.13-0.65	0.29	0.12-0.49	0.23	0.13-0.36
Jan-18	0.00	0-0	0.00	0-0	9.52	0-28.55	0.00	0-0	0.00	0-0	0.02	0-0.06
Feb-18	54.76	18.25-100.4	59.71	19.9-109.46	63.05	27.02-117.09	0.26	0.09-0.48	0.18	0.06-0.32	0.13	0.05-0.24
Mar-18	58.32	19.44-106.93	62.87	20.96-125.73	94.02	47.01-159.83	0.28	0.09-0.51	0.19	0.06-0.37	0.19	0.09-0.32
Apr-18	120.96	63.73-193.17	213.70	132.9-305.74	348.47	238.87-467.27	0.58	0.31-0.93	0.63	0.39-0.9	0.70	0.48-0.94
May-18	86.16	34.46-137.85	103.32	46.96-159.67	233.88	155.92-320.5	0.41	0.17-0.66	0.30	0.14-0.47	0.47	0.31-0.65

Table 10.1. Black-headed Gull design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	78.33	34.81-130.55	70.94	31.53-118.24	0.00	0-0	0.23	0.1-0.39	0.14	0.06-0.24
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	9.44	0-28.56	51.44	10.29-102.87	64.93	18.55-111.31	0.05	0-0.14	0.15	0.03-0.3	0.13	0.04-0.22
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 10.2. Black-headed Gull design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	86.27	39.73-140.39	80.63	37.99-132.58	0.00	0-0	0.25	0.12-0.41	0.16	0.08-0.27
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	9.44	0-28.56	51.44	10.29-102.87	69.84	27.78-123.6	0.05	0-0.14	0.15	0.03-0.3	0.14	0.06-0.25
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 10.3. Black-headed Gull design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	78.33	26.11-130.55	70.94	31.53-118.44	0.00	0-0	0.23	0.08-0.39	0.14	0.06-0.24
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	9.44	0-28.32	51.44	10.29-102.87	64.93	18.55-111.31	0.05	0-0.14	0.15	0.03-0.3	0.13	0.04-0.22
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 10.4. Black-headed Gull design based estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	79.46	34.81-140.39	74.17	31.53-126.12	0.00	0-0	0.23	0.1-0.41	0.15	0.06-0.25
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	9.44	0-28.32	51.44	10.29-102.87	64.93	18.55-111.31	0.05	0-0.14	0.15	0.03-0.3	0.13	0.04-0.22
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 10.5. Black-headed Gull design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Oct-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Nov-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Dec-16	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jan-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Feb-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Mar-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Apr-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
May-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jun-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jul-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Aug-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Sep-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Oct-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Nov-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Dec-17	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Jan-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Feb-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Mar-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
Apr-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0
May-18	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0	0	0-0

Table 10.6. Black-headed Gull design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Nov-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Dec-16	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Mar-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Apr-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jun-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jul-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Aug-17	0	0-0	4.92	0-14.75	6.46	0-16.15	0	0-0	0.01	0-0.04	0.01	0-0.03
Sep-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Oct-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Nov-17	0	0-0	0.00	0-0	7.37	0-17.2	0	0-0	0.00	0-0	0.01	0-0.03
Dec-17	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Jan-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Feb-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Mar-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
Apr-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0
May-18	0	0-0	0.00	0-0	0.00	0-0	0	0-0	0.00	0-0	0.00	0-0

Table 11.1. Little Gull design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	67.69	31.24-109.35	118.55	72.16-170.09	0.00	0-0	0.20	0.09-0.32	0.24	0.15-0.34
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	5.79	0-17.37	5.58	0-16.75	5.53	0-16.58	0.03	0-0.08	0.02	0-0.05	0.01	0-0.03
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	37.51	9.38-75.03	51.11	10.22-102.23	45.94	9.19-91.87	0.18	0.05-0.36	0.15	0.03-0.3	0.09	0.02-0.19
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 11.2. Little Gull design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	175.16	127.34-232.17	240.24	179.53-303.81	0.00	0-0	0.52	0.38-0.68	0.49	0.36-0.61
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	5.79	0-20.84	5.58	0-19.53	6.46	0.47-18.45	0.03	0-0.1	0.02	0-0.06	0.01	0-0.04
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	38.47	9.38-78.86	51.11	11.03-103.04	45.94	9.66-92.35	0.18	0.05-0.38	0.15	0.03-0.3	0.09	0.02-0.19
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 11.3. Little Gull design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	67.69	31.24-109.35	72.16	36.08-113.39	0.00	0-0	0.20	0.09-0.32	0.15	0.07-0.23
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	5.79	0-17.37	5.58	0-16.75	5.53	0-16.58	0.03	0-0.08	0.02	0-0.05	0.01	0-0.03
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	37.51	9.38-75.03	51.11	10.22-102.23	45.94	9.19-91.87	0.18	0.05-0.36	0.15	0.03-0.3	0.09	0.02-0.19
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 11.4. Little Gull design based estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	67.69	31.24-109.35	72.16	36.08-113.39	0.00	0-0	0.20	0.09-0.32	0.15	0.07-0.23
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	5.79	0-17.37	5.58	0-16.75	5.53	0-17.52	0.03	0-0.08	0.02	0-0.05	0.01	0-0.04
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	37.51	9.38-75.03	51.11	10.22-102.23	45.94	9.19-91.87	0.18	0.05-0.36	0.15	0.03-0.3	0.09	0.02-0.19
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 11.5. Little Gull design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Oct-16	0	0-0	0	0-0	46.39	20.62-77.31	0	0-0	0	0-0	0.09	0.04-0.16
Nov-16	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Dec-16	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jan-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Feb-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Mar-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Apr-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
May-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jun-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jul-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Aug-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Sep-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Oct-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Nov-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Dec-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jan-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Feb-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Mar-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Apr-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
May-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0

Table 11.6. Little Gull design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	109.45	74.04-148.08	166.51	116.37-219.63	0.00	0-0	0.32	0.22-0.44	0.34	0.24-0.44
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	1.15	0-3.44	0.92	0-3.68	0.93	0-2.33	0.01	0-0.02	0.00	0-0.01	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.96	0-2.87	0.81	0-2.43	0.47	0-1.41	0.00	0-0.01	0.00	0-0.01	0.00	0-0
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 12.1. Common Gull design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	10.41	0-26.04	10.31	0-25.77	0.00	0-0	0.03	0-0.08	0.02	0-0.05
Nov-16	6.16	0-18.63	5.95	0-17.86	5.89	0-17.66	0.03	0-0.09	0.02	0-0.05	0.01	0-0.04
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	11.58	0-28.95	11.17	0-27.91	11.06	0-27.64	0.06	0-0.14	0.03	0-0.08	0.02	0-0.06
Feb-17	37.14	12.38-68.08	35.77	11.92-65.58	41.21	11.77-70.64	0.18	0.06-0.33	0.11	0.04-0.19	0.08	0.02-0.14
Mar-17	16.24	0-37.89	26.02	5.2-52.05	25.66	5.13-51.33	0.08	0-0.18	0.08	0.02-0.15	0.05	0.01-0.1
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	8.97	0-26.92	19.68	0-49.21	17.80	0-44.5	0.04	0-0.13	0.06	0-0.15	0.04	0-0.09
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	9.44	0-28.32	20.57	0-51.44	18.55	0-46.38	0.05	0-0.14	0.06	0-0.15	0.04	0-0.09
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	19.04	0-47.59	0.00	0-0	0.00	0-0	0.04	0-0.1
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	10.22	0-30.67	18.37	0-45.94	0.00	0-0	0.03	0-0.09	0.04	0-0.09
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 12.2. Common Gull design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	27.18	14.16-45.25	20.42	9.17-37.79	0.00	0-0	0.08	0.04-0.13	0.04	0.02-0.08
Nov-16	9.40	1.62-27.87	7.93	0.99-23.8	8.07	1.31-21.15	0.05	0.01-0.13	0.02	0-0.07	0.02	0-0.04
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	12.67	0-31.25	11.17	0-31.48	12.89	0.92-31.34	0.06	0-0.15	0.03	0-0.09	0.03	0-0.06
Feb-17	37.14	12.38-68.08	35.77	11.92-65.58	41.21	11.77-70.64	0.18	0.06-0.33	0.11	0.04-0.19	0.08	0.02-0.14
Mar-17	16.85	0.61-38.5	26.02	5.73-52.05	25.66	5.92-51.33	0.08	0-0.19	0.08	0.02-0.15	0.05	0.01-0.1
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	8.97	0-31.34	19.68	0-50.82	18.90	1.1-47.8	0.04	0-0.15	0.06	0-0.15	0.04	0-0.1
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	9.44	0-28.32	20.57	0-51.44	19.98	0.71-49.95	0.05	0-0.14	0.06	0-0.15	0.04	0-0.1
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	19.04	0-47.59	0.00	0-0	0.00	0-0	0.04	0-0.1
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	10.39	0-31	18.37	0-46.12	0.00	0-0	0.03	0-0.09	0.04	0-0.09
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 12.3. Common Gull design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	10.41	0-26.04	10.31	0-25.77	0.00	0-0	0.03	0-0.08	0.02	0-0.05
Nov-16	6.16	0-18.47	5.95	0-17.86	5.89	0-17.66	0.03	0-0.09	0.02	0-0.05	0.01	0-0.04
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	11.58	0-28.95	11.17	0-27.91	11.06	0-27.64	0.06	0-0.14	0.03	0-0.08	0.02	0-0.06
Feb-17	30.95	6.19-55.7	29.81	5.96-59.62	35.32	11.77-64.76	0.15	0.03-0.27	0.09	0.02-0.18	0.07	0.02-0.13
Mar-17	5.41	0-16.24	10.41	0-26.02	10.27	0-25.66	0.03	0-0.08	0.03	0-0.08	0.02	0-0.05
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	19.04	0-47.59	0.00	0-0	0.00	0-0	0.04	0-0.1
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	10.22	0-30.67	18.37	0-45.94	0.00	0-0	0.03	0-0.09	0.04	0-0.09
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 12.4. Common Gull design based estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	10.41	0-26.04	10.31	0-25.77	0.00	0-0	0.03	0-0.08	0.02	0-0.05
Nov-16	6.16	0-18.47	5.95	0-17.86	5.89	0-18.53	0.03	0-0.09	0.02	0-0.05	0.01	0-0.04
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	11.58	0-28.95	11.17	0-27.91	11.97	0-28.56	0.06	0-0.14	0.03	0-0.08	0.02	0-0.06
Feb-17	30.95	6.19-55.7	29.81	5.96-59.62	35.32	11.77-64.76	0.15	0.03-0.27	0.09	0.02-0.18	0.07	0.02-0.13
Mar-17	5.41	0-16.24	10.41	0-26.02	10.27	0-25.66	0.03	0-0.08	0.03	0-0.08	0.02	0-0.05
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	19.04	0-47.59	0.00	0-0	0.00	0-0	0.04	0-0.1
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	10.22	0-30.67	18.37	0-45.94	0.00	0-0	0.03	0-0.09	0.04	0-0.09
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 12.5. Common Gull design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-17.88	5.89	0-23.55	0.03	0-0.09	0.02	0-0.05	0.01	0-0.05
Mar-17	10.83	0-27.07	15.61	0-36.43	15.40	0-35.93	0.05	0-0.13	0.05	0-0.11	0.03	0-0.07
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	8.97	0-26.92	19.68	0-49.21	17.80	0-44.5	0.04	0-0.13	0.06	0-0.15	0.04	0-0.09
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	9.44	0-28.32	20.57	0-61.72	18.55	0-46.38	0.05	0-0.14	0.06	0-0.18	0.04	0-0.09
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 12.6. Common Gull design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	17.19	11.63-23.26	10.75	7.26-14.54	0.00	0-0	0.05	0.03-0.07	0.02	0.01-0.03
Nov-16	4.86	0-9.72	2.97	0-5.94	2.18	0.44-4.37	0.02	0-0.05	0.01	0-0.02	0.00	0-0.01
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	2.29	0-6.88	1.78	0-7.13	1.84	0-4.6	0.01	0-0.03	0.01	0-0.02	0.00	0-0.01
Feb-17	6.19	0-18.57	5.96	0-17.88	5.89	0-23.55	0.03	0-0.09	0.02	0-0.05	0.01	0-0.05
Mar-17	11.44	0-27.68	16.14	0.52-36.43	15.79	0.78-36.71	0.05	0-0.13	0.05	0-0.11	0.03	0-0.07
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	10.45	0-29.86	19.68	0-52.43	20.00	1.1-47.8	0.05	0-0.14	0.06	0-0.15	0.04	0-0.1
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	9.44	0-28.32	20.57	0-61.72	19.98	1.43-48.52	0.05	0-0.14	0.06	0-0.18	0.04	0-0.1
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	0.17	0-0.5	0.18	0-0.54	0.00	0-0	0.00	0-0	0.00	0-0
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 13.1. Lesser Black-backed Gull design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	44.94	8.99-89.87	59.14	19.71-108.43	80.15	35.62-133.58	0.22	0.04-0.43	0.17	0.06-0.32	0.16	0.07-0.27
Oct-16	16.11	0-37.58	31.24	10.41-57.28	30.92	10.31-56.7	0.08	0-0.18	0.09	0.03-0.17	0.06	0.02-0.11
Nov-16	6.16	0-18.47	5.95	0-17.86	5.89	0-17.66	0.03	0-0.09	0.02	0-0.05	0.01	0-0.04
Dec-16	0.00	0-0	5.89	0-17.66	5.81	0-17.42	0.00	0-0	0.02	0-0.05	0.01	0-0.04
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-17.88	5.89	0-17.66	0.03	0-0.09	0.02	0-0.05	0.01	0-0.04
Mar-17	5.41	0-16.24	5.20	0-15.61	10.27	0-25.66	0.03	0-0.08	0.02	0-0.05	0.02	0-0.05
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	9.86	0-29.57	8.89	0-26.68	0.00	0-0	0.03	0-0.09	0.02	0-0.05
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	44.86	8.97-89.73	49.21	9.84-98.42	133.50	71.2-204.71	0.22	0.04-0.43	0.15	0.03-0.29	0.27	0.14-0.41
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	7.75	0-23.24	16.93	0-42.33	22.95	0-53.55	0.04	0-0.11	0.05	0-0.12	0.05	0-0.11
Oct-17	0.00	0-0	9.30	0-27.91	58.65	25.14-108.92	0.00	0-0	0.03	0-0.08	0.12	0.05-0.22
Nov-17	0.00	0-0	10.29	0-30.86	18.55	0-46.38	0.00	0-0	0.03	0-0.09	0.04	0-0.09
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	9.13	0-27.38	9.95	0-29.85	18.01	0-45.04	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Mar-18	9.72	0-29.16	10.48	0-31.43	9.40	0-28.21	0.05	0-0.14	0.03	0-0.09	0.02	0-0.06
Apr-18	0.00	0-0	0.00	0-0	9.19	0-27.56	0.00	0-0	0.00	0-0	0.02	0-0.06
May-18	0.00	0-0	0.00	0-0	8.66	0-25.99	0.00	0-0	0.00	0-0	0.02	0-0.05

Table 13.2. Lesser Black-backed Gull design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	44.94	8.99-89.87	59.14	19.71-108.43	87.49	35.62-142.59	0.22	0.04-0.43	0.17	0.06-0.32	0.18	0.07-0.29
Oct-16	79.61	45.91-122.73	105.16	65.98-150.31	107.08	68-151.32	0.38	0.22-0.59	0.31	0.19-0.44	0.22	0.14-0.31
Nov-16	9.16	0-24.63	17.77	2.95-35.58	16.83	4.69-33.3	0.04	0-0.12	0.05	0.01-0.1	0.03	0.01-0.07
Dec-16	0.00	0-0	5.89	0-17.66	5.81	0-17.42	0.00	0-0	0.02	0-0.05	0.01	0-0.04
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-17.88	5.89	0-17.66	0.03	0-0.09	0.02	0-0.05	0.01	0-0.04
Mar-17	5.41	0-16.24	5.20	0-15.61	12.37	0-27.8	0.03	0-0.08	0.02	0-0.05	0.02	0-0.06
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	9.86	0-29.57	8.89	0-26.68	0.00	0-0	0.03	0-0.09	0.02	0-0.05
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	44.86	8.97-89.73	49.21	9.84-98.42	133.50	71.2-204.71	0.22	0.04-0.43	0.15	0.03-0.29	0.27	0.14-0.41
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	7.75	0-23.24	16.93	0-42.33	24.62	1.67-55.22	0.04	0-0.11	0.05	0-0.12	0.05	0-0.11
Oct-17	0.00	0-0	9.30	0-27.91	58.65	25.14-108.92	0.00	0-0	0.03	0-0.08	0.12	0.05-0.22
Nov-17	0.00	0-0	13.70	0-37.69	21.25	0-51.78	0.00	0-0	0.04	0-0.11	0.04	0-0.1
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	9.13	0-27.38	9.95	0-29.85	24.18	3.08-57.13	0.04	0-0.13	0.03	0-0.09	0.05	0.01-0.12
Mar-18	9.72	0-29.16	11.32	0-33.12	11.01	0-31.47	0.05	0-0.14	0.03	0-0.1	0.02	0-0.06
Apr-18	0.00	0-0	0.00	0-0	11.23	1.02-33.69	0.00	0-0	0.00	0-0	0.02	0-0.07
May-18	0.00	0-0	0.00	0-0	8.66	0-25.99	0.00	0-0	0.00	0-0	0.02	0-0.05

Table 13.3. Lesser Black-backed Gull design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-16	0.00	0-0	15.62	0-36.45	15.46	0-36.08	0.00	0-0	0.05	0-0.11	0.03	0-0.07
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	5.41	0-21.65	5.20	0-15.61	10.27	0-25.66	0.03	0-0.1	0.02	0-0.05	0.02	0-0.05
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	8.97	0-26.92	9.84	0-29.53	17.80	0-44.5	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	9.13	0-27.38	9.95	0-29.85	18.01	0-45.04	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	0.00	0-0	9.19	0-27.56	0.00	0-0	0.00	0-0	0.02	0-0.06
May-18	0.00	0-0	0.00	0-0	8.66	0-25.99	0.00	0-0	0.00	0-0	0.02	0-0.05

Table 13.4. Lesser Black-backed Gull design based estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	7.34	0-22.02	0.00	0-0	0.00	0-0	0.01	0-0.04
Oct-16	0.00	0-0	15.62	0-36.45	15.46	0-36.08	0.00	0-0	0.05	0-0.11	0.03	0-0.07
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-17	5.41	0-21.65	5.20	0-15.61	10.27	0-25.66	0.03	0-0.1	0.02	0-0.05	0.02	0-0.05
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	8.97	0-26.92	9.84	0-29.53	17.80	0-44.5	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	1.67	0-5.02	0.00	0-0	0.00	0-0	0.00	0-0.01
Oct-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	9.13	0-27.38	9.95	0-29.85	18.01	0-45.04	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Mar-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-18	0.00	0-0	0.00	0-0	9.19	0-27.56	0.00	0-0	0.00	0-0	0.02	0-0.06
May-18	0.00	0-0	0.00	0-0	8.66	0-25.99	0.00	0-0	0.00	0-0	0.02	0-0.05

Table 13.5. Lesser Black-backed Gull design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	44.94	8.99-89.87	59.14	19.71-108.43	80.15	35.62-133.58	0.22	0.04-0.43	0.17	0.06-0.32	0.16	0.07-0.27
Oct-16	16.11	0-32.21	15.62	0-36.45	15.46	0-36.08	0.08	0-0.15	0.05	0-0.11	0.03	0-0.07
Nov-16	6.16	0-18.47	5.95	0-17.86	5.89	0-17.66	0.03	0-0.09	0.02	0-0.05	0.01	0-0.04
Dec-16	0.00	0-0	5.89	0-17.81	5.81	0-17.42	0.00	0-0	0.02	0-0.05	0.01	0-0.04
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-17.88	5.89	0-17.66	0.03	0-0.09	0.02	0-0.05	0.01	0-0.04
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	9.86	0-29.57	8.89	0-26.68	0.00	0-0	0.03	0-0.09	0.02	0-0.05
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	35.89	8.97-71.78	39.37	9.84-78.74	115.70	62.3-178.01	0.17	0.04-0.35	0.12	0.03-0.23	0.23	0.13-0.36
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	7.75	0-23.24	16.93	0-42.33	22.95	0-53.55	0.04	0-0.11	0.05	0-0.12	0.05	0-0.11
Oct-17	0.00	0-0	9.30	0-27.91	58.65	16.76-100.54	0.00	0-0	0.03	0-0.08	0.12	0.03-0.2
Nov-17	0.00	0-0	10.29	0-30.86	18.55	0-46.38	0.00	0-0	0.03	0-0.09	0.04	0-0.09
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	9.72	0-29.16	10.48	0-31.43	9.40	0-28.21	0.05	0-0.14	0.03	0-0.09	0.02	0-0.06
Apr-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 13.6. Lesser Black-backed Gull design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	44.94	8.99-89.87	59.14	19.71-108.43	80.15	35.62-133.58	0.22	0.04-0.43	0.17	0.06-0.32	0.16	0.07-0.27
Oct-16	79.67	45.77-116.04	90.30	53.21-127.35	90.19	53.97-133.85	0.38	0.22-0.56	0.27	0.16-0.38	0.18	0.11-0.27
Nov-16	9.16	0-24.48	17.72	2.95-35.62	16.46	4.69-31.73	0.04	0-0.12	0.05	0.01-0.11	0.03	0.01-0.06
Dec-16	0.00	0-0	5.89	0-17.81	5.81	0-17.42	0.00	0-0	0.02	0-0.05	0.01	0-0.04
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-17.88	5.89	0-17.66	0.03	0-0.09	0.02	0-0.05	0.01	0-0.04
Mar-17	0.00	0-0	0.00	0-0	2.10	0-6.31	0.00	0-0	0.00	0-0	0.00	0-0.01
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	9.86	0-29.57	8.89	0-26.68	0.00	0-0	0.03	0-0.09	0.02	0-0.05
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	35.89	8.97-71.78	39.37	9.84-78.74	115.70	62.3-178.01	0.17	0.04-0.35	0.12	0.03-0.23	0.23	0.13-0.36
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	7.75	0-23.24	16.93	0-42.33	22.95	0-53.55	0.04	0-0.11	0.05	0-0.12	0.05	0-0.11
Oct-17	0.00	0-0	9.30	0-27.91	58.65	16.76-100.54	0.00	0-0	0.03	0-0.08	0.12	0.03-0.2
Nov-17	0.00	0-0	13.66	0-37.69	20.07	0-51.78	0.00	0-0	0.04	0-0.11	0.04	0-0.1
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	6.17	0-15.42	0.00	0-0	0.00	0-0	0.01	0-0.03
Mar-18	9.72	0-29.16	12.16	0-34.85	11.01	0-34.64	0.05	0-0.14	0.04	0-0.1	0.02	0-0.07
Apr-18	0.00	0-0	0.00	0-0	3.06	0-7.15	0.00	0-0	0.00	0-0	0.01	0-0.01
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 14.1. Herring Gull design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	53.92	17.97-98.86	59.14	19.71-108.43	62.34	26.72-106.86	0.26	0.09-0.48	0.17	0.06-0.32	0.13	0.05-0.22
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	5.89	0-17.66	0.00	0-0	0.00	0-0	0.01	0-0.04
Dec-16	0.00	0-0	0.00	0-0	11.61	0-29.04	0.00	0-0	0.00	0-0	0.02	0-0.06
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-23.85	11.77	0-29.44	0.03	0-0.09	0.02	0-0.07	0.02	0-0.06
Mar-17	5.41	0-16.24	5.20	0-15.61	10.27	0-25.66	0.03	0-0.08	0.02	0-0.05	0.02	0-0.05
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	9.84	0-29.53	8.90	0-26.7	0.00	0-0	0.03	0-0.09	0.02	0-0.05
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	61.98	23.24-108.46	67.73	25.4-118.53	76.50	30.6-122.39	0.30	0.11-0.52	0.20	0.07-0.35	0.15	0.06-0.25
Oct-17	0.00	0-0	9.30	0-27.91	50.27	16.76-92.17	0.00	0-0	0.03	0-0.08	0.10	0.03-0.19
Nov-17	0.00	0-0	10.29	0-30.86	37.10	9.28-74.2	0.00	0-0	0.03	0-0.09	0.07	0.02-0.15
Dec-17	0.00	0-0	0.00	0-0	8.88	0-26.64	0.00	0-0	0.00	0-0	0.02	0-0.05
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	9.95	0-29.85	18.01	0-45.04	0.00	0-0	0.03	0-0.09	0.04	0-0.09
Mar-18	9.72	0-29.16	20.96	0-52.39	18.80	0-47.01	0.05	0-0.14	0.06	0-0.15	0.04	0-0.09
Apr-18	0.00	0-0	20.45	0-51.11	27.56	0-64.31	0.00	0-0	0.06	0-0.15	0.06	0-0.13
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 14.2. Herring Gull design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	53.92	17.97-98.86	59.14	19.71-108.43	62.34	26.72-106.86	0.26	0.09-0.48	0.17	0.06-0.32	0.13	0.05-0.22
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	14.39	4.25-30.63	0.00	0-0	0.00	0-0	0.03	0.01-0.06
Dec-16	0.00	0-0	0.00	0-0	11.61	0-29.04	0.00	0-0	0.00	0-0	0.02	0-0.06
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-23.85	11.77	0-29.44	0.03	0-0.09	0.02	0-0.07	0.02	0-0.06
Mar-17	5.41	0-16.24	5.20	0-15.61	12.30	0-27.7	0.03	0-0.08	0.02	0-0.05	0.02	0-0.06
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	9.84	0-29.53	8.90	0-26.7	0.00	0-0	0.03	0-0.09	0.02	0-0.05
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	61.98	23.24-108.46	67.73	25.4-118.53	81.95	38.19-131.09	0.30	0.11-0.52	0.20	0.07-0.35	0.17	0.08-0.26
Oct-17	0.00	0-0	9.30	0-27.91	50.27	16.76-92.17	0.00	0-0	0.03	0-0.08	0.10	0.03-0.19
Nov-17	0.00	0-0	13.78	0-38.12	42.32	9.28-84.64	0.00	0-0	0.04	0-0.11	0.09	0.02-0.17
Dec-17	0.00	0-0	0.00	0-0	8.88	0-26.64	0.00	0-0	0.00	0-0	0.02	0-0.05
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	9.95	0-29.85	21.01	3-54.03	0.00	0-0	0.03	0-0.09	0.04	0.01-0.11
Mar-18	9.72	0-29.16	24.54	0-59.9	21.95	0-53.3	0.05	0-0.14	0.07	0-0.18	0.04	0-0.11
Apr-18	0.00	0-0	25.66	0-61.34	36.74	9.18-76.55	0.00	0-0	0.08	0-0.18	0.07	0.02-0.15
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 14.3. Herring Gull design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Oct-16	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Nov-16	0	0-0	0	0-0	5.89	0-17.66	0	0-0	0	0-0	0.01	0-0.04
Dec-16	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jan-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Feb-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Mar-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Apr-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
May-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jun-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jul-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Aug-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Sep-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Oct-17	0	0-0	0	0-0	8.38	0-25.14	0	0-0	0	0-0	0.02	0-0.05
Nov-17	0	0-0	0	0-0	9.28	0-27.83	0	0-0	0	0-0	0.02	0-0.06
Dec-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jan-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Feb-18	0	0-0	0	0-0	9.01	0-27.02	0	0-0	0	0-0	0.02	0-0.05
Mar-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Apr-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
May-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0

Table 14.4. Herring Gull design based estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Oct-16	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Nov-16	0	0-0	0	0-0	5.89	0-17.66	0	0-0	0	0-0	0.01	0-0.04
Dec-16	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jan-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Feb-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Mar-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Apr-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
May-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jun-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jul-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Aug-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Sep-17	0	0-0	0	0-0	5.45	0-16.35	0	0-0	0	0-0	0.01	0-0.03
Oct-17	0	0-0	0	0-0	8.38	0-25.14	0	0-0	0	0-0	0.02	0-0.05
Nov-17	0	0-0	0	0-0	9.28	0-27.83	0	0-0	0	0-0	0.02	0-0.06
Dec-17	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Jan-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Feb-18	0	0-0	0	0-0	9.01	0-27.02	0	0-0	0	0-0	0.02	0-0.05
Mar-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
Apr-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0
May-18	0	0-0	0	0-0	0.00	0-0	0	0-0	0	0-0	0.00	0-0

Table 14.5. Herring Gull design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	53.92	17.97-98.86	59.14	19.71-108.67	62.34	26.72-115.77	0.26	0.09-0.48	0.17	0.06-0.32	0.13	0.05-0.23
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	0.00	0-0	0.00	0-0	11.61	0-29.04	0.00	0-0	0.00	0-0	0.02	0-0.06
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-17.88	11.77	0-29.44	0.03	0-0.09	0.02	0-0.05	0.02	0-0.06
Mar-17	5.41	0-16.24	5.20	0-15.61	10.27	0-25.66	0.03	0-0.08	0.02	0-0.05	0.02	0-0.05
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	9.84	0-39.37	8.90	0-26.7	0.00	0-0	0.03	0-0.12	0.02	0-0.05
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	61.98	23.24-108.46	67.73	25.4-118.53	76.50	30.6-130.23	0.30	0.11-0.52	0.20	0.07-0.35	0.15	0.06-0.26
Oct-17	0.00	0-0	9.30	0-27.91	41.89	8.38-83.79	0.00	0-0	0.03	0-0.08	0.08	0.02-0.17
Nov-17	0.00	0-0	10.29	0-30.86	27.83	0-64.93	0.00	0-0	0.03	0-0.09	0.06	0-0.13
Dec-17	0.00	0-0	0.00	0-0	8.88	0-26.64	0.00	0-0	0.00	0-0	0.02	0-0.05
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	9.95	0-29.85	9.01	0-27.25	0.00	0-0	0.03	0-0.09	0.02	0-0.06
Mar-18	9.72	0-29.16	20.96	0-52.39	18.80	0-47.01	0.05	0-0.14	0.06	0-0.15	0.04	0-0.09
Apr-18	0.00	0-0	20.45	0-51.11	27.56	0-64.31	0.00	0-0	0.06	0-0.15	0.06	0-0.13
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 14.6. Herring Gull design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	53.92	17.97-98.86	59.14	19.71-108.67	62.34	26.72-115.77	0.26	0.09-0.48	0.17	0.06-0.32	0.13	0.05-0.23
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	0.00	0-0	0.00	0-0	9.92	2.83-18.42	0.00	0-0	0.00	0-0	0.02	0.01-0.04
Dec-16	0.00	0-0	0.00	0-0	11.61	0-29.04	0.00	0-0	0.00	0-0	0.02	0-0.06
Jan-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-17	6.19	0-18.57	5.96	0-17.88	11.77	0-29.44	0.03	0-0.09	0.02	0-0.05	0.02	0-0.06
Mar-17	5.41	0-16.24	5.20	0-15.61	11.24	0-29.73	0.03	0-0.08	0.02	0-0.05	0.02	0-0.06
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	9.84	0-39.37	8.90	0-26.7	0.00	0-0	0.03	0-0.12	0.02	0-0.05
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	61.98	23.24-108.46	67.73	25.4-118.53	76.50	30.6-130.23	0.30	0.11-0.52	0.20	0.07-0.35	0.15	0.06-0.26
Oct-17	0.00	0-0	9.30	0-27.91	41.89	8.38-83.79	0.00	0-0	0.03	0-0.08	0.08	0.02-0.17
Nov-17	0.00	0-0	10.48	0-41.15	33.05	5.22-70.18	0.00	0-0	0.03	0-0.12	0.07	0.01-0.14
Dec-17	0.00	0-0	0.00	0-0	8.88	0-26.64	0.00	0-0	0.00	0-0	0.02	0-0.05
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	9.95	0-29.85	14.99	0-39.01	0.00	0-0	0.03	0-0.09	0.03	0-0.08
Mar-18	9.72	0-29.16	20.96	0-55.98	21.95	0-50.18	0.05	0-0.14	0.06	0-0.17	0.04	0-0.1
Apr-18	0.00	0-0	25.66	0-56.54	33.68	6.12-73.49	0.00	0-0	0.08	0-0.17	0.07	0.01-0.15
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 15.1. Great Black-backed Gull design based estimates of birds in flight and on sea.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	9.86	0-29.57	17.81	0-44.53	0.04	0-0.13	0.03	0-0.09	0.04	0-0.09
Oct-16	5.37	0-16.11	5.21	0-15.62	5.15	0-15.46	0.03	0-0.08	0.02	0-0.05	0.01	0-0.03
Nov-16	6.16	0-18.47	5.95	0-17.86	11.77	0-29.43	0.03	0-0.09	0.02	0-0.05	0.02	0-0.06
Dec-16	12.31	0-30.79	17.66	0-41.21	17.42	0-40.65	0.06	0-0.15	0.05	0-0.12	0.04	0-0.08
Jan-17	5.79	0-17.37	11.17	0-27.91	38.69	16.58-71.86	0.03	0-0.08	0.03	0-0.08	0.08	0.03-0.15
Feb-17	61.89	24.76-105.22	95.38	53.65-143.23	141.29	88.31-206.05	0.30	0.12-0.51	0.28	0.16-0.42	0.29	0.18-0.42
Mar-17	5.41	0-16.24	5.20	0-15.61	5.13	0-15.4	0.03	0-0.08	0.02	0-0.05	0.01	0-0.03
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	17.95	0-44.86	19.68	0-49.21	17.80	0-44.5	0.09	0-0.22	0.06	0-0.15	0.04	0-0.09
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	8.47	0-33.86	7.65	0-22.95	0.00	0-0	0.02	0-0.1	0.02	0-0.05
Oct-17	8.49	0-25.48	9.30	0-37.22	67.03	25.14-117.3	0.04	0-0.12	0.03	0-0.11	0.14	0.05-0.24
Nov-17	9.44	0-28.32	10.29	0-30.86	9.28	0-27.83	0.05	0-0.14	0.03	0-0.09	0.02	0-0.06
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	9.95	0-29.85	18.01	0-45.04	0.00	0-0	0.03	0-0.09	0.04	0-0.09
Mar-18	9.72	0-29.16	31.43	0-73.34	28.21	0-56.65	0.05	0-0.14	0.09	0-0.22	0.06	0-0.11
Apr-18	18.76	0-46.89	20.45	0-51.11	45.94	9.19-91.87	0.09	0-0.23	0.06	0-0.15	0.09	0.02-0.19
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 15.2. Great Black-backed Gull design based estimates of birds in flight and on sea including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	9.86	0-29.57	17.81	0-47.65	0.04	0-0.13	0.03	0-0.09	0.04	0-0.1
Oct-16	25.19	13.14-43.71	17.51	9.22-32.36	16.62	7.88-31.22	0.12	0.06-0.21	0.05	0.03-0.1	0.03	0.02-0.06
Nov-16	9.31	0-27.78	17.95	3-35.89	32.03	11.69-55.5	0.04	0-0.13	0.05	0.01-0.11	0.06	0.02-0.11
Dec-16	12.31	0-30.79	17.66	0-41.21	17.42	0-40.65	0.06	0-0.15	0.05	0-0.12	0.04	0-0.08
Jan-17	5.79	0-17.37	11.17	0-27.91	38.69	16.58-71.86	0.03	0-0.08	0.03	0-0.08	0.08	0.03-0.15
Feb-17	61.89	24.76-105.22	95.38	53.65-143.23	141.29	88.31-206.05	0.30	0.12-0.51	0.28	0.16-0.42	0.29	0.18-0.42
Mar-17	5.41	0-16.24	5.20	0-15.61	5.13	0-18.38	0.03	0-0.08	0.02	0-0.05	0.01	0-0.04
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	17.95	0-44.86	19.68	0-49.21	17.80	0-44.5	0.09	0-0.22	0.06	0-0.15	0.04	0-0.09
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	8.47	0-33.86	8.18	0-24.01	0.00	0-0	0.02	0-0.1	0.02	0-0.05
Oct-17	8.49	0-25.48	9.30	0-37.22	67.03	25.14-117.3	0.04	0-0.12	0.03	0-0.11	0.14	0.05-0.24
Nov-17	9.44	0-28.32	10.29	0-37.62	10.63	0-30.54	0.05	0-0.14	0.03	0-0.11	0.02	0-0.06
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	9.95	0-29.85	20.94	2.93-53.81	0.00	0-0	0.03	0-0.09	0.04	0.01-0.11
Mar-18	9.72	0-29.16	36.58	5.21-78.55	30.48	4.65-65.81	0.05	0-0.14	0.11	0.02-0.23	0.06	0.01-0.13
Apr-18	28.14	0-65.65	25.45	0-61.12	60.23	23.48-108.21	0.14	0-0.32	0.08	0-0.18	0.12	0.05-0.22
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 15.3. Great Black-backed Gull design based estimates of birds in flight.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	8.91	0-26.72	0.00	0-0	0.00	0-0	0.02	0-0.05
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	6.16	0-18.47	5.95	0-17.86	11.77	0-29.43	0.03	0-0.09	0.02	0-0.05	0.02	0-0.06
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	11.06	0-27.78	0.00	0-0	0.00	0-0	0.02	0-0.06
Feb-17	18.57	0-43.33	23.85	0-47.69	23.55	0-47.1	0.09	0-0.21	0.07	0-0.14	0.05	0-0.1
Mar-17	5.41	0-16.24	5.20	0-15.61	5.13	0-15.4	0.03	0-0.08	0.02	0-0.05	0.01	0-0.03
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	58.65	16.76-108.92	0.00	0-0	0.00	0-0	0.12	0.03-0.22
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	9.95	0-29.85	18.01	0-45.04	0.00	0-0	0.03	0-0.09	0.04	0-0.09
Mar-18	9.72	0-29.16	20.96	0-52.39	18.80	0-47.01	0.05	0-0.14	0.06	0-0.15	0.04	0-0.09
Apr-18	18.76	0-46.89	20.45	0-51.11	36.75	9.19-73.5	0.09	0-0.23	0.06	0-0.15	0.07	0.02-0.15
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 15.4. Great Black-backed Gull design based estimates of birds in flight including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	0.00	0-0	0.00	0-0	8.91	0-29.84	0.00	0-0	0.00	0-0	0.02	0-0.06
Oct-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Nov-16	6.16	0-18.47	5.95	0-17.86	11.77	0-29.43	0.03	0-0.09	0.02	0-0.05	0.02	0-0.06
Dec-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-17	0.00	0-0	0.00	0-0	11.06	0-27.78	0.00	0-0	0.00	0-0	0.02	0-0.06
Feb-17	18.57	0-43.33	23.85	0-47.69	23.55	0-47.1	0.09	0-0.21	0.07	0-0.14	0.05	0-0.1
Mar-17	5.41	0-16.24	5.20	0-15.61	5.13	0-15.4	0.03	0-0.08	0.02	0-0.05	0.01	0-0.03
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	0.00	0-0	0.53	0-1.58	0.00	0-0	0.00	0-0	0.00	0-0
Oct-17	0.00	0-0	0.00	0-0	58.65	16.76-108.92	0.00	0-0	0.00	0-0	0.12	0.03-0.22
Nov-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	9.95	0-29.85	18.01	0-45.04	0.00	0-0	0.03	0-0.09	0.04	0-0.09
Mar-18	9.72	0-29.16	20.96	0-52.39	18.80	0-47.01	0.05	0-0.14	0.06	0-0.15	0.04	0-0.09
Apr-18	18.76	0-46.89	20.45	0-51.11	36.75	9.19-73.5	0.09	0-0.23	0.06	0-0.15	0.07	0.02-0.15
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 15.5. Great Black-backed Gull design based estimates of birds on the sea surface.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	9.86	0-29.57	8.91	0-26.94	0.04	0-0.13	0.03	0-0.09	0.02	0-0.05
Oct-16	5.37	0-16.11	5.21	0-15.62	5.15	0-15.46	0.03	0-0.08	0.02	0-0.05	0.01	0-0.03
Nov-16	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Dec-16	12.31	0-30.79	17.66	0-41.21	17.42	0-40.65	0.06	0-0.15	0.05	0-0.12	0.04	0-0.08
Jan-17	5.79	0-17.37	11.17	0-27.91	27.64	5.53-55.28	0.03	0-0.08	0.03	0-0.08	0.06	0.01-0.11
Feb-17	43.33	12.38-74.27	71.54	35.77-113.27	117.74	70.5-170.73	0.21	0.06-0.36	0.21	0.11-0.33	0.24	0.14-0.34
Mar-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	17.95	0-53.84	19.68	0-49.21	17.80	0-44.5	0.09	0-0.26	0.06	0-0.15	0.04	0-0.09
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	8.47	0-25.4	7.65	0-22.95	0.00	0-0	0.02	0-0.07	0.02	0-0.05
Oct-17	8.49	0-25.48	9.30	0-27.91	8.38	0-25.14	0.04	0-0.12	0.03	0-0.08	0.02	0-0.05
Nov-17	9.44	0-28.32	10.29	0-30.86	9.28	0-27.83	0.05	0-0.14	0.03	0-0.09	0.02	0-0.06
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Mar-18	0.00	0-0	10.48	0-31.43	9.40	0-28.21	0.00	0-0	0.03	0-0.09	0.02	0-0.06
Apr-18	0.00	0-0	0.00	0-0	9.19	0-27.56	0.00	0-0	0.00	0-0	0.02	0-0.06
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

Table 15.6. Great Black-backed Gull design based estimates of birds on the sea surface including unidentified birds assigned using positively identified proportions.

Date	Abundance						Density					
	Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer		Wind farm		Wind farm & 2km buffer		Wind farm & 4km buffer	
	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval	Median	Confidence interval
Sep-16	8.99	0-26.96	9.86	0-29.57	8.91	0-26.94	0.04	0-0.13	0.03	0-0.09	0.02	0-0.05
Oct-16	26.28	13.14-42.39	17.51	7.69-31	16.62	7.88-30.51	0.13	0.06-0.2	0.05	0.02-0.09	0.03	0.02-0.06
Nov-16	3.15	0-9.54	11.99	0-23.99	20.34	5.81-37.77	0.02	0-0.05	0.04	0-0.07	0.04	0.01-0.08
Dec-16	12.31	0-30.79	17.66	0-41.21	17.42	0-40.65	0.06	0-0.15	0.05	0-0.12	0.04	0-0.08
Jan-17	5.79	0-17.37	11.17	0-27.91	27.64	5.53-55.28	0.03	0-0.08	0.03	0-0.08	0.06	0.01-0.11
Feb-17	43.33	12.38-74.27	71.54	35.77-113.27	117.74	70.5-170.73	0.21	0.06-0.36	0.21	0.11-0.33	0.24	0.14-0.34
Mar-17	0.00	0-0	0.00	0-0	0.99	0-2.98	0.00	0-0	0.00	0-0	0.00	0-0.01
Apr-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
May-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jun-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jul-17	17.95	0-53.84	19.68	0-49.21	17.80	0-44.5	0.09	0-0.26	0.06	0-0.15	0.04	0-0.09
Aug-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Sep-17	0.00	0-0	8.47	0-25.4	7.65	0-22.95	0.00	0-0	0.02	0-0.07	0.02	0-0.05
Oct-17	8.49	0-25.48	9.30	0-27.91	8.38	0-25.14	0.04	0-0.12	0.03	0-0.08	0.02	0-0.05
Nov-17	9.44	0-28.32	13.67	0-37.62	10.63	0-30.54	0.05	0-0.14	0.04	0-0.11	0.02	0-0.06
Dec-17	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Jan-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0
Feb-18	0.00	0-0	0.00	0-0	5.85	0-14.63	0.00	0-0	0.00	0-0	0.01	0-0.03
Mar-18	0.00	0-0	15.69	0-41.91	13.94	0-37.5	0.00	0-0	0.05	0-0.12	0.03	0-0.08
Apr-18	9.38	0-28.14	5.01	0-15.02	24.50	0-54.11	0.05	0-0.14	0.01	0-0.04	0.05	0-0.11
May-18	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0	0.00	0-0

East Anglia ONE North Wind Farm

Appendix 12.1

Ornithology Technical Appendix

Annex 3

Collision risk model input parameters

Prepared by:	Mark Trinder
Authorised by:	Bob Furness
Date:	5th September 2018
Tel:	0141 342 5404
Email:	mark.trinder@macarthurgreen.com
Web:	www.macarthurgreen.com
Address:	93 South Woodside Road | Glasgow | G20 6NT

Document Quality Record.

Version	Status	Person Responsible	Date
1	Draft	Mark Trinder	03/09/2018
2	Reviewed	Bob Furness	05/09/2018
3	Updated		
4	Internal Approval		
5	Final Client Approval		

1 INTRODUCTION

1. This appendix provides tables of the input parameters for East Anglia ONE North used in the collision risk modelling, comprising the following tables.

    - Table 1: density of birds in flight in East Anglia ONE North in each month, presented as the median and upper and lower 95% confidence range derived from 1,000 nonparametric bootstrap simulations (note that stochastic CRM simulations used the individual bootstrap data, not the summary values presented in these tables);
    - Table 2: the proportion of each species estimated to be at rotor height (>= 22m) from the survey data and the sample sizes available (for use in Band Option 1 modelling). Note that APEM consider that their flight height estimates are unreliable and so these data have not been used in this assessment;
    - Table 3: the proportion of each species estimated to be at rotor height (>= 22m) derived from Johnston et al. (2014; for Band Option 2 modelling);
    - Table 4: biometrics of each species modelled (e.g. wingspan, body length, etc.), and;
    - Table 5: the wind farm and turbine data.

2. In addition to the tabulated parameters, histograms of the bootstrapped densities of seabirds in flight for East Anglia ONE North are provided in Figures 1 to 9. These present the bootstrapped data for each calendar month, with distributions derived from data collected in different years indicated with shading.

3. For the avoidance of doubt, the avoidance rates used were those advised by Natural England, as follows:

    - Gannet 98.9% (SD = 0.2%)
    - Kittiwake 98.9% (SD = 0.2%)
    - Herring gull, lesser black-backed gull, great black-backed gull 99.5% (SD = 0.1%)
    - Little gull, common gull, black-headed gull 99.2% (SD = 0.2%)
    - All other species 98% (SD = 0.2%)

Table 1. East Anglia ONE North monthly median densities (and 95% confidence intervals) of birds in flight used in the collision risk modelling.

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Red-throated Diver	0 (0-0)	0 (0-0.132)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
Fulmar	0 (0-0)	0.06 (0-0.179)	0.078 (0-0.234)	0.039 (0-0.135)	0 (0-0)	0 (0-0)	0.043 (0-0.129)	0.076 (0-0.191)	0 (0-0)	0.155 (0-0.878)	0.059 (0-0.178)	0.03 (0-0.129)
Gannet	0 (0-0)	0.044 (0-0.219)	0.078 (0-0.421)	0.135 (0-0.631)	0 (0-0)	0.089 (0-0.222)	0.129 (0-0.302)	0.267 (0.076-0.496)	0 (0-0.15)	0.129 (0.026-0.49)	0.499 (0.089-1.498)	0 (0-0.118)
Kittiwake	0.028 (0-0.14)	0.179 (0.044-0.439)	0.39 (0.187-0.654)	0.857 (0.391-1.443)	0.311 (0-1.574)	0.222 (0.044-0.401)	0.173 (0.043-0.345)	0.191 (0.038-0.381)	0 (0-0.13)	0 (0-0.155)	0.142 (0-0.726)	0.148 (0-0.776)
Black-headed Gull	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0.136)	0 (0-0)
Little Gull	0 (0-0.084)	0 (0-0)	0 (0-0)	0 (0-0.316)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
Common Gull	0 (0-0.139)	0 (0-0.268)	0 (0-0.078)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0.089)	0 (0-0)
Lesser Black-backed Gull	0 (0-0)	0 (0-0.132)	0 (0-0.078)	0 (0-0)	0 (0-0)	0 (0-0)	0.043 (0-0.129)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
Great Black-backed Gull	0 (0-0)	0 (0-0.179)	0.026 (0-0.14)	0 (0-0.225)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0.089)	0 (0-0)

Table 2. East Anglia ONE North. Total number of birds with an estimated flight height, number at collision height (>=22m) and proportion at collision height. Figures provided for all birds within the 4km buffer and just those within the wind farm boundary. Note that APEM consider the flight height data to be inaccurate and so these data are not used in the assessment, but are presented here for transparency.

	Within 4km buffer			**Within wind farm**		
Species	**No. height estimates**	**No. >=22m**	**Proportion >=22m**	**No. height estimates**	**No. >=22m**	**Proportion >=22m**
Red-throated Diver	0	0	0.000	0	0	0.000
Fulmar	105	25	0.238	26	7	0.269
Gannet	140	40	0.286	46	12	0.261
Kittiwake	249	135	0.542	103	60	0.583
Black-headed Gull	14	2	0.143	1	0	0.000
Little Gull	16	8	0.500	5	2	0.400
Common Gull	15	11	0.733	7	5	0.714
Lesser Black-backed Gull	11	5	0.455	3	2	0.667
Great Black-backed Gull	27	12	0.444	5	4	0.800

Table 3. Proportions at collision height (>=22m) from Johnston et al. (2014).

	Proportion at collision height (>=22m)			
Species	**Maximum likelihood**	**Median**	**Lower confidence interval**	**Upper confidence interval**
Red-throated Diver	0.047	0.046	0	0
Fulmar	0.006	0.005	0	0
Gannet	0.102	0.104	0	0
Kittiwake	0.124	0.124	0	0
Black-headed Gull	0.114	0.108	0	0
Little Gull	0.125	0.114	0	0
Common Gull	0.188	0.202	0	0
Lesser Black-backed Gull	0.249	0.249	0	0
Great Black-backed Gull	0.291	0.310	0	0

Table 4. Species biometrics used in the collision risk modelling. Note that for stochastic simulations, random variation was included for gannet and kittiwake using the estimated variance on the rates (see Technical Appendix 12.1, section 4.7 for details) and for the large gull species, in stochastic simulations nocturnal activity was modelled as a binary variable randomly selected as either 0.25 or 0.5 in each simulation.

Species	**Body length (m)**	**Wingspan (m)**	**Flight speed (m/s)**	**Nocturnal activity factor – breeding season**	**Nocturnal activity factor – nonbreeding season**	**Flight type (flapping=0, gliding=1)**
Red-throated Diver	0.73	1.30	17.0	0.50	0.50	0
Fulmar	0.48	1.07	13.0	0.75	0.75	0
Gannet	0.94	1.72	14.9	0.043	0.023	0
Kittiwake	0.39	1.08	13.1	0.20	0.17	0
Black-headed Gull	0.37	1.10	11.9	0.50	0.50	0
Little Gull	0.26	0.78	12.2	0.25	0.25	0
Common Gull	0.42	1.30	13.4	0.50	0.50	0
Lesser Black-backed Gull	0.58	1.42	13.1	0.25/0.50	0.25/0.50	0
Great Black-backed Gull	0.71	1.58	13.7	0.25/0.50	0.25/0.50	0

Table 5. Wind farm and turbine specifications used in the collision risk modelling.

Turbine output (MW)	**No. of rotor blades**	**RPM**	**Rotor radius (m)**	**Hub height above HAT (m)**	**Predicted operation time (%)**	**Max. blade width (m)**	**Mean blade pitch (deg.)**	**No. of turbines**
12	3	7.8	110	134	0.94	6	15	60
15	3	7.3	125	149	0.94	9	15	42
19	3	7.3	125	149	0.94	9	15	42

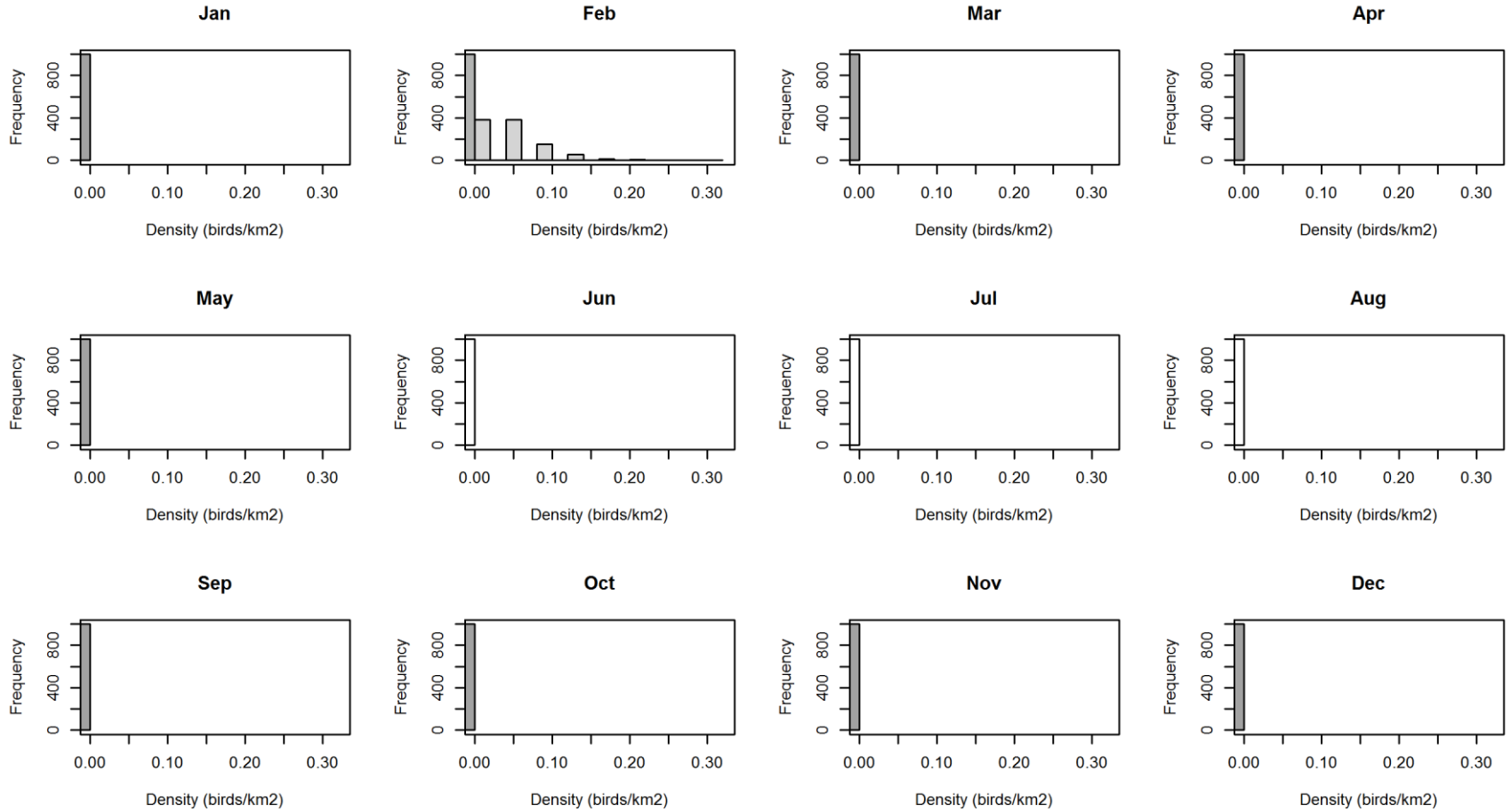


Figure 1. East Anglia ONE North. Red-throated Diver bootstrapped design based densities of birds in flight in each year and month of surveys (shading indicates data from different years).

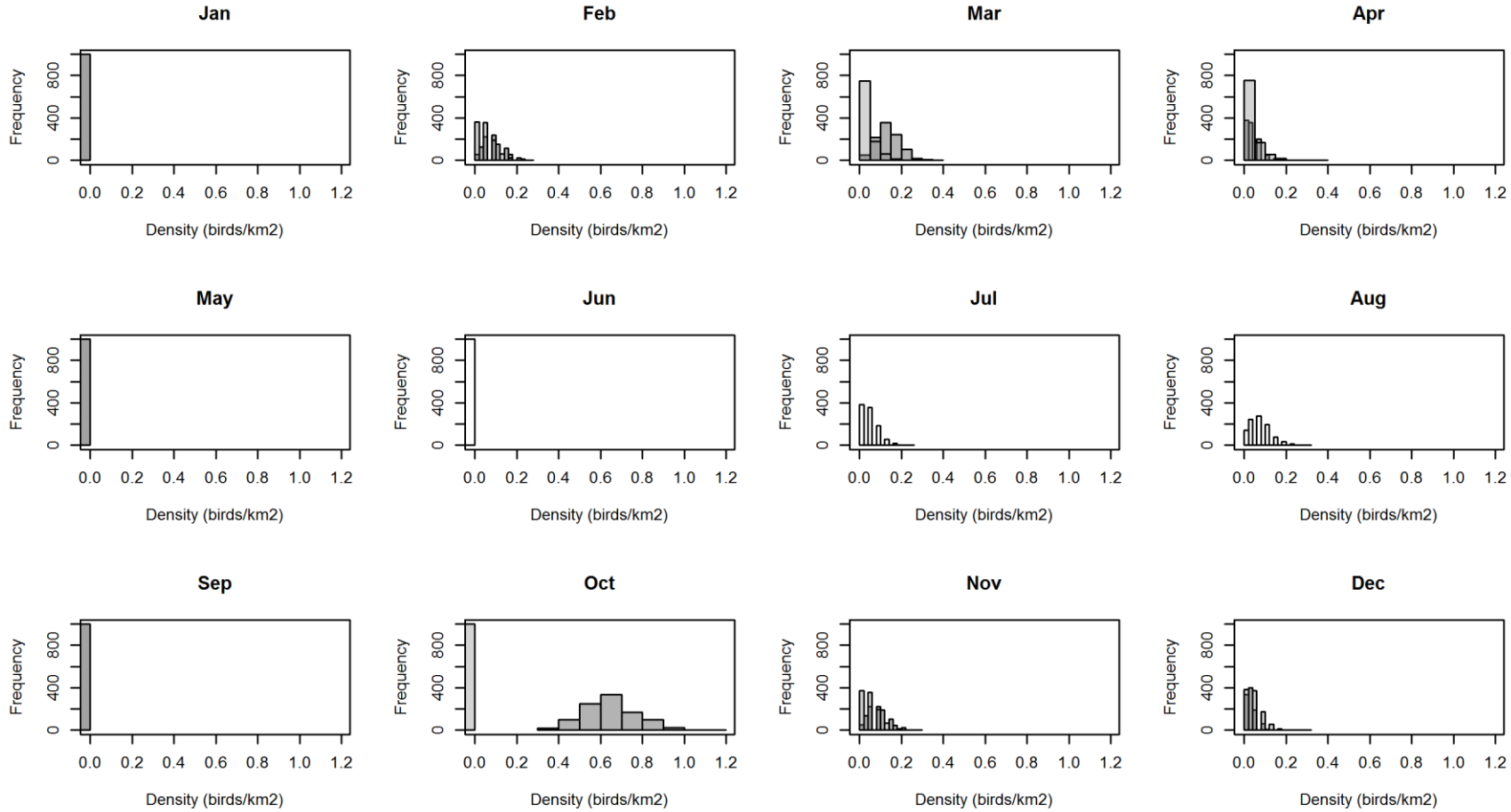


Figure 2. East Anglia ONE North. Fulmar bootstrapped design based densities of birds in flight in each year and month of surveys (shading indicates data from different years).

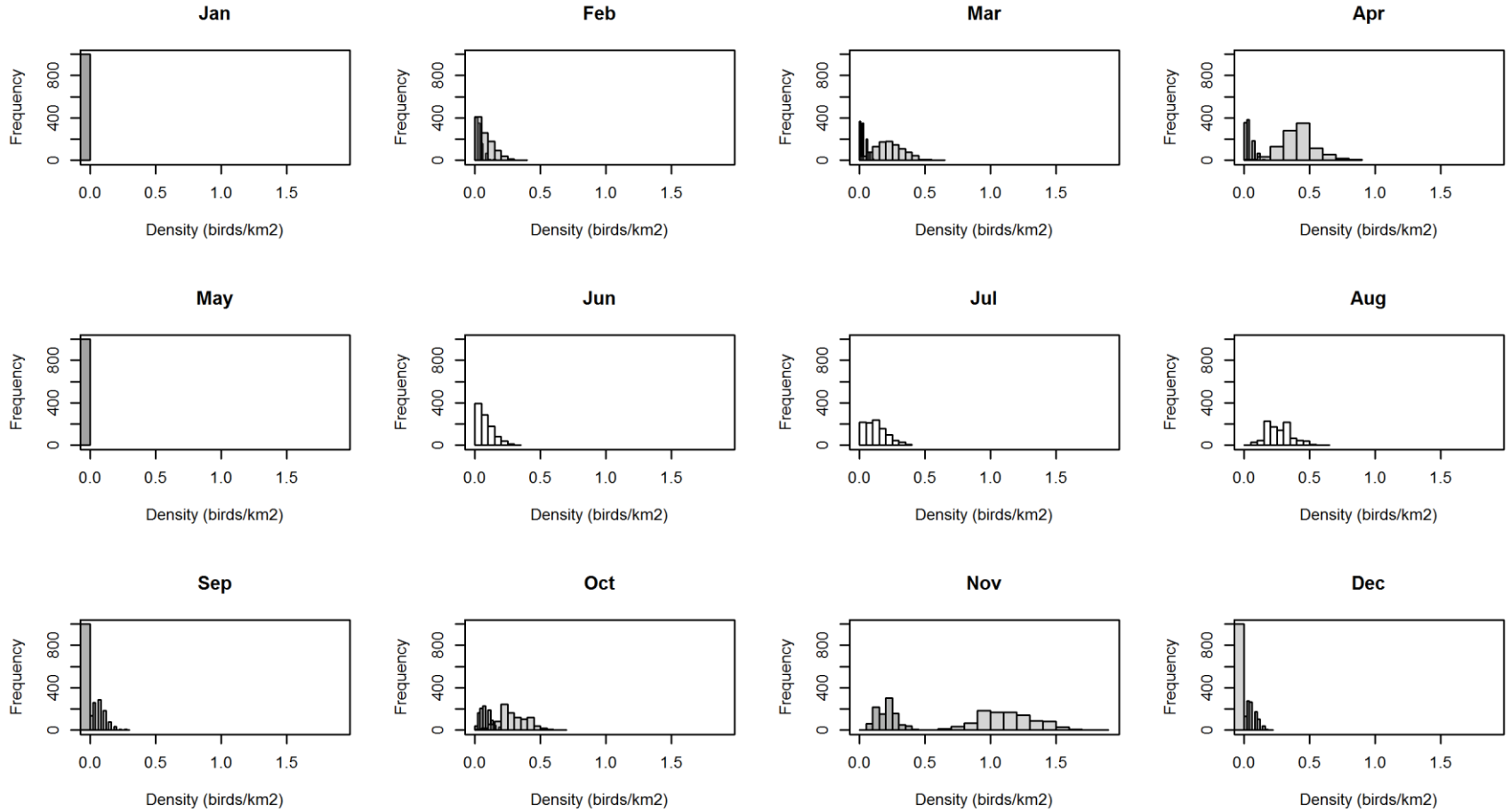


Figure 3. East Anglia ONE North. Gannet bootstrapped design based densities of birds in flight in each year and month of surveys (shading indicates data from different years).

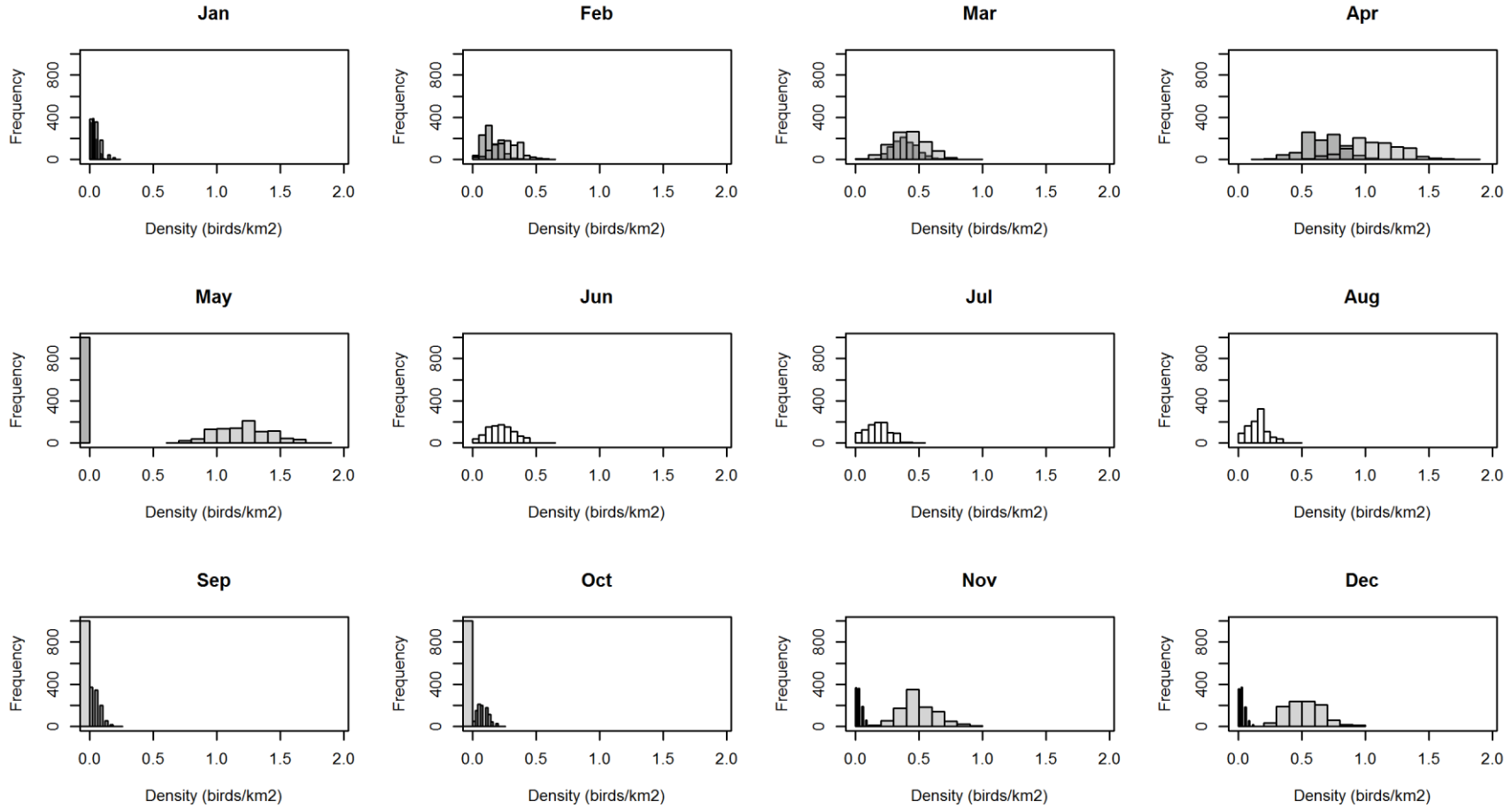


Figure 4. East Anglia ONE North. Kittiwake bootstrapped design based densities of birds in flight in each year and month of surveys (shading indicates data from different years).

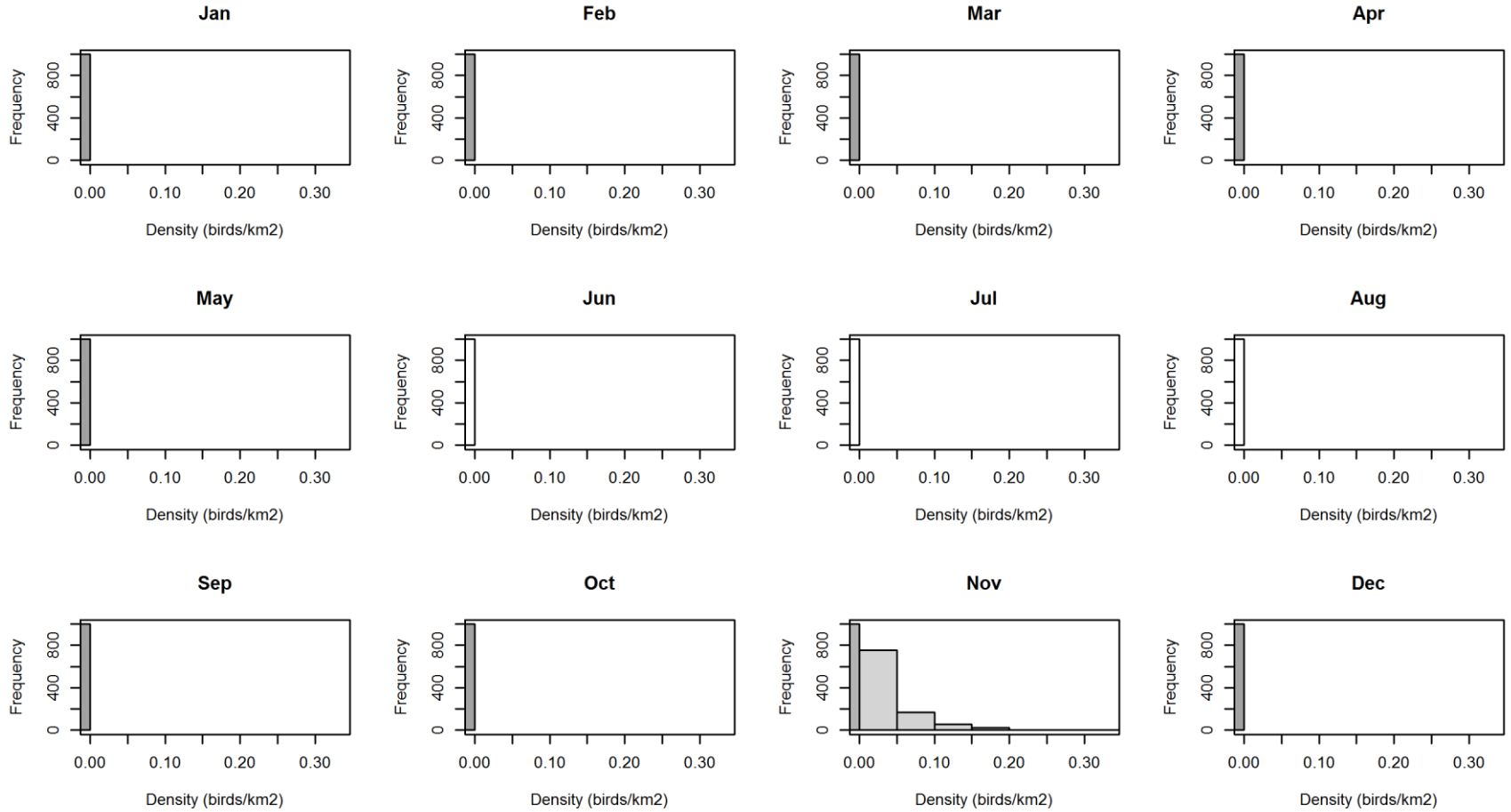


Figure 5. East Anglia ONE North. Black-headed Gull bootstrapped design based densities of birds in flight in each year and month of surveys (shading indicates data from different years).

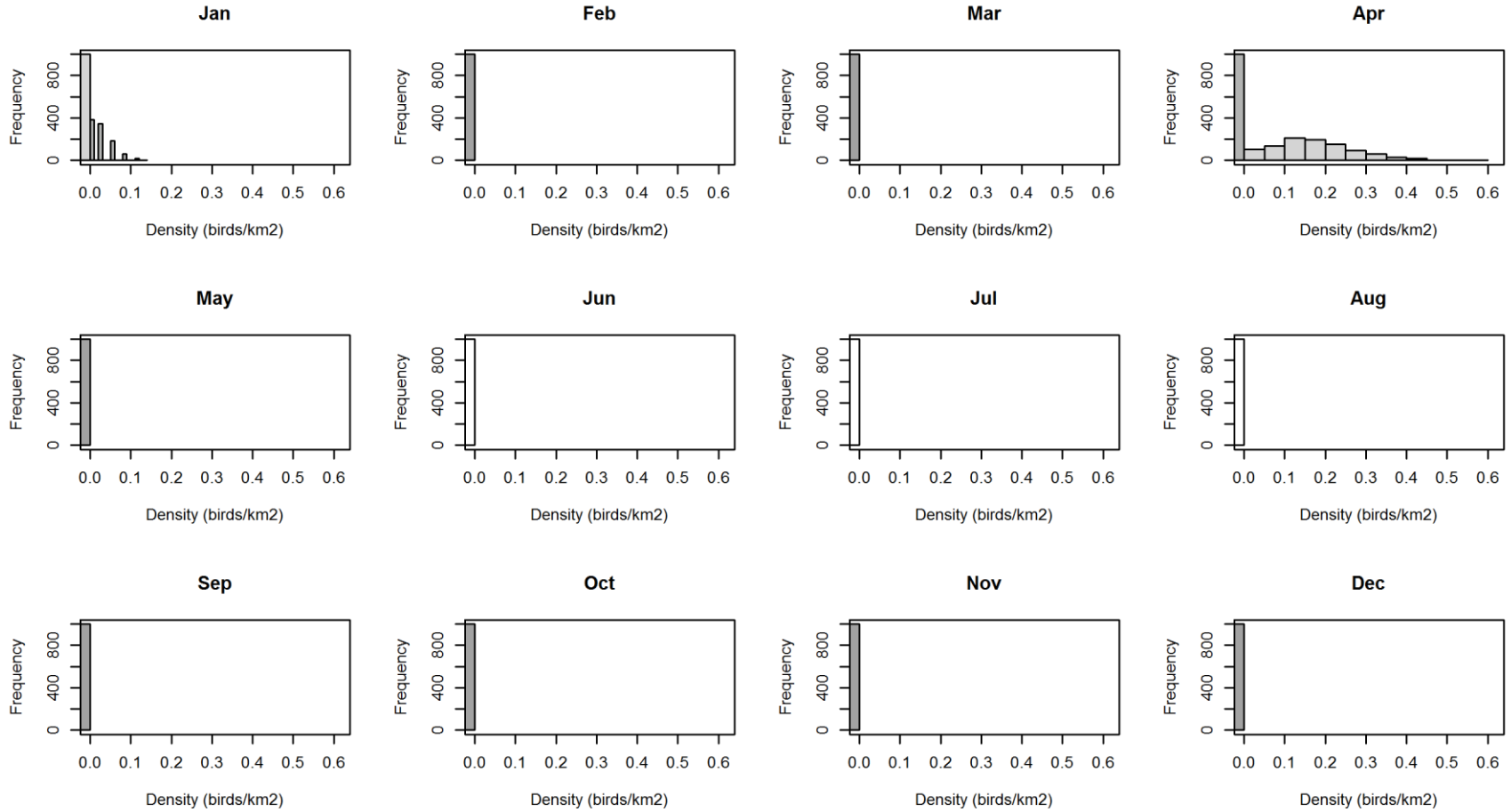


Figure 6. East Anglia ONE North. Little Gull bootstrapped design based densities of birds in flight in each year and month of surveys (shading indicates data from different years).

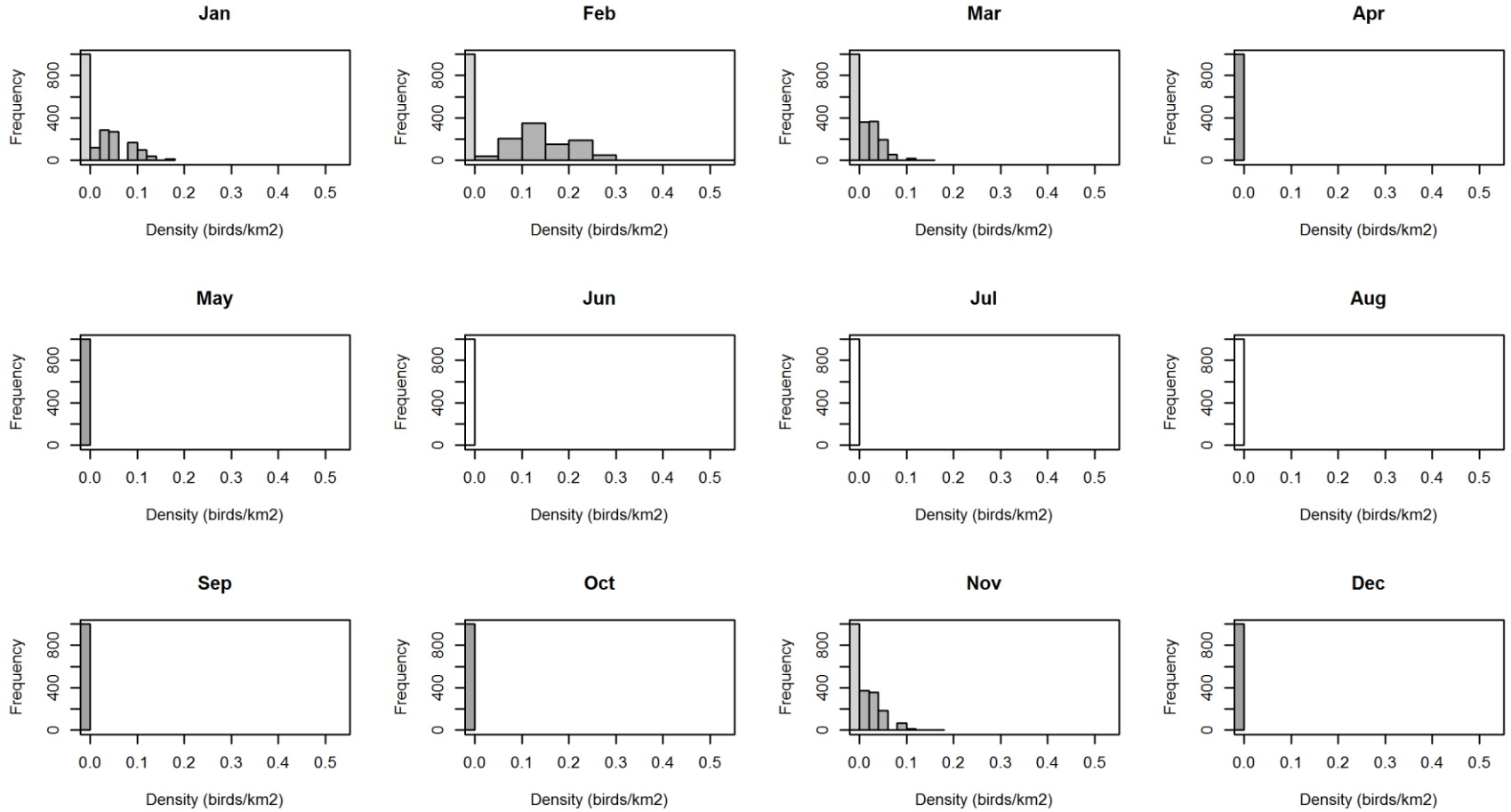


Figure 7. East Anglia ONE North. Common Gull bootstrapped design based densities of birds in flight in each year and month of surveys (shading indicates data from different years).

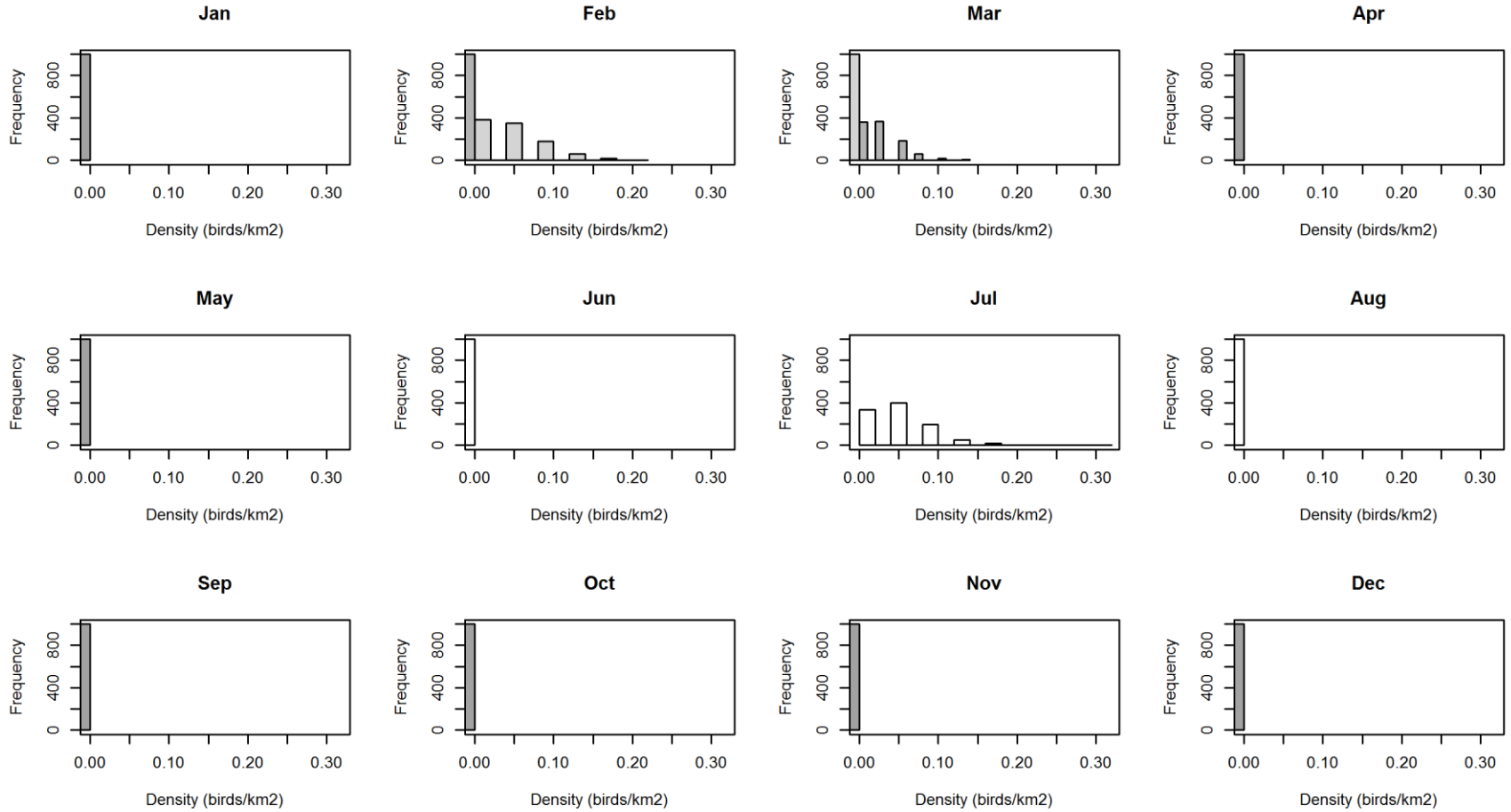


Figure 8. East Anglia ONE North. Lesser Black-backed Gull bootstrapped design based densities of birds in flight in each year and month of surveys (shading indicates data from different years).

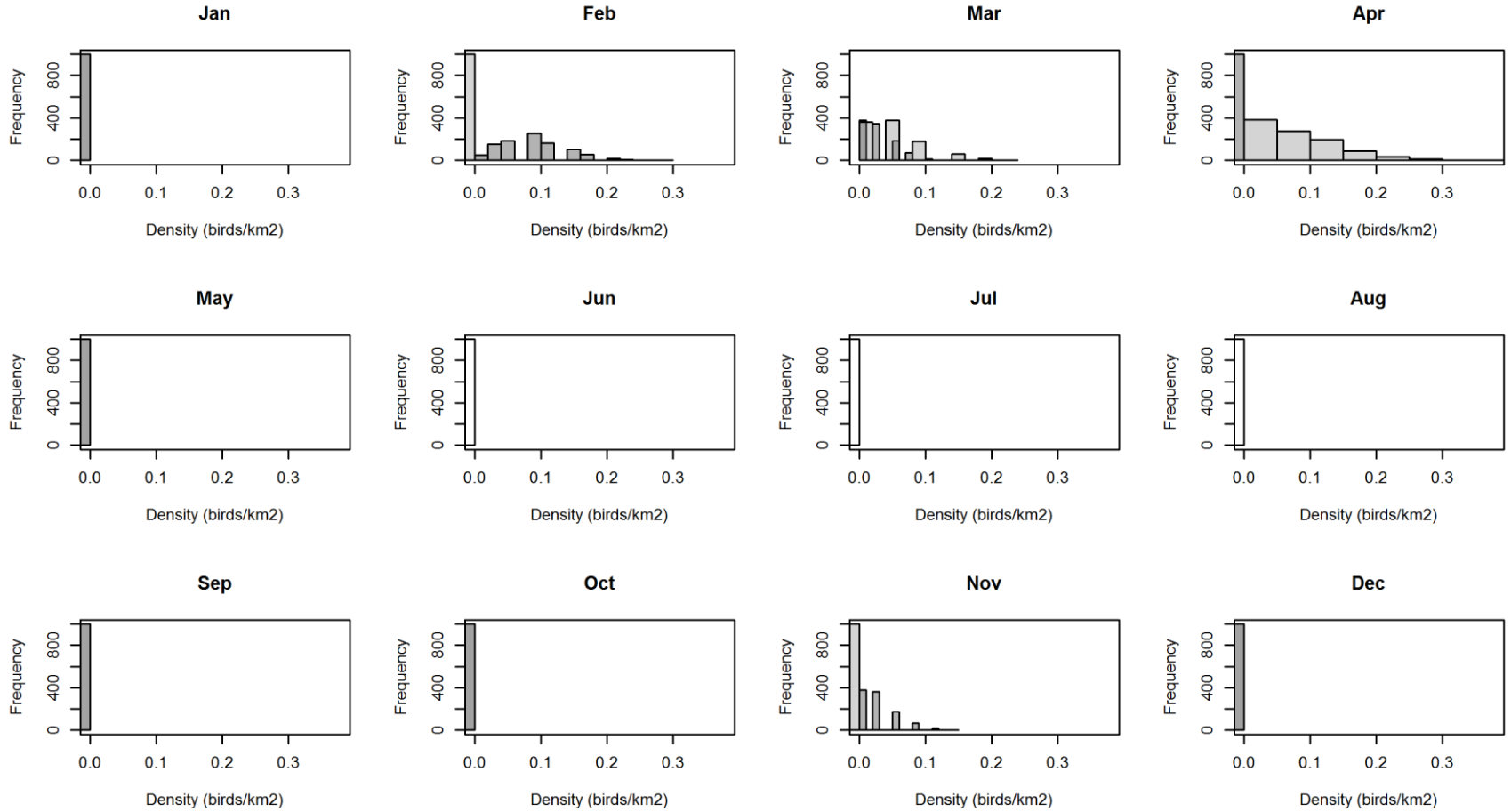


Figure 9. East Anglia ONE North. Great Black-backed Gull bootstrapped design based densities of birds in flight in each year and month of surveys (shading indicates data from different years).

East Anglia ONE North Offshore Wind Farm

Appendix 12.1

Offshore Ornithology

Annex 4

Seabird collision risk modelling results

Prepared by:	Mark Trinder
Authorised by:	Bob Furness
Date:	5th September 2018
Tel:	0141 342 5404
Email:	mark.trinder@macarthurgreen.com
Web:	www.macarthurgreen.com
Address:	93 South Woodside Road | Glasgow | G20 6NT

Document Quality Record.

Version	Status	Person Responsible	Date
1	Draft	Mark Trinder	03/09/2018
2	Reviewed	Bob Furness	05/09/2018
3	Updated		
3.1	Revisions		
4	Internal Approval		
5	Final Client Approval		

1 INTRODUCTION

1. This appendix provides results of collision risk modelling (CRM) for the East Anglia ONE North wind farm.

2. Collision mortality estimates are presented for each month and summed across the year, produced using the Band CRM (2012) option 2 (generic flight heights) and option 1 (site-based flight heights). Note that in assessment only the option 2 results are used because APEM consider their site-specific flight height estimates to be unreliable.

3. Modelling is presented for all the turbine options under consideration: 12, 15 and 19 MW.

4. Uncertainty in model parameters has been incorporated using stochastic collision models with the following parameters generated as random values:

    - Seabird density (using the bootstrapped samples – see Appendix 12.1 Methods for details);
    - Proportions at collision height (option 2 only) using data from Johnston et al. (2014);
    - Avoidance rate (using the mean and variance advised in JNCC et al. 2014); and
    - Nocturnal activity, using:
        i. Gannet - species and season specific values (4.3% in breeding season months and 2.3% in nonbreeding season months; Furness et al. 2018);
        ii. Kittiwake – species and season specific values (20% in breeding season months and 17% in nonbreeding season months; Furness et al. in prep.);
        iii. Large gulls – randomly selected as either 25% or 50% in each simulation.
        iv. All other species – fixed value (see Annex 3 for values).

5. The parameters listed in point 4 were simulated in combination and also individually (i.e. with the other three set to fixed values) to illustrate the relative contributions of each to the overall uncertainty in the collision results.

6. As a final run, all parameters were set to fixed values (i.e. median for density and flight height, mean for avoidance rate) to generate deterministic collision estimates.

7. Collision mortality is presented for each species and turbine using all of the stochastic model scenarios listed above.

8. The input parameter values are provided in Technical Appendix 12.1 Annex 3.

9. Table A4 provides a key to table contents.

Table A4. Key to collision mortality output table numbers, for all combinations of turbine model and input parameters.

Species	Band option	Turbine (MW)		
		12	15	19
Red-throated diver	2	1	10	19
Fulmar		2	11	20
Gannet		3	12	21
Kittiwake		4	13	22
Black-headed gull		5	14	23
Little gull		6	15	24
Common gull		7	16	25
Lesser black-backed gull		8	17	26
Great black-backed gull		9	18	27
Red-throated diver	1	28	37	46
Fulmar		29	38	47
Gannet		30	39	48
Kittiwake		31	40	49
Black-headed gull		32	41	50
Little gull		33	42	51
Common gull		34	43	52
Lesser black-backed gull		35	44	53
Great black-backed gull		36	45	54

Table 1. Red-throated Diver collision mortality for the 12MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-2.3)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-2.3)
Density	0 (0-0)	0 (0-1.76)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.76)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 2. Fulmar collision mortality for the 12MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0.07 (0-0.38)	0.1 (0-0.5)	0.05 (0-0.28)	0 (0-0)	0 (0-0)	0.05 (0-0.38)	0.1 (0-0.47)	0 (0-0)	0.05 (0-2.14)	0.08 (0-0.37)	0.04 (0-0.25)	0.54 (0-4.77)
Density	0 (0-0)	0.09 (0-0.26)	0.13 (0-0.39)	0.06 (0-0.22)	0 (0-0)	0 (0-0)	0.08 (0-0.23)	0.13 (0-0.33)	0 (0-0)	0.25 (0-1.44)	0.09 (0-0.28)	0.05 (0-0.21)	0.88 (0-3.36)
AR	0 (0-0)	0.09 (0.07-0.1)	0.13 (0.11-0.16)	0.06 (0.05-0.08)	0 (0-0)	0 (0-0)	0.08 (0.06-0.09)	0.13 (0.11-0.16)	0 (0-0)	0.26 (0.21-0.31)	0.09 (0.08-0.11)	0.05 (0.04-0.06)	0.89 (0.73-1.07)
PCH	0 (0-0)	0.08 (0.02-0.18)	0.12 (0.03-0.28)	0.06 (0.02-0.15)	0 (0-0)	0 (0-0)	0.07 (0.02-0.18)	0.12 (0.04-0.31)	0 (0-0)	0.23 (0.06-0.54)	0.08 (0.02-0.19)	0.04 (0.01-0.1)	0.8 (0.22-1.93)
NAF	0 (0-0)	0.09 (0.09-0.09)	0.13 (0.13-0.13)	0.06 (0.06-0.06)	0 (0-0)	0 (0-0)	0.08 (0.08-0.08)	0.13 (0.13-0.13)	0 (0-0)	0.25 (0.25-0.25)	0.09 (0.09-0.09)	0.05 (0.05-0.05)	0.88 (0.88-0.88)
None	0 (0-0)	0.09 (0.09-0.09)	0.13 (0.13-0.13)	0.06 (0.06-0.06)	0 (0-0)	0 (0-0)	0.08 (0.08-0.08)	0.13 (0.13-0.13)	0 (0-0)	0.25 (0.25-0.25)	0.09 (0.09-0.09)	0.05 (0.05-0.05)	0.88 (0.88-0.88)

Table 3. Gannet collision mortality for the 12MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0.33 (0-2.68)	0.97 (0-7.73)	1.72 (0-14.26)	0 (0-0)	1.13 (0-4.88)	1.89 (0-7.71)	4.05 (0.9-11.11)	0 (0-2.96)	1.45 (0.15-8.41)	4.08 (0.54-23.52)	0 (0-1.57)	15.62 (1.59-84.83)
Density	0 (0-0)	0.45 (0-1.79)	1.1 (0-5.91)	1.83 (0-10.57)	0 (0-0)	1.64 (0-4.09)	2.41 (0-5.61)	4.53 (1.3-8.42)	0 (0-2.7)	1.57 (0.31-5.97)	4.65 (0.88-14.77)	0 (0-1.07)	18.18 (2.49-60.9)
AR	0 (0-0)	0.44 (0.31-0.62)	1.08 (0.72-1.51)	2.1 (1.41-3)	0 (0-0)	1.6 (1.1-2.31)	2.39 (1.63-3.29)	4.49 (3.07-6.21)	0 (0-0)	1.54 (1.09-2.21)	4.88 (3.31-6.72)	0 (0-0)	18.52 (12.64-25.87)
PCH	0 (0-0)	0.41 (0.11-0.99)	1.06 (0.27-2.42)	1.96 (0.52-4.69)	0 (0-0)	1.47 (0.4-3.62)	2.24 (0.61-5.48)	4.08 (1.18-9.51)	0 (0-0)	1.45 (0.34-3.52)	4.66 (1.5-11.14)	0 (0-0)	17.33 (4.93-41.37)
NAF	0 (0-0)	0.45 (0.44-0.45)	1.09 (1.04-1.2)	2.1 (2.04-2.24)	0 (0-0)	1.63 (1.6-1.69)	2.4 (2.34-2.5)	4.52 (4.38-4.76)	0 (0-0)	1.57 (1.56-1.59)	4.92 (4.87-4.99)	0 (0-0)	18.68 (18.27-19.42)
None	0 (0-0)	0.45 (0.45-0.45)	1.1 (1.1-1.1)	2.11 (2.11-2.11)	0 (0-0)	1.64 (1.64-1.64)	2.41 (2.41-2.41)	4.53 (4.53-4.53)	0 (0-0)	1.57 (1.57-1.57)	4.92 (4.92-4.92)	0 (0-0)	18.73 (18.73-18.73)

Table 4. Kittiwake collision mortality for the 12MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0.25 (0-1.64)	1.76 (0.27-6.34)	4.61 (0.97-13.1)	10.8 (2.66-36.3)	0.46 (0-40.26)	3.02 (0.45-10.55)	2.52 (0.23-9.78)	1.86 (0.23-6.91)	0 (0-1.91)	0 (0-2.65)	1.29 (0-11.57)	1.16 (0-11.7)	27.73 (4.81-152.71)
Density	0.29 (0-1.16)	1.88 (0.63-5.09)	5.3 (2.54-8.88)	12 (5.71-20.45)	5.81 (0-25.27)	3.71 (0.74-6.68)	2.92 (0.73-6.22)	2.4 (0.6-4.8)	0 (0-1.75)	0 (0-1.92)	1.5 (0-7.65)	1.61 (0-7.37)	37.42 (10.95-97.24)
AR	0.29 (0.2-0.41)	1.85 (1.25-2.59)	5.22 (3.63-7.21)	12.43 (8.55-17.5)	5.06 (3.6-6.92)	3.69 (2.52-5.2)	2.88 (1.96-3.98)	2.95 (1.96-4.21)	0 (0-0)	0 (0-0)	1.47 (0.99-2.07)	1.47 (0.96-2.1)	37.31 (25.62-52.19)
PCH	0.27 (0.07-0.63)	1.73 (0.46-4.12)	4.76 (1.14-10.83)	11.76 (3.09-27.7)	4.64 (1.28-10.79)	3.42 (0.96-7.89)	2.75 (0.69-6.75)	2.64 (0.71-6.66)	0 (0-0)	0 (0-0)	1.37 (0.34-3.3)	1.36 (0.33-3.27)	34.7 (9.07-81.94)
NAF	0.29 (0.28-0.3)	1.88 (1.83-1.95)	5.29 (4.9-5.79)	12.49 (11.81-13.32)	5.1 (4.9-5.39)	3.7 (3.58-3.88)	2.92 (2.8-3.05)	3 (2.86-3.18)	0 (0-0)	0 (0-0)	1.49 (1.44-1.55)	1.49 (1.42-1.56)	37.65 (35.82-39.97)
None	0.29 (0.29-0.29)	1.88 (1.88-1.88)	5.3 (5.3-5.3)	12.53 (12.53-12.53)	5.12 (5.12-5.12)	3.71 (3.71-3.71)	2.92 (2.92-2.92)	3 (3-3)	0 (0-0)	0 (0-0)	1.5 (1.5-1.5)	1.49 (1.49-1.49)	37.74 (37.74-37.74)

Table 5. Black-headed Gull collision mortality for the 12MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.55)	0 (0-0)	0 (0-1.55)
Density	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.23)	0 (0-0)	0 (0-1.23)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 6. Little Gull collision mortality for the 12MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0.73)	0 (0-0)	0 (0-0)	0 (0-4.39)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-5.12)
Density	0 (0-0.56)	0 (0-0)	0 (0-0)	0 (0-3.15)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-3.71)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 7. Common Gull collision mortality for the 12MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-3.09)	0 (0-7.19)	0 (0-1.9)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.72)	0 (0-0)	0 (0-13.9)
Density	0 (0-2.62)	0 (0-4.25)	0 (0-1.63)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.65)	0 (0-0)	0 (0-10.15)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 8. Lesser Black-backed Gull collision mortality for the 12MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-2.16)	0 (0-1.49)	0 (0-0)	0 (0-0)	0 (0-0)	0.61 (0-3.38)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.61 (0-7.03)
Density	0 (0-0)	0 (0-1.94)	0 (0-1.35)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0-2.5)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0-5.79)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.82 (0.55-1.16)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.82 (0.55-1.16)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.78 (0.14-1.91)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.78 (0.14-1.91)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.75 (0.75-0.83)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.75 (0.75-0.83)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)

Table 9. Great Black-backed Gull collision mortality for the 12MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-4.48)	0.5 (0-3.71)	0 (0-5.59)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.92)	0 (0-0)	0.5 (0-15.7)
Density	0 (0-0)	0 (0-3.56)	0.61 (0-3.27)	0 (0-5.38)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.23)	0 (0-0)	0.61 (0-13.44)
AR	0 (0-0)	0 (0-0)	0.6 (0.39-0.86)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.6 (0.39-0.86)
PCH	0 (0-0)	0 (0-0)	0.56 (0.13-1.29)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.56 (0.13-1.29)
NAF	0 (0-0)	0 (0-0)	0.61 (0.5-0.61)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.61 (0.5-0.61)
None	0 (0-0)	0 (0-0)	0.61 (0.61-0.61)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.61 (0.61-0.61)

Table 10. Red-throated Diver collision mortality for the 15MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-1.79)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.79)
Density	0 (0-0)	0 (0-1.67)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.67)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 11. Fulmar collision mortality for the 15MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0.07 (0-0.33)	0.09 (0-0.54)	0.04 (0-0.32)	0 (0-0)	0 (0-0)	0.05 (0-0.31)	0.1 (0-0.39)	0 (0-0)	0.06 (0-2.25)	0.08 (0-0.36)	0.04 (0-0.26)	0.53 (0-4.76)
Density	0 (0-0)	0.09 (0-0.26)	0.13 (0-0.38)	0.06 (0-0.22)	0 (0-0)	0 (0-0)	0.07 (0-0.22)	0.13 (0-0.32)	0 (0-0)	0.25 (0-1.36)	0.09 (0-0.27)	0.05 (0-0.2)	0.87 (0-3.23)
AR	0 (0-0)	0.08 (0.07-0.1)	0.13 (0.1-0.15)	0.06 (0.05-0.08)	0 (0-0)	0 (0-0)	0.07 (0.06-0.09)	0.13 (0.1-0.15)	0 (0-0)	0.25 (0.2-0.3)	0.09 (0.07-0.11)	0.05 (0.04-0.06)	0.86 (0.69-1.04)
PCH	0 (0-0)	0.08 (0.02-0.19)	0.11 (0.03-0.28)	0.06 (0.02-0.14)	0 (0-0)	0 (0-0)	0.07 (0.02-0.16)	0.12 (0.04-0.29)	0 (0-0)	0.22 (0.06-0.55)	0.08 (0.02-0.19)	0.04 (0.01-0.1)	0.78 (0.22-1.9)
NAF	0 (0-0)	0.09 (0.09-0.09)	0.13 (0.13-0.13)	0.06 (0.06-0.06)	0 (0-0)	0 (0-0)	0.07 (0.07-0.07)	0.13 (0.13-0.13)	0 (0-0)	0.25 (0.25-0.25)	0.09 (0.09-0.09)	0.05 (0.05-0.05)	0.87 (0.87-0.87)
None	0 (0-0)	0.09 (0.09-0.09)	0.13 (0.13-0.13)	0.06 (0.06-0.06)	0 (0-0)	0 (0-0)	0.07 (0.07-0.07)	0.13 (0.13-0.13)	0 (0-0)	0.25 (0.25-0.25)	0.09 (0.09-0.09)	0.05 (0.05-0.05)	0.87 (0.87-0.87)

Table 12. Gannet collision mortality for the 15MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0.34 (0-2.21)	0.82 (0-7.54)	1.62 (0-14.2)	0 (0-0)	1.01 (0-5.38)	1.61 (0-8.57)	3.51 (0.71-11.25)	0 (0-3.17)	1.4 (0.07-7.26)	3.65 (0.44-21.5)	0 (0-1.5)	13.96 (1.22-82.58)
Density	0 (0-0)	0.41 (0-2.07)	1.01 (0-5.46)	1.95 (0-9.76)	0 (0-0)	1.51 (0-3.78)	2.22 (0-5.18)	4.18 (1.2-7.77)	0 (0-2.49)	1.45 (0.29-5.05)	4.55 (1.07-13.64)	0 (0-1)	17.28 (2.56-56.2)
AR	0 (0-0)	0.41 (0.28-0.57)	1 (0.7-1.38)	1.95 (1.33-2.67)	0 (0-0)	1.5 (1.02-2.11)	2.19 (1.53-3.07)	4.15 (2.81-5.89)	0 (0-0)	1.44 (0.99-2.02)	4.47 (3.12-6.36)	0 (0-0)	17.11 (11.78-24.07)
PCH	0 (0-0)	0.38 (0.1-0.88)	0.95 (0.22-2.23)	1.81 (0.46-4.26)	0 (0-0)	1.38 (0.37-3.27)	2.1 (0.56-4.88)	3.95 (1.12-9.26)	0 (0-0)	1.32 (0.34-3.22)	4.28 (1.05-9.98)	0 (0-0)	16.17 (4.22-37.98)
NAF	0 (0-0)	0.41 (0.41-0.42)	1.01 (0.96-1.1)	1.94 (1.88-2.06)	0 (0-0)	1.51 (1.48-1.57)	2.22 (2.17-2.31)	4.17 (4.05-4.4)	0 (0-0)	1.45 (1.44-1.47)	4.55 (4.49-4.61)	0 (0-0)	17.26 (16.88-17.94)
None	0 (0-0)	0.41 (0.41-0.41)	1.01 (1.01-1.01)	1.95 (1.95-1.95)	0 (0-0)	1.51 (1.51-1.51)	2.22 (2.22-2.22)	4.18 (4.18-4.18)	0 (0-0)	1.45 (1.45-1.45)	4.55 (4.55-4.55)	0 (0-0)	17.28 (17.28-17.28)

Table 13. Kittiwake collision mortality for the 15MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0.25 (0-1.58)	1.66 (0.25-6.62)	4.44 (1.13-13.37)	10.53 (2.01-35.43)	0.75 (0-41.04)	3.01 (0.32-11.5)	2.37 (0.13-8.22)	1.83 (0.3-6.95)	0 (0-2)	0 (0-2.49)	1.08 (0-10.73)	1.21 (0-12.12)	27.13 (4.14-152.05)
Density	0.29 (0-1.44)	1.85 (0.31-4.55)	5.21 (2.77-8.34)	12.33 (5.62-20.77)	5.71 (0-25.54)	3.65 (0.73-6.57)	2.87 (0.72-5.75)	2.36 (0.59-4.72)	0 (0-1.72)	0 (0-1.88)	1.41 (0-7.52)	1.58 (0-7.67)	37.26 (10.74-96.47)
AR	0.28 (0.2-0.4)	1.83 (1.22-2.49)	5.18 (3.55-6.97)	12.29 (8.13-17.2)	4.93 (3.32-6.89)	3.64 (2.49-4.98)	2.85 (1.95-3.99)	2.92 (2.02-4.12)	0 (0-0)	0 (0-0)	1.45 (0.99-2.04)	1.44 (0.98-2.05)	36.81 (24.85-51.13)
PCH	0.27 (0.07-0.63)	1.71 (0.47-4.16)	4.72 (1.25-11.35)	11.36 (2.62-26.38)	4.61 (1.15-11.02)	3.39 (0.86-8.1)	2.62 (0.58-6.29)	2.65 (0.7-6.19)	0 (0-0)	0 (0-0)	1.34 (0.31-3.24)	1.38 (0.38-3.33)	34.05 (8.39-80.69)
NAF	0.29 (0.27-0.3)	1.85 (1.8-1.91)	5.21 (4.82-5.69)	12.31 (11.64-13.22)	5.04 (4.83-5.3)	3.65 (3.52-3.81)	2.87 (2.77-3)	2.95 (2.81-3.13)	0 (0-0)	0 (0-0)	1.47 (1.41-1.52)	1.46 (1.4-1.53)	37.1 (35.27-39.41)
None	0.29 (0.29-0.29)	1.85 (1.85-1.85)	5.21 (5.21-5.21)	12.33 (12.33-12.33)	5.04 (5.04-5.04)	3.65 (3.65-3.65)	2.87 (2.87-2.87)	2.95 (2.95-2.95)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)	1.46 (1.46-1.46)	37.12 (37.12-37.12)

Table 14. Black-headed Gull collision mortality for the 15MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.5)	0 (0-0)	0 (0-1.5)
Density	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.22)	0 (0-0)	0 (0-1.22)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 15. Little Gull collision mortality for the 15MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0.69)	0 (0-0)	0 (0-0)	0 (0-4.24)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-4.93)
Density	0 (0-0.57)	0 (0-0)	0 (0-0)	0 (0-2.8)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-3.37)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 16. Common Gull collision mortality for the 15MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-2.87)	0 (0-6.72)	0 (0-1.8)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.84)	0 (0-0)	0 (0-13.23)
Density	0 (0-2.56)	0 (0-4.67)	0 (0-1.59)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.61)	0 (0-0)	0 (0-10.43)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 17. Lesser Black-backed Gull collision mortality for the 15MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-1.88)	0 (0-1.28)	0 (0-0)	0 (0-0)	0 (0-0)	0.6 (0-3.59)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.6 (0-6.75)
Density	0 (0-0)	0 (0-1.86)	0 (0-1.29)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0-2.41)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0-5.56)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.79 (0.52-1.13)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.79 (0.52-1.13)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.74 (0.16-1.68)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.74 (0.16-1.68)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0.72-0.8)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0.72-0.8)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0.8-0.8)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0.8-0.8)

Table 18. Great Black-backed Gull collision mortality for the 15MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-4)	0.42 (0-3.29)	0 (0-4.77)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.61)	0 (0-0)	0.42 (0-13.67)
Density	0 (0-0)	0 (0-3.38)	0.58 (0-3.1)	0 (0-5.1)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.74)	0 (0-0)	0.58 (0-13.32)
AR	0 (0-0)	0 (0-0)	0.58 (0.37-0.83)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.58 (0.37-0.83)
PCH	0 (0-0)	0 (0-0)	0.54 (0.11-1.24)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.54 (0.11-1.24)
NAF	0 (0-0)	0 (0-0)	0.48 (0.48-0.58)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.48 (0.48-0.58)
None	0 (0-0)	0 (0-0)	0.58 (0.58-0.58)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.58 (0.58-0.58)

Table 19. Red-throated Diver collision mortality for the 19MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-1.89)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.89)
Density	0 (0-0)	0 (0-1.67)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.67)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 20. Fulmar collision mortality for the 19MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0.07 (0-0.36)	0.1 (0-0.49)	0.04 (0-0.29)	0 (0-0)	0 (0-0)	0.05 (0-0.25)	0.11 (0-0.43)	0 (0-0)	0.04 (0-2.2)	0.08 (0-0.39)	0.04 (0-0.23)	0.53 (0-4.64)
Density	0 (0-0)	0.09 (0-0.3)	0.15 (0-0.38)	0.06 (0-0.22)	0 (0-0)	0 (0-0)	0.07 (0-0.22)	0.13 (0-0.32)	0 (0-0)	0.27 (0-1.37)	0.09 (0-0.28)	0.05 (0-0.2)	0.91 (0-3.29)
AR	0 (0-0)	0.08 (0.07-0.1)	0.13 (0.1-0.15)	0.06 (0.05-0.08)	0 (0-0)	0 (0-0)	0.07 (0.06-0.09)	0.13 (0.1-0.15)	0 (0-0)	0.25 (0.2-0.3)	0.09 (0.07-0.11)	0.05 (0.04-0.05)	0.86 (0.69-1.03)
PCH	0 (0-0)	0.08 (0.03-0.18)	0.12 (0.03-0.27)	0.06 (0.02-0.14)	0 (0-0)	0 (0-0)	0.07 (0.02-0.16)	0.12 (0.03-0.3)	0 (0-0)	0.23 (0.06-0.57)	0.08 (0.03-0.2)	0.04 (0.01-0.1)	0.8 (0.23-1.92)
NAF	0 (0-0)	0.09 (0.09-0.09)	0.13 (0.13-0.13)	0.06 (0.06-0.06)	0 (0-0)	0 (0-0)	0.07 (0.07-0.07)	0.13 (0.13-0.13)	0 (0-0)	0.25 (0.25-0.25)	0.09 (0.09-0.09)	0.05 (0.05-0.05)	0.87 (0.87-0.87)
None	0 (0-0)	0.09 (0.09-0.09)	0.13 (0.13-0.13)	0.06 (0.06-0.06)	0 (0-0)	0 (0-0)	0.07 (0.07-0.07)	0.13 (0.13-0.13)	0 (0-0)	0.25 (0.25-0.25)	0.09 (0.09-0.09)	0.05 (0.05-0.05)	0.87 (0.87-0.87)

Table 21. Gannet collision mortality for the 19MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0.34 (0-2.41)	0.84 (0-6.72)	1.77 (0-14.01)	0 (0-0)	1.24 (0-5.21)	1.78 (0-6.77)	3.28 (0.52-10.72)	0 (0-2.97)	1.45 (0.06-8.32)	4.04 (0.37-23.66)	0 (0-1.37)	14.74 (0.95-82.16)
Density	0 (0-0)	0.41 (0-1.65)	1.01 (0-5.46)	1.95 (0-9.11)	0 (0-0)	1.51 (0-4.53)	2.22 (0-5.18)	4.18 (1.2-7.77)	0 (0-2.49)	1.74 (0.29-5.51)	4.56 (0.81-13.65)	0 (0-0.99)	17.58 (2.3-56.34)
AR	0 (0-0)	0.41 (0.28-0.57)	1.01 (0.67-1.42)	1.95 (1.35-2.65)	0 (0-0)	1.51 (1.04-2.11)	2.19 (1.5-3.08)	4.12 (2.77-5.72)	0 (0-0)	1.44 (0.98-2.04)	4.52 (3.09-6.26)	0 (0-0)	17.15 (11.68-23.85)
PCH	0 (0-0)	0.39 (0.09-0.95)	0.94 (0.27-2.19)	1.79 (0.48-4.32)	0 (0-0)	1.37 (0.32-3.17)	2.09 (0.47-5.22)	3.82 (1.07-9.28)	0 (0-0)	1.35 (0.37-3.19)	4.08 (1.23-9.8)	0 (0-0)	15.83 (4.3-38.12)
NAF	0 (0-0)	0.41 (0.41-0.42)	1.01 (0.96-1.09)	1.94 (1.88-2.07)	0 (0-0)	1.5 (1.48-1.57)	2.21 (2.17-2.31)	4.17 (4.05-4.43)	0 (0-0)	1.45 (1.44-1.47)	4.54 (4.49-4.61)	0 (0-0)	17.23 (16.88-17.97)
None	0 (0-0)	0.41 (0.41-0.41)	1.01 (1.01-1.01)	1.95 (1.95-1.95)	0 (0-0)	1.51 (1.51-1.51)	2.22 (2.22-2.22)	4.18 (4.18-4.18)	0 (0-0)	1.45 (1.45-1.45)	4.55 (4.55-4.55)	0 (0-0)	17.28 (17.28-17.28)

Table 22. Kittiwake collision mortality for the 19MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0.24 (0-1.59)	1.71 (0.22-7.01)	4.52 (1.03-13.91)	10.58 (2.67-33.89)	0.36 (0-40.91)	3.02 (0.38-9.82)	2.36 (0.19-9.05)	1.79 (0.26-7.19)	0 (0-2.13)	0 (0-2.36)	1.24 (0-11.65)	1.07 (0-11.03)	26.89 (4.75-150.54)
Density	0.29 (0-1.44)	1.85 (0.46-4.55)	5.21 (2.5-8.73)	11.8 (6.18-20.77)	5.04 (0-25.54)	3.65 (0.73-6.57)	2.87 (0.72-5.75)	1.77 (0.59-4.72)	0 (0-1.72)	0 (0-1.88)	1.47 (0-7.52)	1.17 (0-7.67)	35.12 (11.18-96.86)
AR	0.28 (0.19-0.4)	1.85 (1.24-2.59)	5.17 (3.55-7.41)	12.2 (8.27-17.21)	5.01 (3.33-6.94)	3.59 (2.45-5.04)	2.82 (1.93-3.93)	2.89 (1.97-4)	0 (0-0)	0 (0-0)	1.47 (1.01-2.05)	1.44 (0.95-2.07)	36.72 (24.89-51.64)
PCH	0.27 (0.07-0.61)	1.76 (0.41-3.98)	4.67 (1.28-11.21)	11.22 (3.14-27.06)	4.74 (1.13-10.86)	3.37 (0.8-7.86)	2.74 (0.74-6.57)	2.78 (0.73-6.33)	0 (0-0)	0 (0-0)	1.39 (0.36-3.32)	1.38 (0.36-3.26)	34.32 (9.02-81.06)
NAF	0.29 (0.27-0.3)	1.85 (1.8-1.93)	5.2 (4.82-5.69)	12.31 (11.65-13.16)	5.03 (4.83-5.3)	3.64 (3.51-3.8)	2.86 (2.76-3.01)	2.94 (2.81-3.12)	0 (0-0)	0 (0-0)	1.47 (1.41-1.53)	1.46 (1.4-1.53)	37.05 (35.26-39.37)
None	0.29 (0.29-0.29)	1.85 (1.85-1.85)	5.21 (5.21-5.21)	12.33 (12.33-12.33)	5.04 (5.04-5.04)	3.65 (3.65-3.65)	2.87 (2.87-2.87)	2.95 (2.95-2.95)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)	1.46 (1.46-1.46)	37.12 (37.12-37.12)

Table 23. Black-headed Gull collision mortality for the 19MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.4)	0 (0-0)	0 (0-1.4)
Density	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.22)	0 (0-0)	0 (0-1.22)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 24. Little Gull collision mortality for the 19MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0.61)	0 (0-0)	0 (0-0)	0 (0-4.11)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-4.72)
Density	0 (0-0.57)	0 (0-0)	0 (0-0)	0 (0-2.8)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-3.37)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 25. Common Gull collision mortality for the 19MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-2.97)	0 (0-6.29)	0 (0-1.75)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.63)	0 (0-0)	0 (0-12.64)
Density	0 (0-2.56)	0 (0-4.67)	0 (0-1.59)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.61)	0 (0-0)	0 (0-10.43)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 26. Lesser Black-backed Gull collision mortality for the 19MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-2.05)	0 (0-1.5)	0 (0-0)	0 (0-0)	0 (0-0)	0.57 (0-3.59)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.57 (0-7.14)
Density	0 (0-0)	0 (0-1.86)	0 (0-1.29)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0-3.21)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0-6.36)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0.52-1.14)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0.52-1.14)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.74 (0.18-1.73)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.74 (0.18-1.73)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.72 (0.72-0.8)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.72 (0.72-0.8)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0.8-0.8)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.8 (0.8-0.8)

Table 27. Great Black-backed Gull collision mortality for the 19MW turbine calculated using Band CRM Option 2. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-4.25)	0.4 (0-3.2)	0 (0-5.21)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.84)	0 (0-0)	0.4 (0-14.5)
Density	0 (0-0)	0 (0-3.38)	0.58 (0-3.1)	0 (0-4.08)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.74)	0 (0-0)	0.58 (0-12.3)
AR	0 (0-0)	0 (0-0)	0.57 (0.37-0.8)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.57 (0.37-0.8)
PCH	0 (0-0)	0 (0-0)	0.54 (0.11-1.19)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.54 (0.11-1.19)
NAF	0 (0-0)	0 (0-0)	0.58 (0.48-0.58)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.58 (0.48-0.58)
None	0 (0-0)	0 (0-0)	0.58 (0.58-0.58)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.58 (0.58-0.58)

Table 28. Red-throated Diver collision mortality for the 12MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
Density	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 29. Fulmar collision mortality for the 12MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	3.92 (0-11.85)	5.68 (0-16.92)	2.91 (0-10.04)	0 (0-0)	0 (0-0)	3.06 (0-11.72)	5.66 (0-15.73)	0 (0-0)	10.83 (0-66.75)	3.94 (0-12.67)	2.1 (0-9.05)	38.1 (0-154.73)
Density	0 (0-0)	3.81 (0-11.43)	5.67 (0-17)	2.81 (0-9.73)	0 (0-0)	0 (0-0)	3.3 (0-9.89)	5.72 (0-14.3)	0 (0-0)	11.09 (0-62.82)	4.01 (0-12.03)	2.05 (0-8.93)	38.46 (0-146.13)
AR	0 (0-0)	3.82 (3.09-4.56)	5.64 (4.65-6.93)	2.79 (2.31-3.37)	0 (0-0)	0 (0-0)	3.28 (2.68-3.93)	5.69 (4.68-6.86)	0 (0-0)	11.13 (8.95-13.59)	3.99 (3.27-4.83)	2.03 (1.67-2.44)	38.37 (31.3-46.51)
PCH	0 (0-0)	3.81 (3.81-3.81)	5.67 (5.67-5.67)	2.81 (2.81-2.81)	0 (0-0)	0 (0-0)	3.3 (3.3-3.3)	5.72 (5.72-5.72)	0 (0-0)	11.09 (11.09-11.09)	4.01 (4.01-4.01)	2.05 (2.05-2.05)	38.46 (38.46-38.46)
NAF	0 (0-0)	3.81 (3.81-3.81)	5.67 (5.67-5.67)	2.81 (2.81-2.81)	0 (0-0)	0 (0-0)	3.3 (3.3-3.3)	5.72 (5.72-5.72)	0 (0-0)	11.09 (11.09-11.09)	4.01 (4.01-4.01)	2.05 (2.05-2.05)	38.46 (38.46-38.46)
None	0 (0-0)	3.81 (3.81-3.81)	5.67 (5.67-5.67)	2.81 (2.81-2.81)	0 (0-0)	0 (0-0)	3.3 (3.3-3.3)	5.72 (5.72-5.72)	0 (0-0)	11.09 (11.09-11.09)	4.01 (4.01-4.01)	2.05 (2.05-2.05)	38.46 (38.46-38.46)

Table 30. Gannet collision mortality for the 12MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	1.16 (0-6.09)	3.07 (0-16.64)	5.94 (0-30.73)	0 (0-0)	3.87 (0-13.63)	6.36 (0-15.28)	12.28 (3.97-24.79)	0 (0-6.54)	4.72 (0.72-16.94)	12.26 (2.34-45.49)	0 (0-3.42)	49.66 (7.03-179.55)
Density	0 (0-0)	1.24 (0-4.94)	3.03 (0-16.31)	5.05 (0-29.17)	0 (0-0)	4.52 (0-11.29)	6.64 (0-15.49)	12.51 (3.57-23.23)	0 (0-7.45)	4.34 (0.87-16.47)	12.84 (2.42-40.76)	0 (0-2.96)	50.17 (6.86-168.07)
AR	0 (0-0)	1.22 (0.85-1.71)	2.99 (1.97-4.17)	5.79 (3.89-8.28)	0 (0-0)	4.41 (3.04-6.37)	6.6 (4.5-9.08)	12.39 (8.47-17.13)	0 (0-0)	4.25 (3.01-6.1)	13.46 (9.13-18.55)	0 (0-0)	51.11 (34.86-71.39)
PCH	0 (0-0)	1.24 (1.24-1.24)	3.03 (3.03-3.03)	5.83 (5.83-5.83)	0 (0-0)	4.52 (4.52-4.52)	6.64 (6.64-6.64)	12.51 (12.51-12.51)	0 (0-0)	4.34 (4.34-4.34)	13.59 (13.59-13.59)	0 (0-0)	51.7 (51.7-51.7)
NAF	0 (0-0)	1.23 (1.22-1.25)	3.02 (2.87-3.3)	5.8 (5.62-6.19)	0 (0-0)	4.5 (4.41-4.67)	6.62 (6.47-6.9)	12.46 (12.1-13.14)	0 (0-0)	4.34 (4.3-4.38)	13.58 (13.43-13.77)	0 (0-0)	51.55 (50.42-53.6)
None	0 (0-0)	1.24 (1.24-1.24)	3.03 (3.03-3.03)	5.83 (5.83-5.83)	0 (0-0)	4.52 (4.52-4.52)	6.64 (6.64-6.64)	12.51 (12.51-12.51)	0 (0-0)	4.34 (4.34-4.34)	13.59 (13.59-13.59)	0 (0-0)	51.7 (51.7-51.7)

Table 31. Kittiwake collision mortality for the 12MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	1.36 (0-5.74)	8.63 (2.28-20.53)	22.85 (11.05-43.85)	52.5 (24.23-100.66)	18.78 (0-123.54)	14.68 (3.1-31.13)	12.27 (2.37-29.98)	9.48 (2.23-22.41)	0 (0-7.64)	0 (0-8.85)	5.76 (0-36.95)	7.2 (0-37.32)	153.51 (45.26-468.6)
Density	1.27 (0-5.07)	8.22 (2.74-22.23)	23.13 (11.07-38.76)	52.39 (24.95-89.3)	25.35 (0-110.36)	16.2 (3.24-29.15)	12.75 (3.19-27.18)	10.48 (2.62-20.96)	0 (0-7.63)	0 (0-8.37)	6.53 (0-33.42)	7.03 (0-32.16)	163.35 (47.81-424.59)
AR	1.25 (0.86-1.78)	8.09 (5.45-11.31)	22.81 (15.85-31.49)	54.29 (37.34-76.41)	22.09 (15.72-30.23)	16.09 (10.99-22.71)	12.59 (8.57-17.36)	12.89 (8.54-18.38)	0 (0-0)	0 (0-0)	6.42 (4.34-9.04)	6.43 (4.18-9.19)	162.95 (111.84-227.9)
PCH	1.27 (1.27-1.27)	8.22 (8.22-8.22)	23.13 (23.13-23.13)	54.73 (54.73-54.73)	22.37 (22.37-22.37)	16.2 (16.2-16.2)	12.75 (12.75-12.75)	13.1 (13.1-13.1)	0 (0-0)	0 (0-0)	6.53 (6.53-6.53)	6.5 (6.5-6.5)	164.8 (164.8-164.8)
NAF	1.27 (1.21-1.32)	8.22 (7.97-8.51)	23.11 (21.39-25.28)	54.54 (51.56-58.16)	22.28 (21.41-23.53)	16.16 (15.63-16.95)	12.73 (12.24-13.31)	13.1 (12.47-13.9)	0 (0-0)	0 (0-0)	6.53 (6.28-6.77)	6.5 (6.21-6.79)	164.44 (156.37-174.52)
None	1.27 (1.27-1.27)	8.22 (8.22-8.22)	23.13 (23.13-23.13)	54.73 (54.73-54.73)	22.37 (22.37-22.37)	16.2 (16.2-16.2)	12.75 (12.75-12.75)	13.1 (13.1-13.1)	0 (0-0)	0 (0-0)	6.53 (6.53-6.53)	6.5 (6.5-6.5)	164.8 (164.8-164.8)

Table 32. Black-headed Gull collision mortality for the 12MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.79)	0 (0-0)	0 (0-1.79)
Density	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.63)	0 (0-0)	0 (0-1.63)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 33. Little Gull collision mortality for the 12MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-3.03)	0 (0-0)	0 (0-0)	0 (0-13.82)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-16.85)
Density	0 (0-2.47)	0 (0-0)	0 (0-0)	0 (0-13.87)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-16.34)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 34. Common Gull collision mortality for the 12MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-9.31)	0 (0-18.43)	0 (0-5.89)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-6.02)	0 (0-0)	0 (0-39.65)
Density	0 (0-9.52)	0 (0-15.42)	0 (0-5.92)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-5.98)	0 (0-0)	0 (0-36.84)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 35. Lesser Black-backed Gull collision mortality for the 12MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-3.12)	0 (0-2.28)	0 (0-0)	0 (0-0)	0 (0-0)	1.37 (0-4.87)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.37 (0-10.27)
Density	0 (0-0)	0 (0-3.54)	0 (0-2.46)	0 (0-0)	0 (0-0)	0 (0-0)	1.53 (0-4.58)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.53 (0-10.58)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.51 (1-2.13)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.51 (1-2.13)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.53 (1.53-1.53)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.53 (1.53-1.53)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.38 (1.38-1.53)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.38 (1.38-1.53)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.53 (1.53-1.53)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.53 (1.53-1.53)

Table 36. Great Black-backed Gull collision mortality for the 12MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-5.23)	0.9 (0-4.36)	0 (0-7.45)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-2.12)	0 (0-0)	0.9 (0-19.16)
Density	0 (0-0)	0 (0-5.1)	0.87 (0-4.69)	0 (0-7.72)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.76)	0 (0-0)	0.87 (0-19.27)
AR	0 (0-0)	0 (0-0)	0.86 (0.55-1.24)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.86 (0.55-1.24)
PCH	0 (0-0)	0 (0-0)	0.87 (0.87-0.87)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.87 (0.87-0.87)
NAF	0 (0-0)	0 (0-0)	0.87 (0.72-0.87)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.87 (0.72-0.87)
None	0 (0-0)	0 (0-0)	0.87 (0.87-0.87)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.87 (0.87-0.87)

Table 37. Red-throated Diver collision mortality for the 15MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
Density	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 38. Fulmar collision mortality for the 15MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	3.55 (0-11.25)	5.38 (0-16.7)	2.76 (0-10.32)	0 (0-0)	0 (0-0)	3.02 (0-10.6)	5.39 (0-14.74)	0 (0-0)	11.34 (0-61.55)	3.79 (0-11.97)	2.07 (0-8.96)	37.3 (0-146.09)
Density	0 (0-0)	3.71 (0-11.12)	5.51 (0-16.54)	2.73 (0-9.47)	0 (0-0)	0 (0-0)	3.21 (0-9.62)	5.57 (0-13.92)	0 (0-0)	10.79 (0-59.34)	3.9 (0-11.71)	1.99 (0-8.69)	37.41 (0-140.41)
AR	0 (0-0)	3.68 (3.04-4.48)	5.52 (4.46-6.66)	2.74 (2.21-3.26)	0 (0-0)	0 (0-0)	3.2 (2.59-3.83)	5.55 (4.54-6.67)	0 (0-0)	10.8 (8.67-12.89)	3.89 (3.14-4.64)	1.98 (1.62-2.41)	37.36 (30.27-44.84)
PCH	0 (0-0)	3.71 (3.71-3.71)	5.51 (5.51-5.51)	2.73 (2.73-2.73)	0 (0-0)	0 (0-0)	3.21 (3.21-3.21)	5.57 (5.57-5.57)	0 (0-0)	10.79 (10.79-10.79)	3.9 (3.9-3.9)	1.99 (1.99-1.99)	37.41 (37.41-37.41)
NAF	0 (0-0)	3.71 (3.71-3.71)	5.51 (5.51-5.51)	2.73 (2.73-2.73)	0 (0-0)	0 (0-0)	3.21 (3.21-3.21)	5.57 (5.57-5.57)	0 (0-0)	10.79 (10.79-10.79)	3.9 (3.9-3.9)	1.99 (1.99-1.99)	37.41 (37.41-37.41)
None	0 (0-0)	3.71 (3.71-3.71)	5.51 (5.51-5.51)	2.73 (2.73-2.73)	0 (0-0)	0 (0-0)	3.21 (3.21-3.21)	5.57 (5.57-5.57)	0 (0-0)	10.79 (10.79-10.79)	3.9 (3.9-3.9)	1.99 (1.99-1.99)	37.41 (37.41-37.41)

Table 39. Gannet collision mortality for the 15MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	1.05 (0-5.33)	2.83 (0-16.62)	5.46 (0-27.06)	0 (0-0)	3.73 (0-10.7)	5.3 (0-16.27)	11.09 (3.02-23.37)	0 (0-6.52)	4.27 (0.57-14.91)	12.45 (2.42-42.74)	0 (0-3.18)	46.18 (6.01-166.7)
Density	0 (0-0)	1.14 (0-5.7)	2.79 (0-15.05)	5.38 (0-26.92)	0 (0-0)	4.17 (0-10.42)	6.13 (0-14.3)	11.55 (3.3-21.44)	0 (0-6.87)	4 (0.8-13.94)	12.54 (2.96-37.63)	0 (0-2.75)	47.7 (7.06-155.02)
AR	0 (0-0)	1.12 (0.76-1.57)	2.76 (1.92-3.8)	5.37 (3.66-7.38)	0 (0-0)	4.13 (2.82-5.83)	6.05 (4.22-8.47)	11.44 (7.76-16.25)	0 (0-0)	3.97 (2.75-5.57)	12.33 (8.6-17.54)	0 (0-0)	47.17 (32.49-66.41)
PCH	0 (0-0)	1.14 (1.14-1.14)	2.79 (2.79-2.79)	5.38 (5.38-5.38)	0 (0-0)	4.17 (4.17-4.17)	6.13 (6.13-6.13)	11.55 (11.55-11.55)	0 (0-0)	4 (4-4)	12.54 (12.54-12.54)	0 (0-0)	47.7 (47.7-47.7)
NAF	0 (0-0)	1.14 (1.13-1.15)	2.78 (2.65-3.02)	5.36 (5.19-5.67)	0 (0-0)	4.16 (4.07-4.33)	6.11 (5.98-6.38)	11.49 (11.16-12.14)	0 (0-0)	4 (3.97-4.05)	12.54 (12.39-12.72)	0 (0-0)	47.58 (46.54-49.46)
None	0 (0-0)	1.14 (1.14-1.14)	2.79 (2.79-2.79)	5.38 (5.38-5.38)	0 (0-0)	4.17 (4.17-4.17)	6.13 (6.13-6.13)	11.55 (11.55-11.55)	0 (0-0)	4 (4-4)	12.54 (12.54-12.54)	0 (0-0)	47.7 (47.7-47.7)

Table 40. Kittiwake collision mortality for the 15MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	1.35 (0-6.08)	8.57 (1.47-21.45)	22.39 (10.66-41.16)	51.93 (23.59-99.15)	17.06 (0-124.68)	14.5 (2.97-33.17)	12.11 (2.04-28.38)	9.66 (2.16-22.3)	0 (0-7.68)	0 (0-8.48)	6.07 (0-35.67)	6.65 (0-36.39)	150.29 (42.89-464.59)
Density	1.25 (0-6.28)	8.09 (1.35-19.89)	22.75 (12.1-36.4)	53.85 (24.55-90.69)	24.94 (0-111.52)	15.93 (3.19-28.68)	12.55 (3.14-25.09)	10.31 (2.58-20.62)	0 (0-7.5)	0 (0-8.2)	6.16 (0-32.83)	6.92 (0-33.5)	162.75 (46.91-421.2)
AR	1.24 (0.87-1.75)	7.97 (5.32-10.89)	22.63 (15.5-30.42)	53.67 (35.48-75.1)	21.51 (14.51-30.07)	15.88 (10.88-21.76)	12.46 (8.5-17.44)	12.73 (8.83-18)	0 (0-0)	0 (0-0)	6.35 (4.32-8.91)	6.31 (4.3-8.94)	160.75 (108.51-223.28)
PCH	1.25 (1.25-1.25)	8.09 (8.09-8.09)	22.75 (22.75-22.75)	53.85 (53.85-53.85)	22.01 (22.01-22.01)	15.93 (15.93-15.93)	12.55 (12.55-12.55)	12.89 (12.89-12.89)	0 (0-0)	0 (0-0)	6.42 (6.42-6.42)	6.39 (6.39-6.39)	162.13 (162.13-162.13)
NAF	1.25 (1.2-1.3)	8.09 (7.84-8.35)	22.74 (21.06-24.86)	53.77 (50.83-57.72)	22.02 (21.07-23.14)	15.92 (15.39-16.63)	12.53 (12.09-13.11)	12.88 (12.27-13.65)	0 (0-0)	0 (0-0)	6.42 (6.17-6.66)	6.39 (6.11-6.67)	162.01 (154.03-172.09)
None	1.25 (1.25-1.25)	8.09 (8.09-8.09)	22.75 (22.75-22.75)	53.85 (53.85-53.85)	22.01 (22.01-22.01)	15.93 (15.93-15.93)	12.55 (12.55-12.55)	12.89 (12.89-12.89)	0 (0-0)	0 (0-0)	6.42 (6.42-6.42)	6.39 (6.39-6.39)	162.13 (162.13-162.13)

Table 41. Black-headed Gull collision mortality for the 15MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.73)	0 (0-0)	0 (0-1.73)
Density	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.61)	0 (0-0)	0 (0-1.61)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 42. Little Gull collision mortality for the 15MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-2.64)	0 (0-0)	0 (0-0)	0 (0-14.96)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-17.6)
Density	0 (0-2.51)	0 (0-0)	0 (0-0)	0 (0-12.3)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-14.81)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 43. Common Gull collision mortality for the 15MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-9.55)	0 (0-19.36)	0 (0-5.67)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-5.82)	0 (0-0)	0 (0-40.4)
Density	0 (0-9.31)	0 (0-16.97)	0 (0-5.79)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-5.85)	0 (0-0)	0 (0-37.92)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 44. Lesser Black-backed Gull collision mortality for the 15MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-2.87)	0 (0-2.32)	0 (0-0)	0 (0-0)	0 (0-0)	1.33 (0-5.19)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.33 (0-10.38)
Density	0 (0-0)	0 (0-3.4)	0 (0-2.36)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (0-4.4)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (0-10.16)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.45 (0.95-2.07)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.45 (0.95-2.07)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.32-1.47)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.32-1.47)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)

Table 45. Great Black-backed Gull collision mortality for the 15MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-5.02)	0.86 (0-3.92)	0 (0-6.34)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-2.21)	0 (0-0)	0.86 (0-17.49)
Density	0 (0-0)	0 (0-4.84)	0.83 (0-4.45)	0 (0-7.32)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-2.5)	0 (0-0)	0.83 (0-19.11)
AR	0 (0-0)	0 (0-0)	0.83 (0.53-1.19)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0.53-1.19)
PCH	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)
NAF	0 (0-0)	0 (0-0)	0.69 (0.69-0.83)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.69 (0.69-0.83)
None	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)

Table 46. Red-throated Diver collision mortality for the 19MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
Density	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 47. Fulmar collision mortality for the 19MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	3.61 (0-12.47)	6.01 (0-17.11)	2.7 (0-10.26)	0 (0-0)	0 (0-0)	3.03 (0-10.1)	5.43 (0-14.66)	0 (0-0)	10.33 (0-60.59)	3.83 (0-11.91)	2.03 (0-8.64)	36.97 (0-145.74)
Density	0 (0-0)	3.71 (0-12.98)	6.6 (0-16.54)	2.73 (0-9.47)	0 (0-0)	0 (0-0)	3.21 (0-9.62)	5.57 (0-13.92)	0 (0-0)	11.69 (0-59.39)	3.9 (0-11.97)	1.99 (0-8.69)	39.4 (0-142.58)
AR	0 (0-0)	3.68 (2.99-4.43)	5.51 (4.52-6.61)	2.73 (2.24-3.29)	0 (0-0)	0 (0-0)	3.18 (2.6-3.85)	5.55 (4.55-6.62)	0 (0-0)	10.7 (8.73-12.93)	3.9 (3.21-4.66)	1.98 (1.64-2.37)	37.23 (30.48-44.76)
PCH	0 (0-0)	3.71 (3.71-3.71)	5.51 (5.51-5.51)	2.73 (2.73-2.73)	0 (0-0)	0 (0-0)	3.21 (3.21-3.21)	5.57 (5.57-5.57)	0 (0-0)	10.79 (10.79-10.79)	3.9 (3.9-3.9)	1.99 (1.99-1.99)	37.41 (37.41-37.41)
NAF	0 (0-0)	3.71 (3.71-3.71)	5.51 (5.51-5.51)	2.73 (2.73-2.73)	0 (0-0)	0 (0-0)	3.21 (3.21-3.21)	5.57 (5.57-5.57)	0 (0-0)	10.79 (10.79-10.79)	3.9 (3.9-3.9)	1.99 (1.99-1.99)	37.41 (37.41-37.41)
None	0 (0-0)	3.71 (3.71-3.71)	5.51 (5.51-5.51)	2.73 (2.73-2.73)	0 (0-0)	0 (0-0)	3.21 (3.21-3.21)	5.57 (5.57-5.57)	0 (0-0)	10.79 (10.79-10.79)	3.9 (3.9-3.9)	1.99 (1.99-1.99)	37.41 (37.41-37.41)

Table 48. Gannet collision mortality for the 19MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	1.08 (0-5.54)	2.72 (0-16.94)	6.04 (0-26.99)	0 (0-0)	4.12 (0-11.89)	5.79 (0-14.86)	10.37 (3.67-21.89)	0 (0-6.15)	4.5 (0.53-16.12)	12.2 (2.34-43.02)	0 (0-3.24)	46.82 (6.54-166.64)
Density	0 (0-0)	1.14 (0-4.56)	2.79 (0-15.05)	5.38 (0-25.13)	0 (0-0)	4.17 (0-12.51)	6.13 (0-14.3)	11.55 (3.3-21.44)	0 (0-6.87)	4.81 (0.8-15.21)	12.59 (2.23-37.66)	0 (0-2.74)	48.56 (6.33-155.47)
AR	0 (0-0)	1.14 (0.77-1.57)	2.78 (1.86-3.92)	5.39 (3.72-7.31)	0 (0-0)	4.18 (2.86-5.83)	6.05 (4.15-8.5)	11.36 (7.65-15.77)	0 (0-0)	3.97 (2.7-5.62)	12.46 (8.52-17.28)	0 (0-0)	47.33 (32.23-65.8)
PCH	0 (0-0)	1.14 (1.14-1.14)	2.79 (2.79-2.79)	5.38 (5.38-5.38)	0 (0-0)	4.17 (4.17-4.17)	6.13 (6.13-6.13)	11.55 (11.55-11.55)	0 (0-0)	4 (4-4)	12.54 (12.54-12.54)	0 (0-0)	47.7 (47.7-47.7)
NAF	0 (0-0)	1.14 (1.13-1.15)	2.78 (2.65-3.01)	5.36 (5.18-5.71)	0 (0-0)	4.15 (4.07-4.33)	6.11 (5.98-6.36)	11.51 (11.17-12.23)	0 (0-0)	4 (3.97-4.04)	12.54 (12.39-12.72)	0 (0-0)	47.59 (46.54-49.55)
None	0 (0-0)	1.14 (1.14-1.14)	2.79 (2.79-2.79)	5.38 (5.38-5.38)	0 (0-0)	4.17 (4.17-4.17)	6.13 (6.13-6.13)	11.55 (11.55-11.55)	0 (0-0)	4 (4-4)	12.54 (12.54-12.54)	0 (0-0)	47.7 (47.7-47.7)

Table 49. Kittiwake collision mortality for the 19MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	1.31 (0-6.14)	8.47 (1.86-21.19)	22.75 (9.84-43.04)	51.93 (24.07-102.36)	18.87 (0-126.04)	15.43 (3.38-32.05)	12.09 (2.1-26.28)	8.81 (2.13-20.74)	0 (0-8.15)	0 (0-8.59)	6.84 (0-36.93)	5.77 (0-36.69)	152.27 (43.38-468.2)
Density	1.25 (0-6.28)	8.09 (1.99-19.89)	22.75 (10.89-38.13)	51.55 (27-90.69)	22.01 (0-111.52)	15.93 (3.19-28.68)	12.55 (3.14-25.09)	7.73 (2.58-20.62)	0 (0-7.5)	0 (0-8.2)	6.42 (0-32.83)	5.11 (0-33.5)	153.39 (48.79-422.93)
AR	1.24 (0.83-1.74)	8.08 (5.42-11.31)	22.57 (15.52-32.34)	53.27 (36.09-75.14)	21.86 (14.56-30.3)	15.67 (10.7-22.02)	12.32 (8.42-17.15)	12.6 (8.6-17.48)	0 (0-0)	0 (0-0)	6.41 (4.4-8.93)	6.31 (4.17-9.04)	160.33 (108.71-225.45)
PCH	1.25 (1.25-1.25)	8.09 (8.09-8.09)	22.75 (22.75-22.75)	53.85 (53.85-53.85)	22.01 (22.01-22.01)	15.93 (15.93-15.93)	12.55 (12.55-12.55)	12.89 (12.89-12.89)	0 (0-0)	0 (0-0)	6.42 (6.42-6.42)	6.39 (6.39-6.39)	162.13 (162.13-162.13)
NAF	1.25 (1.2-1.3)	8.09 (7.84-8.41)	22.69 (21.03-24.85)	53.74 (50.88-57.45)	21.97 (21.1-23.14)	15.91 (15.33-16.58)	12.51 (12.06-13.13)	12.85 (12.26-13.63)	0 (0-0)	0 (0-0)	6.42 (6.18-6.7)	6.38 (6.1-6.69)	161.81 (153.98-171.88)
None	1.25 (1.25-1.25)	8.09 (8.09-8.09)	22.75 (22.75-22.75)	53.85 (53.85-53.85)	22.01 (22.01-22.01)	15.93 (15.93-15.93)	12.55 (12.55-12.55)	12.89 (12.89-12.89)	0 (0-0)	0 (0-0)	6.42 (6.42-6.42)	6.39 (6.39-6.39)	162.13 (162.13-162.13)

Table 50. Black-headed Gull collision mortality for the 19MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.62)	0 (0-0)	0 (0-1.62)
Density	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-1.61)	0 (0-0)	0 (0-1.61)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 51. Little Gull collision mortality for the 19MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-2.59)	0 (0-0)	0 (0-0)	0 (0-15.11)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-17.7)
Density	0 (0-2.51)	0 (0-0)	0 (0-0)	0 (0-12.3)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-14.81)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 52. Common Gull collision mortality for the 19MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-9.06)	0 (0-18.72)	0 (0-5.49)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-5.38)	0 (0-0)	0 (0-38.65)
Density	0 (0-9.31)	0 (0-16.97)	0 (0-5.79)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-5.85)	0 (0-0)	0 (0-37.92)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)

Table 53. Lesser Black-backed Gull collision mortality for the 19MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-3.3)	0 (0-2.28)	0 (0-0)	0 (0-0)	0 (0-0)	1.28 (0-5.52)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.28 (0-11.1)
Density	0 (0-0)	0 (0-3.4)	0 (0-2.36)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (0-5.86)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (0-11.62)
AR	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.46 (0.95-2.08)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.46 (0.95-2.08)
PCH	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)
NAF	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.32 (1.32-1.47)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.32 (1.32-1.47)
None	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	1.47 (1.47-1.47)

Table 54. Great Black-backed Gull collision mortality for the 19MW turbine calculated using Band CRM Option 1. Values are the median and 95% confidence intervals calculated across 1,000 simulations with different combinations of stochastic variables ('Full' - seabird density, avoidance rate, flight height and nocturnal activity; 'Density' - seabird density only; 'AR' - avoidance rate only; 'PCH' - flight height only; 'NAF' - nocturnal activity factor only; 'None - deterministic).

Stochastic variables	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual total
Full	0 (0-0)	0 (0-4.87)	0.82 (0-3.9)	0 (0-6.42)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-2.08)	0 (0-0)	0.82 (0-17.27)
Density	0 (0-0)	0 (0-4.84)	0.83 (0-4.45)	0 (0-5.85)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-2.5)	0 (0-0)	0.83 (0-17.64)
AR	0 (0-0)	0 (0-0)	0.82 (0.53-1.15)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.82 (0.53-1.15)
PCH	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)
NAF	0 (0-0)	0 (0-0)	0.83 (0.69-0.83)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0.69-0.83)
None	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0.83 (0.83-0.83)

East Anglia ONE North Offshore Wind Farm

Appendix 12.1

Offshore Ornithology

Annex 5

Collision mortality boxplots

Prepared by:	Mark Trinder
Authorised by:	Bob Furness
Date:	5th September 2018
Tel:	0141 342 5404
Email:	mark.trinder@macarthurgreen.com
Web:	www.macarthurgreen.com
Address:	93 South Woodside Road | Glasgow | G20 6NT

Document Quality Record.

Version	Status	Person Responsible	Date
1	Draft	Mark Trinder	03/09/2018
2	Reviewed	Bob Furness	05/09/2018
3	Updated		
4	Internal Approval		
5	Final Client Approval		

1 INTRODUCTION

1. This appendix provides box plots of collision mortality estimated using the Band model option 2 with random variation around mean/median values of seabird density, avoidance rate, flight height and nocturnal activity. Further details on collision modelling methods are provided in Technical Appendix 12.1, input parameters in Annex 3, and tabulated results in Annex 4.

2. Table A5 provides a key to figure numbering.

Table A5. Key to figure numbering.

Species	**Figure number**
Red-throated diver	1
Fulmar	2
Gannet	3
Kittiwake	4
Black-headed gull	5
Little gull	6
Common gull	7
Lesser black-backed gull	8
Great black-backed gull	9

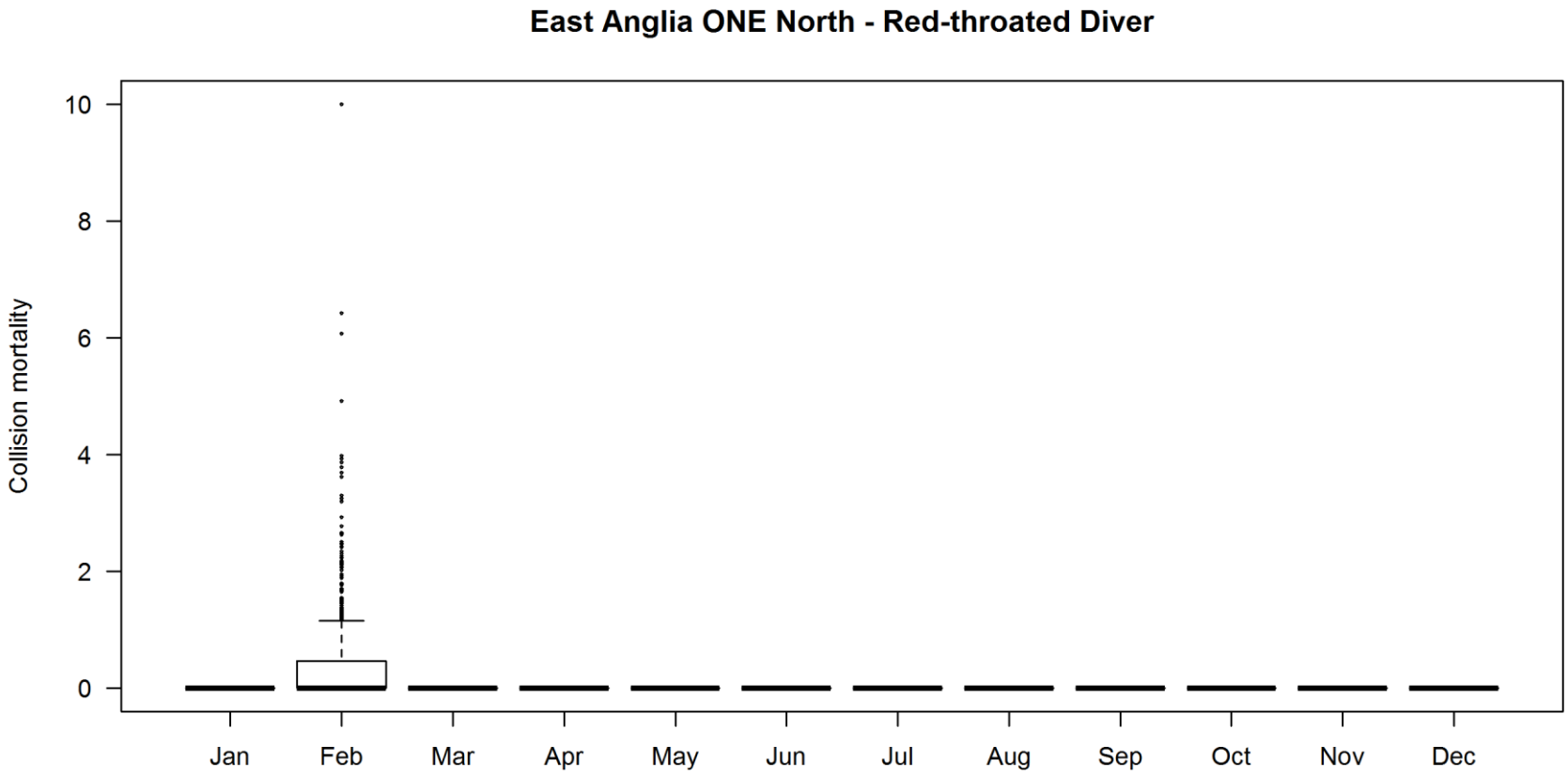


Figure 1. East Anglia ONE North, Red-throated Diver Option 2 collision mortality estimates calculated with stochasticity in seabird density, avoidance rate, flight height and nocturnal activity. Solid bars are the median, boxes indicate the 50% range, whiskers the 95% range and circles are outliers.

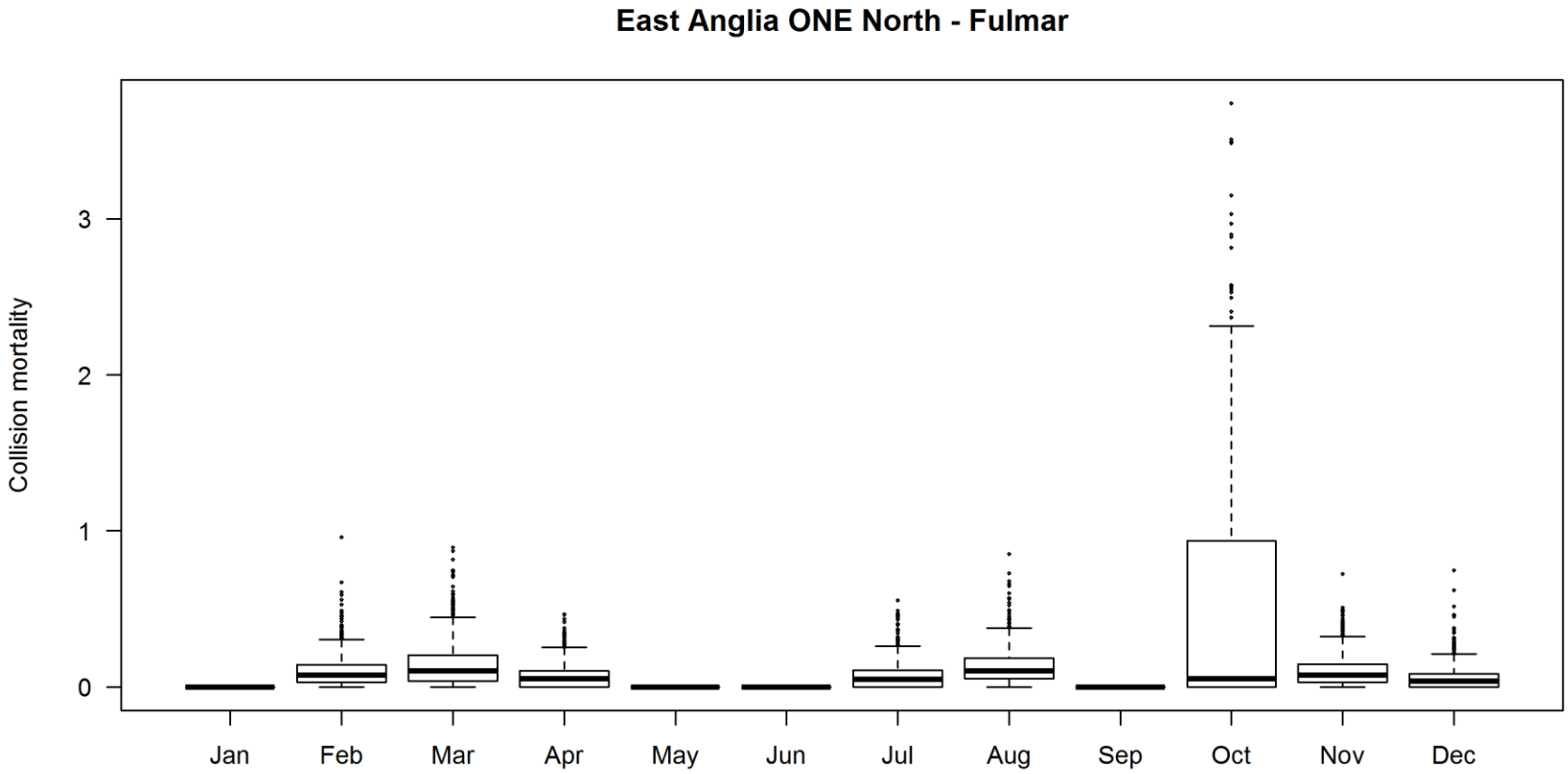


Figure 2. East Anglia ONE North, Fulmar Option 2 collision mortality estimates calculated with stochasticity in seabird density, avoidance rate, flight height and nocturnal activity. Solid bars are the median, boxes indicate the 50% range, whiskers the 95% range and circles are outliers.

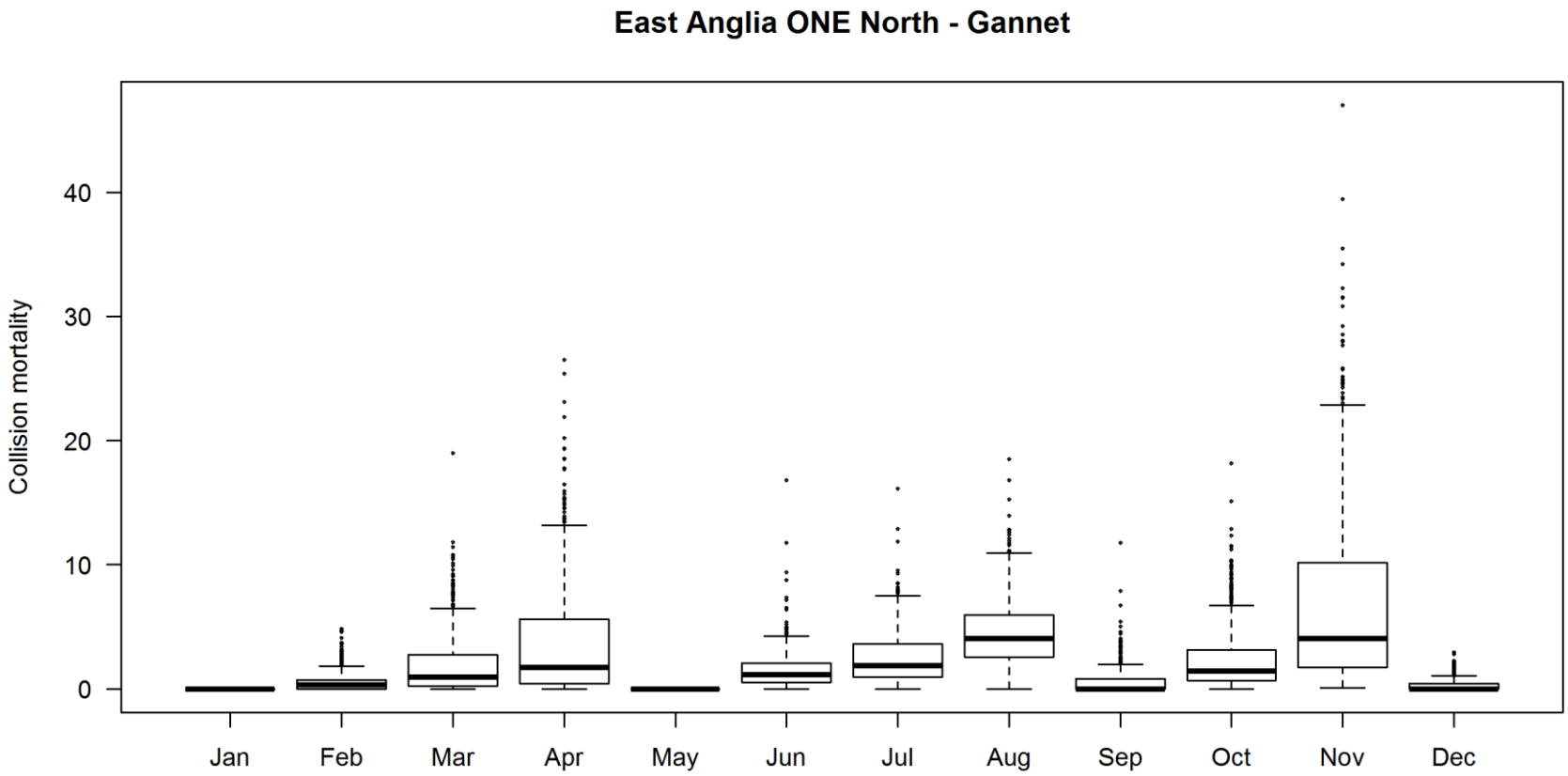


Figure 3. East Anglia ONE North, Gannet Option 2 collision mortality estimates calculated with stochasticity in seabird density, avoidance rate, flight height and nocturnal activity. Solid bars are the median, boxes indicate the 50% range, whiskers the 95% range and circles are outliers.

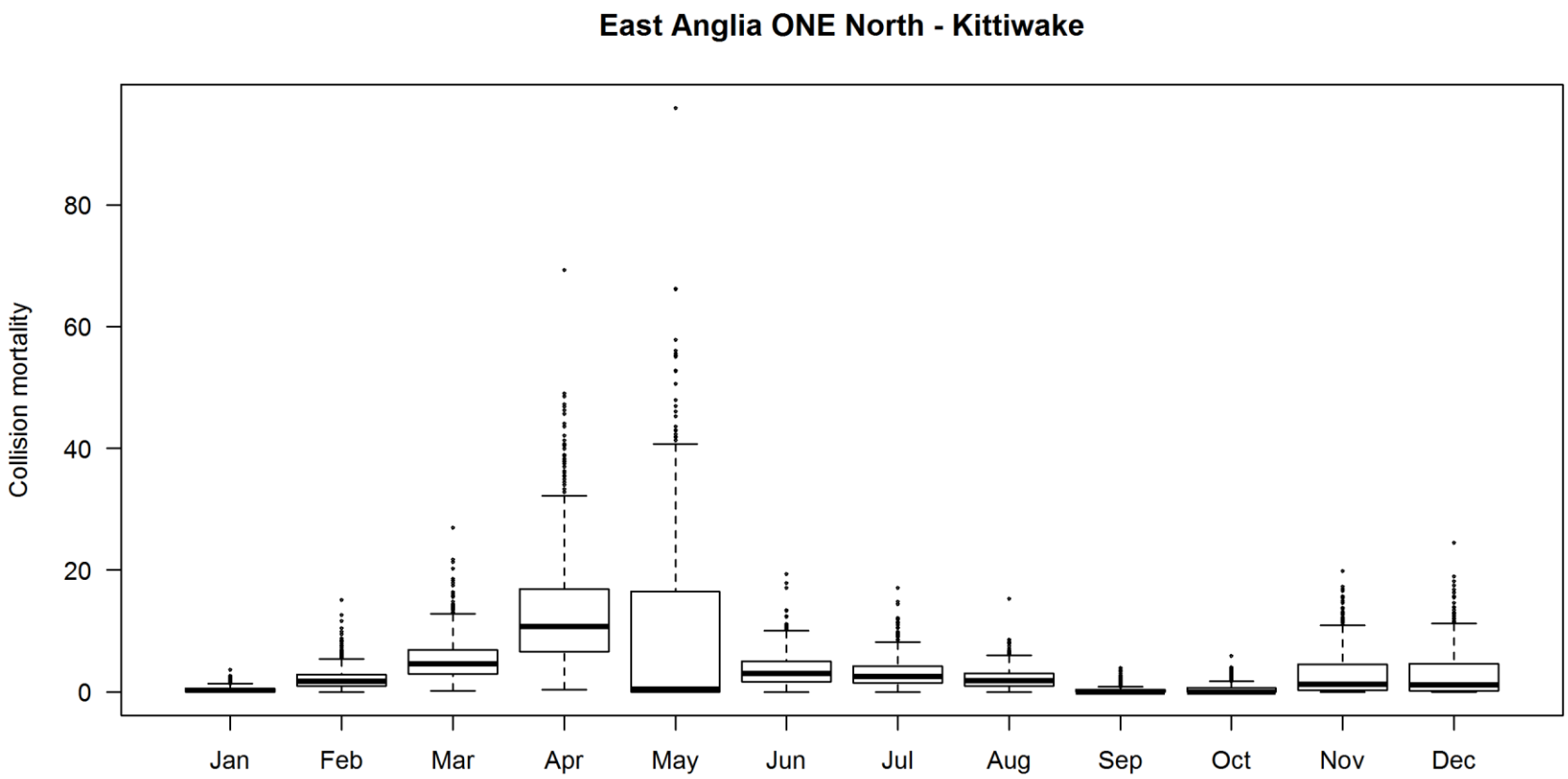


Figure 4. East Anglia ONE North, Kittiwake Option 2 collision mortality estimates calculated with stochasticity in seabird density, avoidance rate, flight height and nocturnal activity. Solid bars are the median, boxes indicate the 50% range, whiskers the 95% range and circles are outliers.

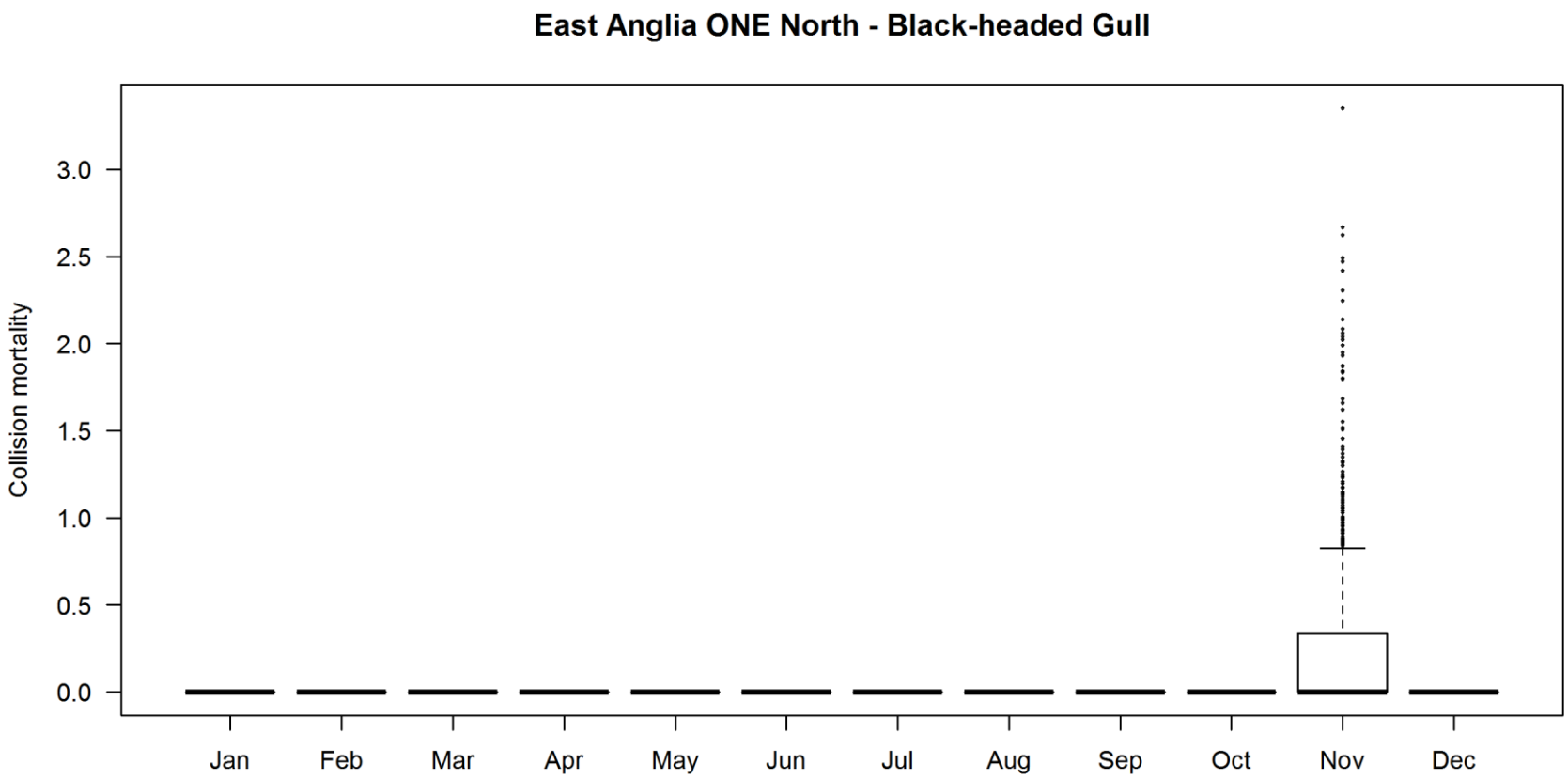


Figure 5. East Anglia ONE North, Black-headed Gull Option 2 collision mortality estimates calculated with stochasticity in seabird density, avoidance rate, flight height and nocturnal activity. Solid bars are the median, boxes indicate the 50% range, whiskers the 95% range and circles are outliers.

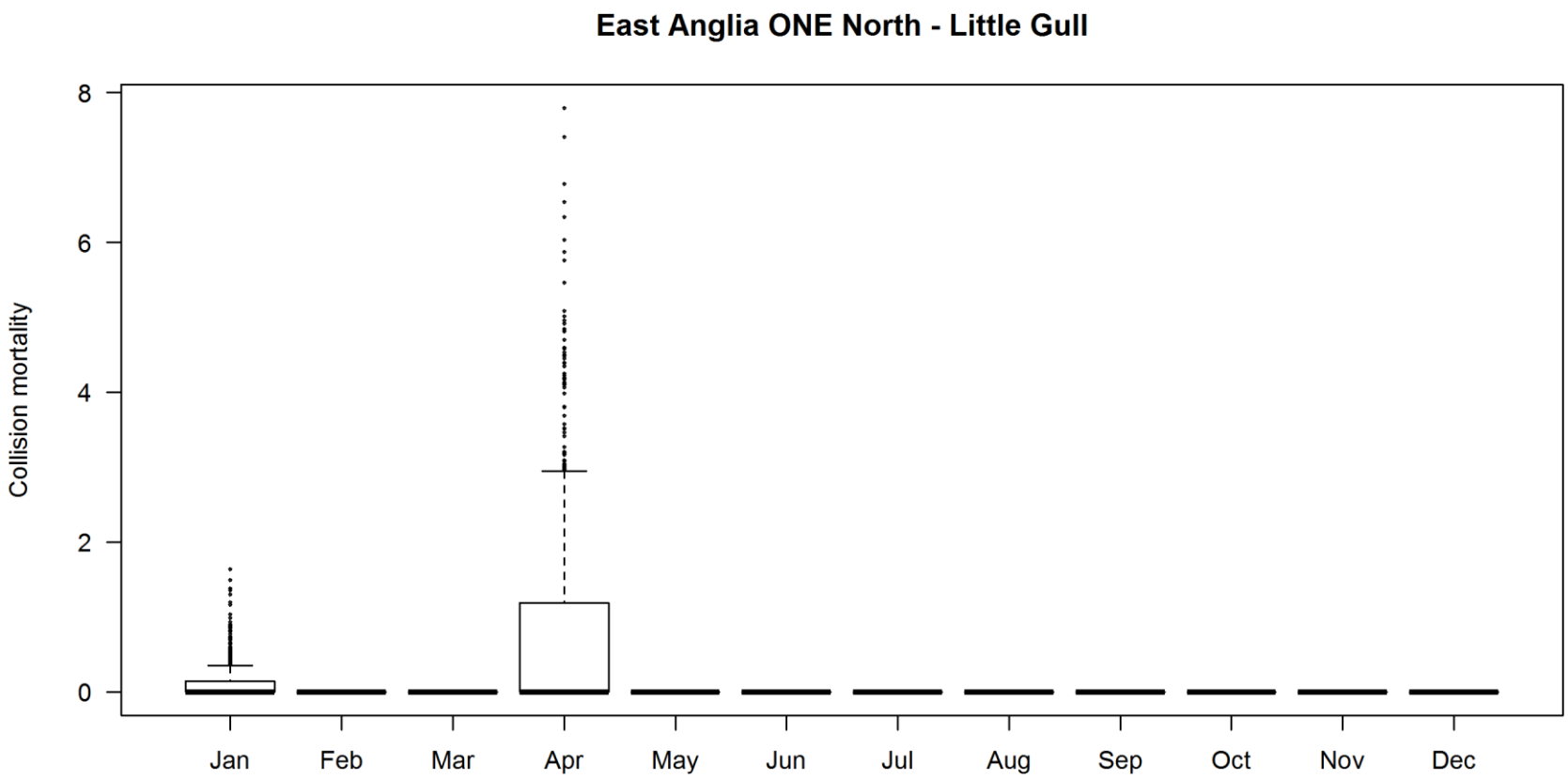


Figure 6. East Anglia ONE North, Little Gull Option 2 collision mortality estimates calculated with stochasticity in seabird density, avoidance rate, flight height and nocturnal activity. Solid bars are the median, boxes indicate the 50% range, whiskers the 95% range and circles are outliers.

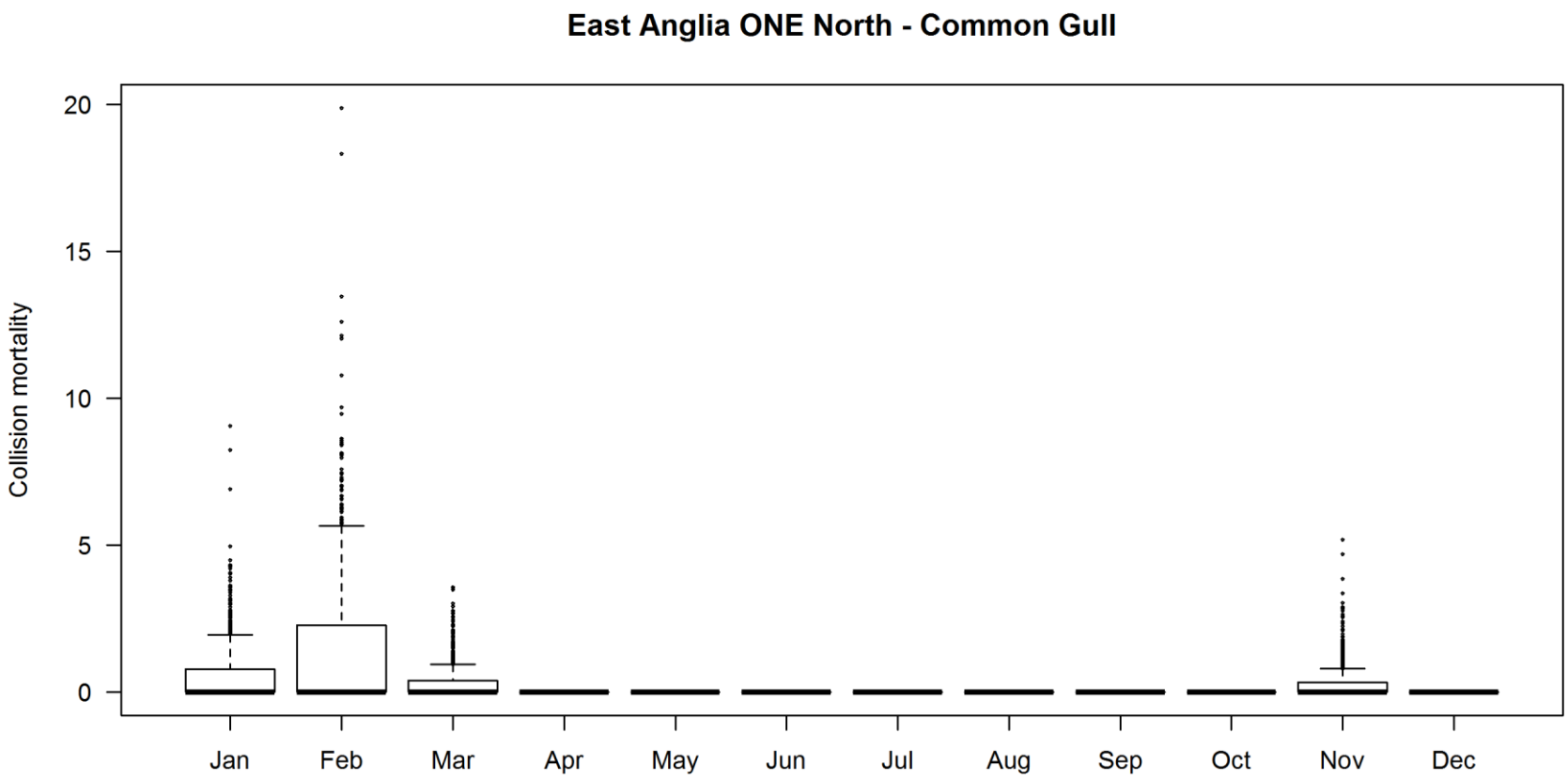


Figure 7. East Anglia ONE North, Common Gull Option 2 collision mortality estimates calculated with stochasticity in seabird density, avoidance rate, flight height and nocturnal activity. Solid bars are the median, boxes indicate the 50% range, whiskers the 95% range and circles are outliers.

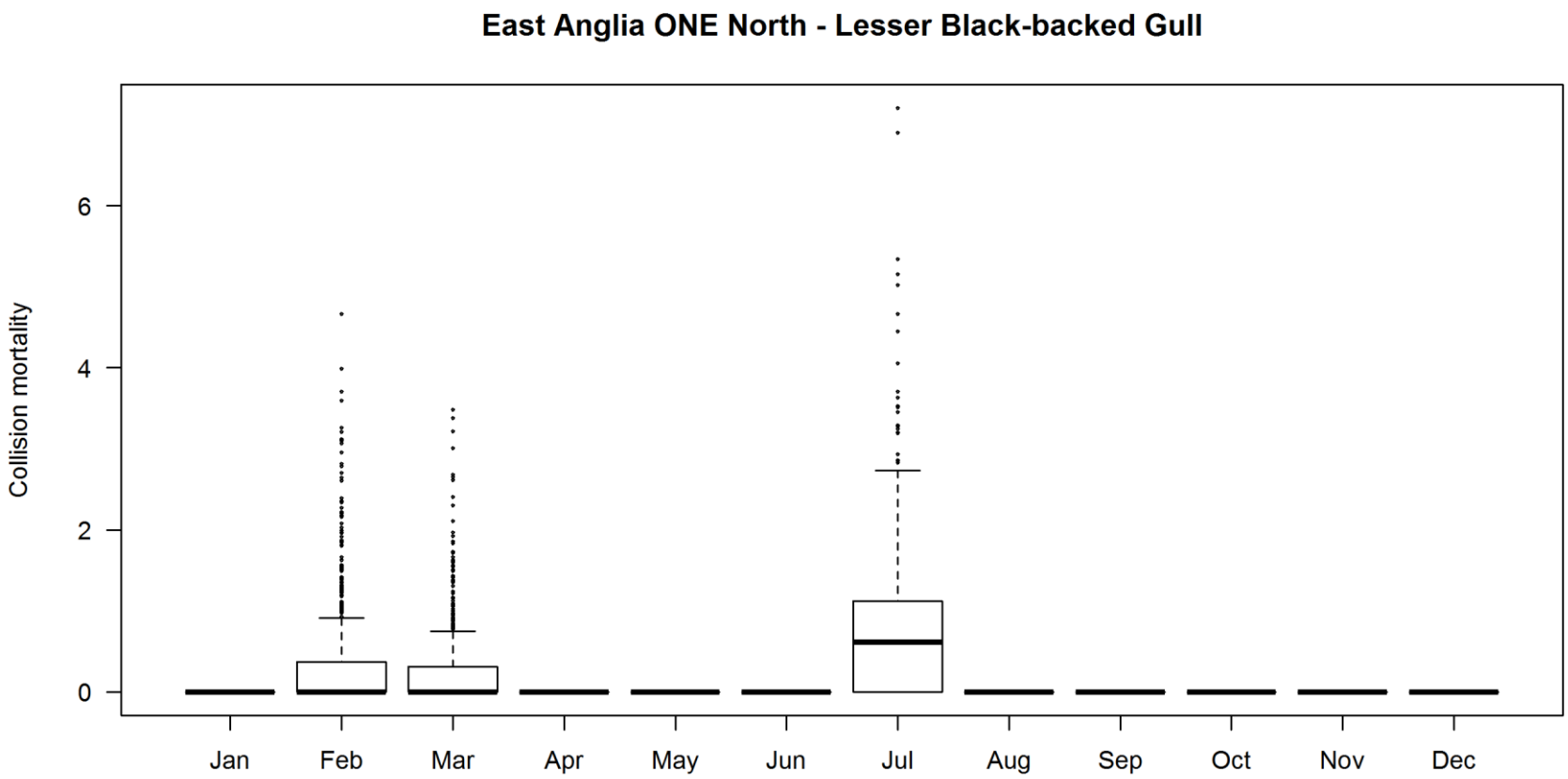


Figure 8. East Anglia ONE North, Lesser Black-backed Gull Option 2 collision mortality estimates calculated with stochasticity in seabird density, avoidance rate, flight height and nocturnal activity. Solid bars are the median, boxes indicate the 50% range, whiskers the 95% range and circles are outliers.

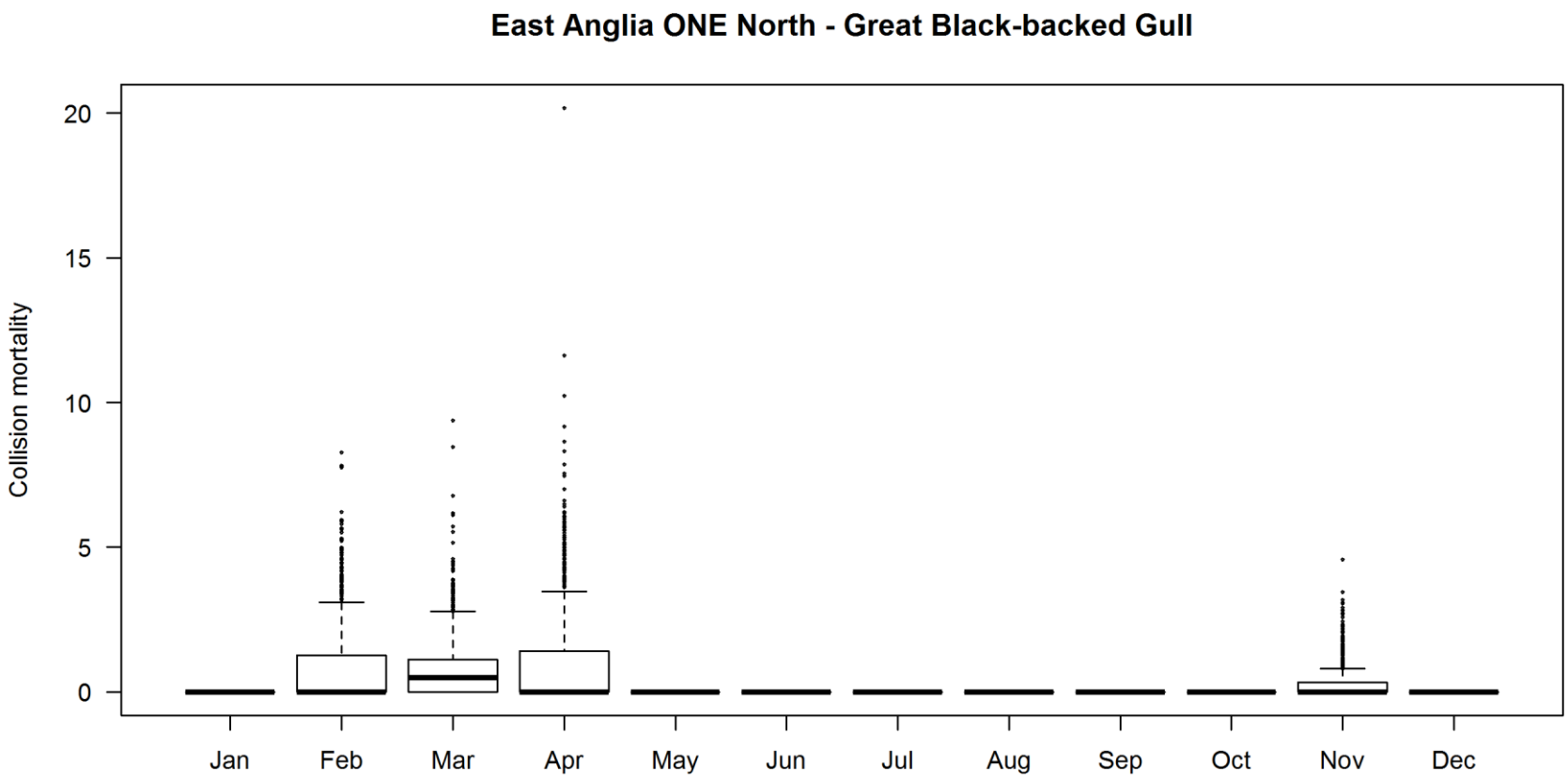


Figure 9. East Anglia ONE North, Great Black-backed Gull Option 2 collision mortality estimates calculated with stochasticity in seabird density, avoidance rate, flight height and nocturnal activity. Solid bars are the median, boxes indicate the 50% range, whiskers the 95% range and circles are outliers.

East Anglia ONE North Offshore Wind Farm

Appendix 12.1

Offshore Ornithology

Annex 6

Species abundance plots

Prepared by:	Mark Trinder
Authorised by:	Bob Furness
Date:	5th September 2018
Tel:	0141 342 5404
Email:	mark.trinder@macarthurgreen.com
Web:	www.macarthurgreen.com
Address:	93 South Woodside Road | Glasgow | G20 6NT

Document Quality Record.

Version	Status	Person Responsible	Date
1	Draft	Mark Trinder	03/09/2018
2	Reviewed	Bob Furness	05/09/2018
3	Updated		
4	Internal Approval		
5	Final Client Approval		

1 INTRODUCTION

1. This appendix provides plots of species abundance in each month for the East Anglia ONE North wind farm site alone and with the inclusion of the 4km buffer. Where appropriate the abundance estimates include unidentified birds (e.g. large gulls), added to the positively identified species totals using species and survey specific proportions. Razorbill and guillemot totals have also been adjusted to account for availability bias. Details of analysis methods are provided in Appendix 12.1.

2. Table A6 provides a key to figure numbering.

Table A6. Key to figure numbering.

Species	**Figure number**
Red-throated diver	1
Fulmar	2
Gannet	3
Great skua	4
Razorbill	5
Guillemot	6
Sandwich tern	7
Commic tern	8
Kittiwake	9
Black-headed gull	10
Little gull	11
Common gull	12
Lesser black-backed gull	13
Herring gull	14
Great black-backed gull	15

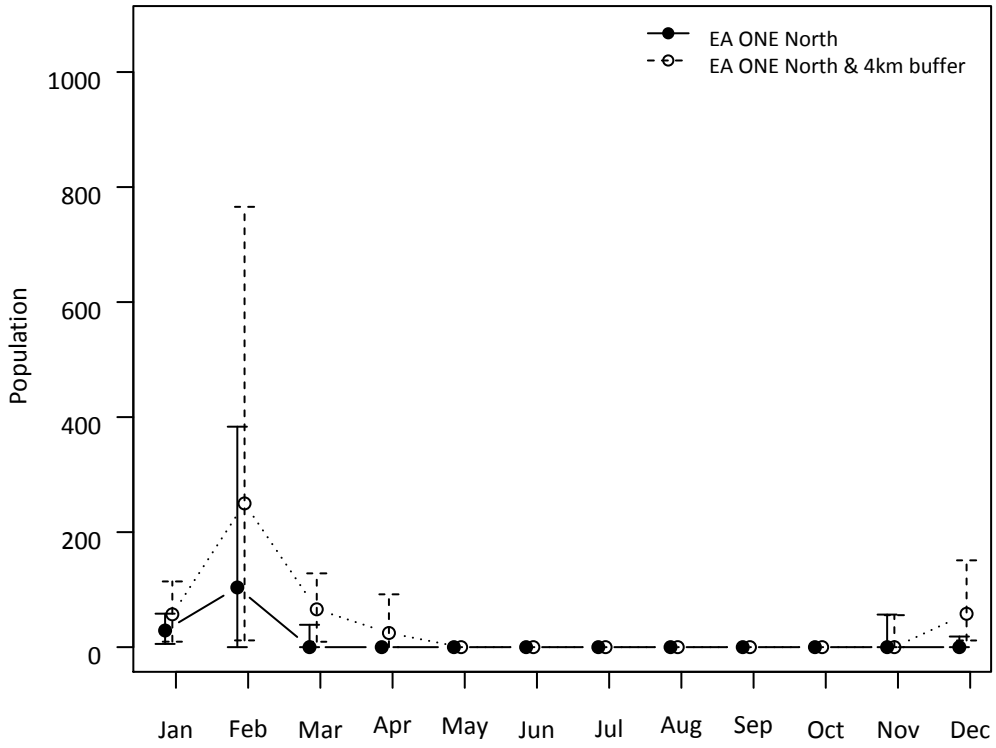


Figure 1. Red-throated Diver. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

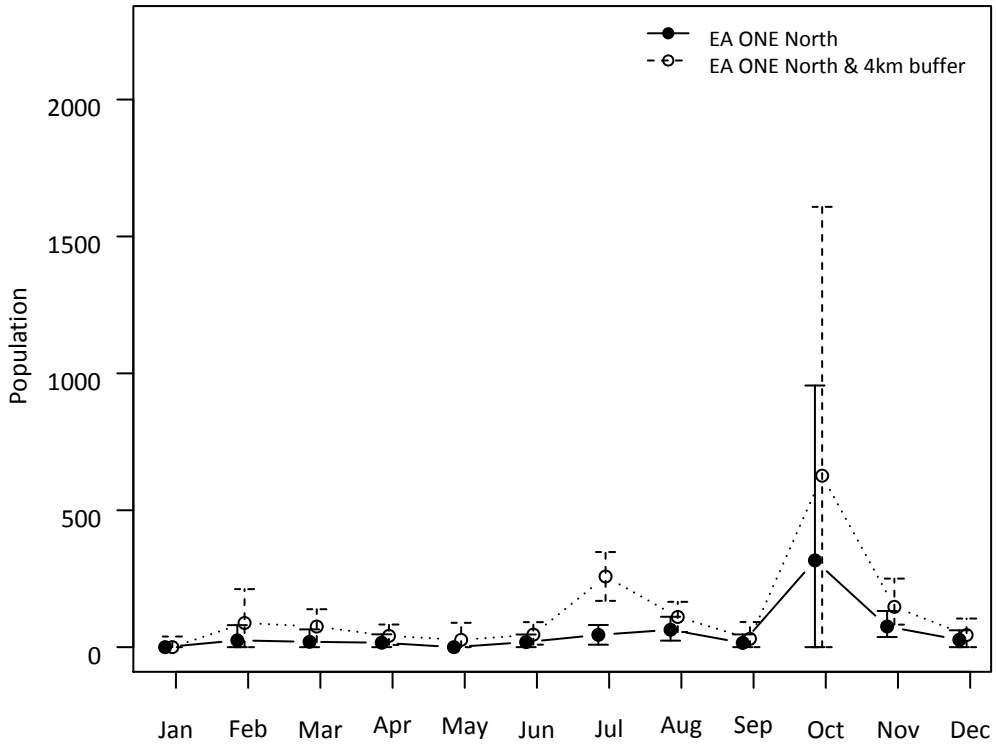


Figure 2. Fulmar. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

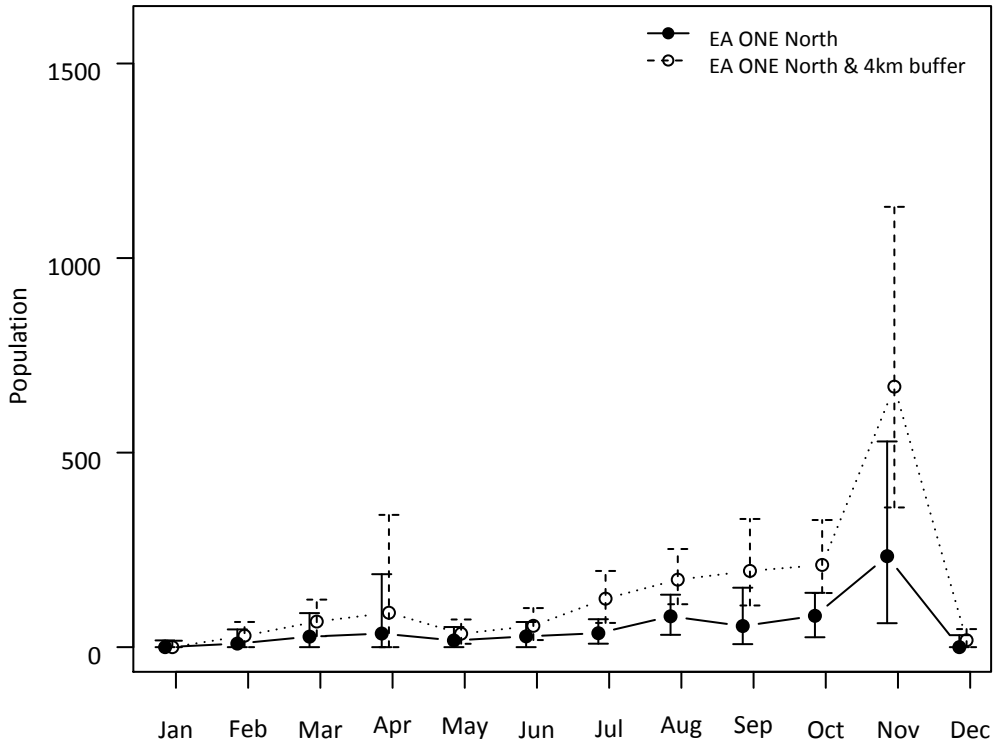


Figure 3. Gannet. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

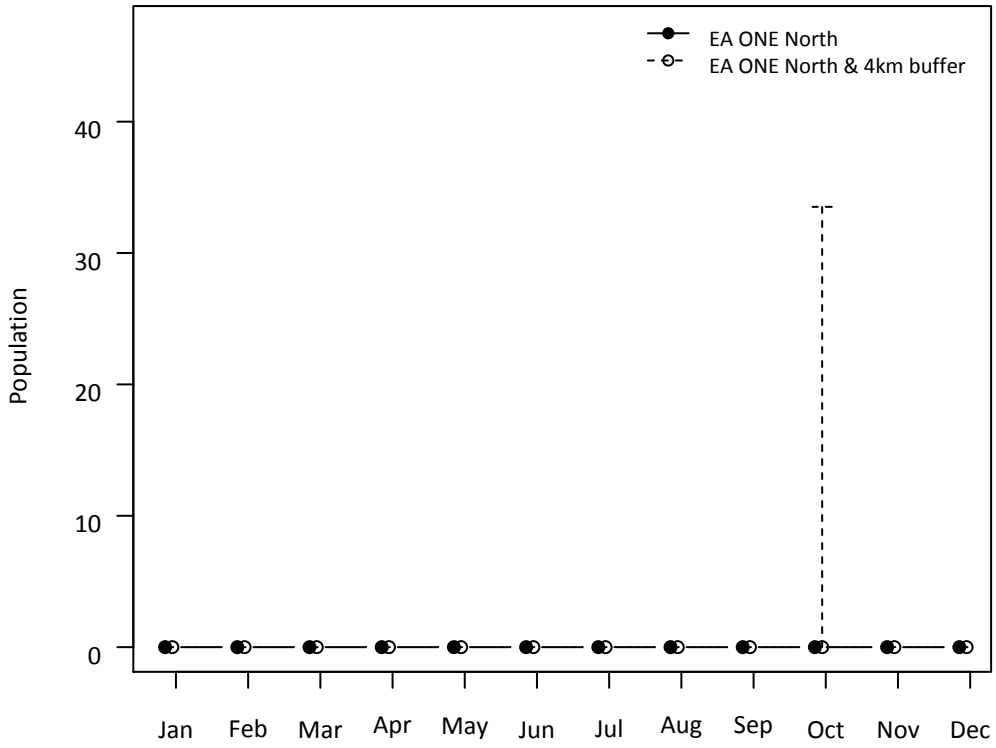


Figure 4. Great Skua. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

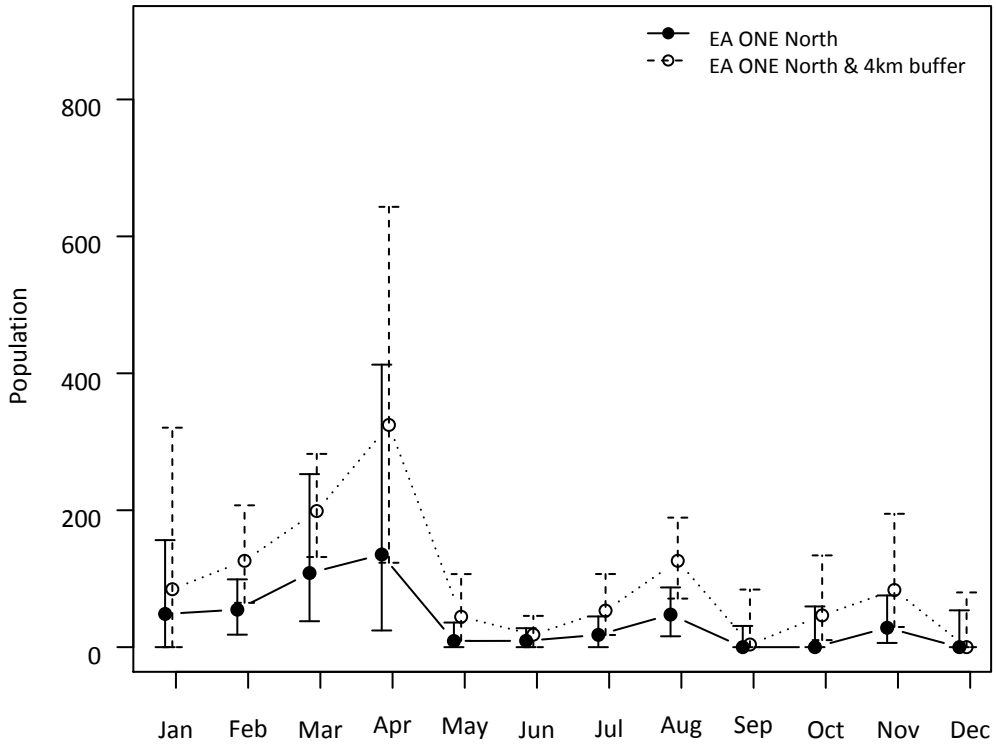


Figure 5. Razorbill. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

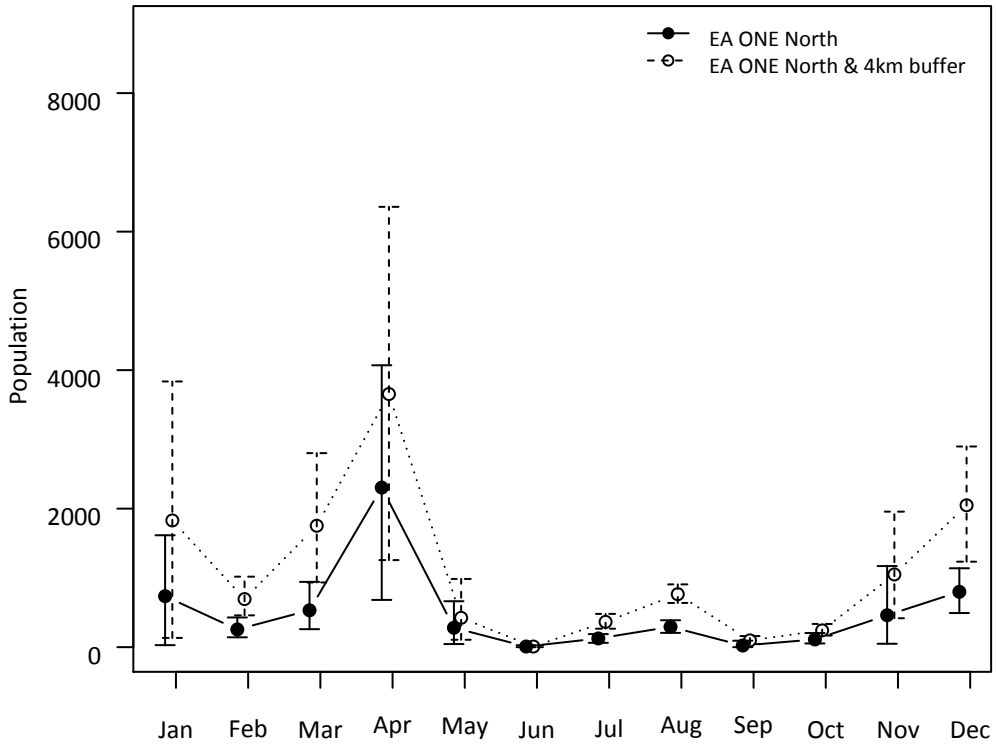


Figure 6. Guillemot. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

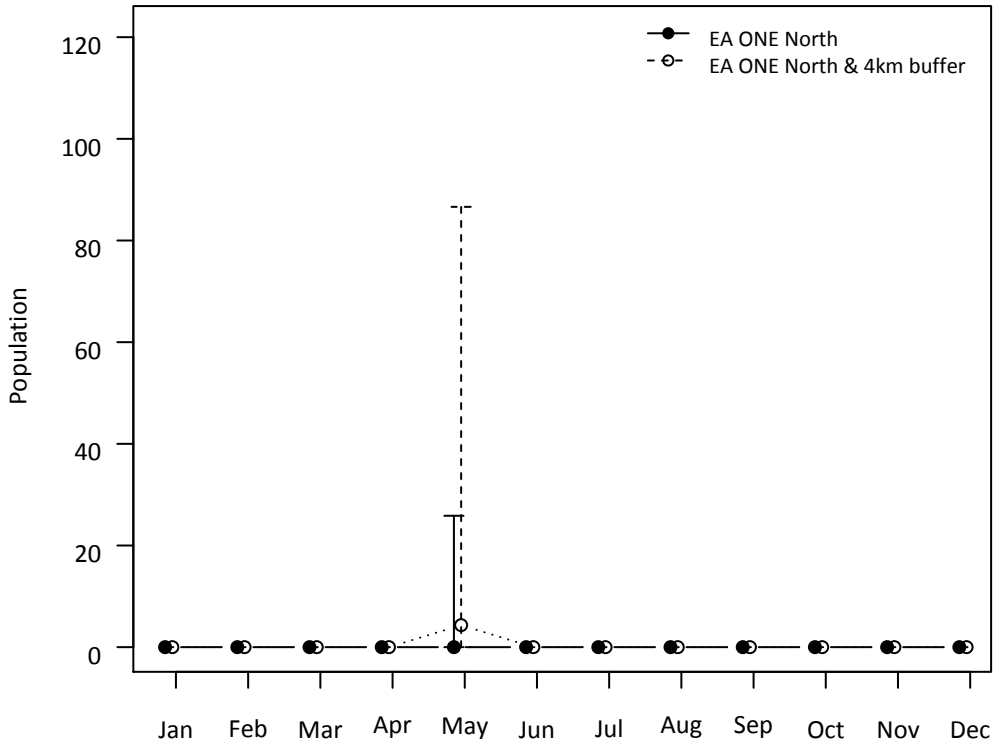


Figure 7. Sandwich Tern. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

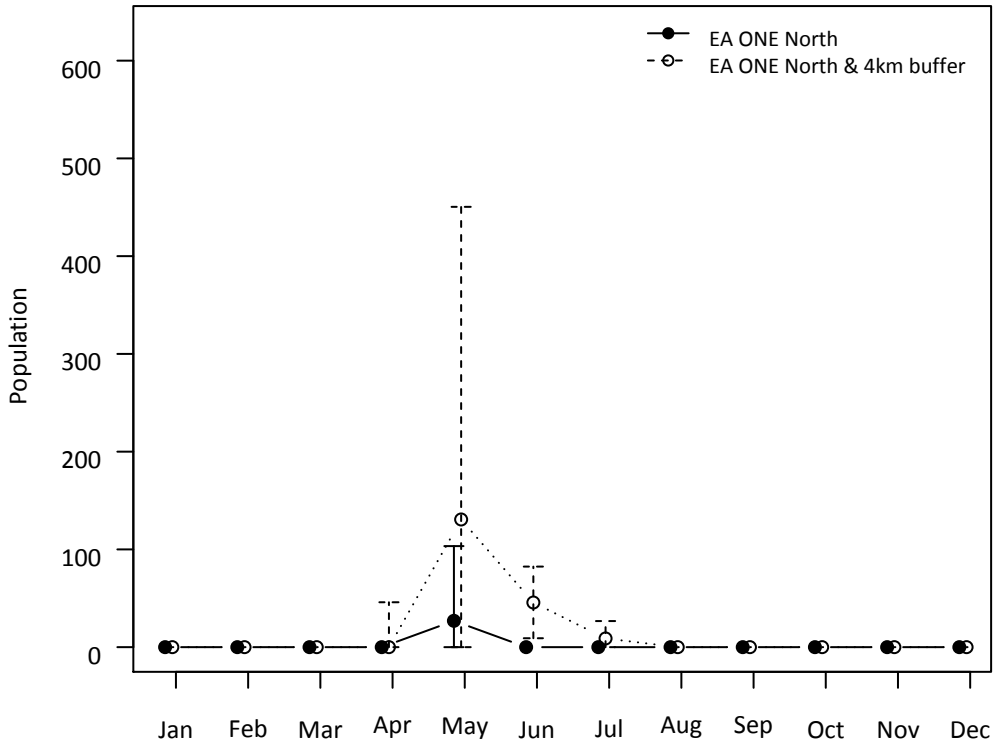


Figure 8. Commic Tern. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

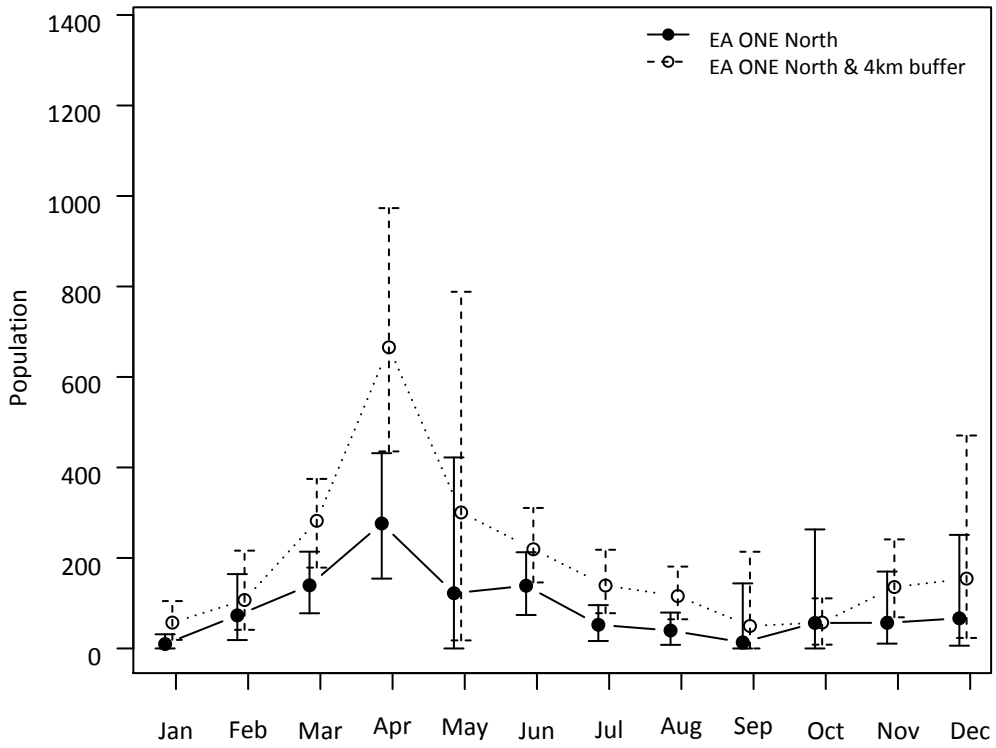


Figure 9. Kittiwake. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

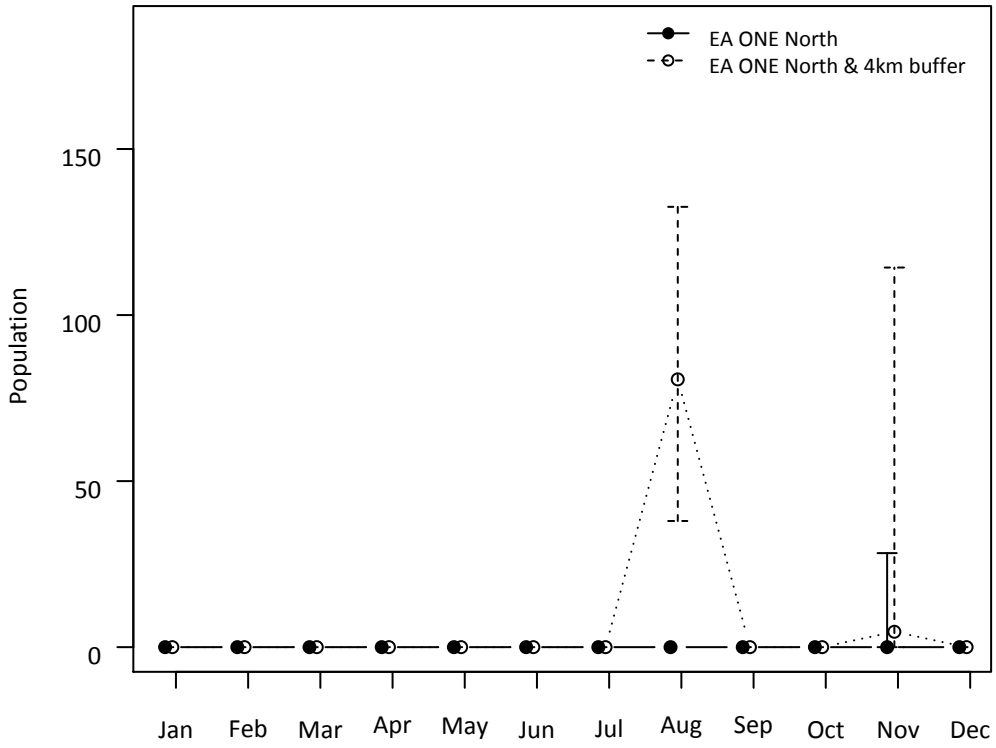


Figure 10. Black-headed Gull. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

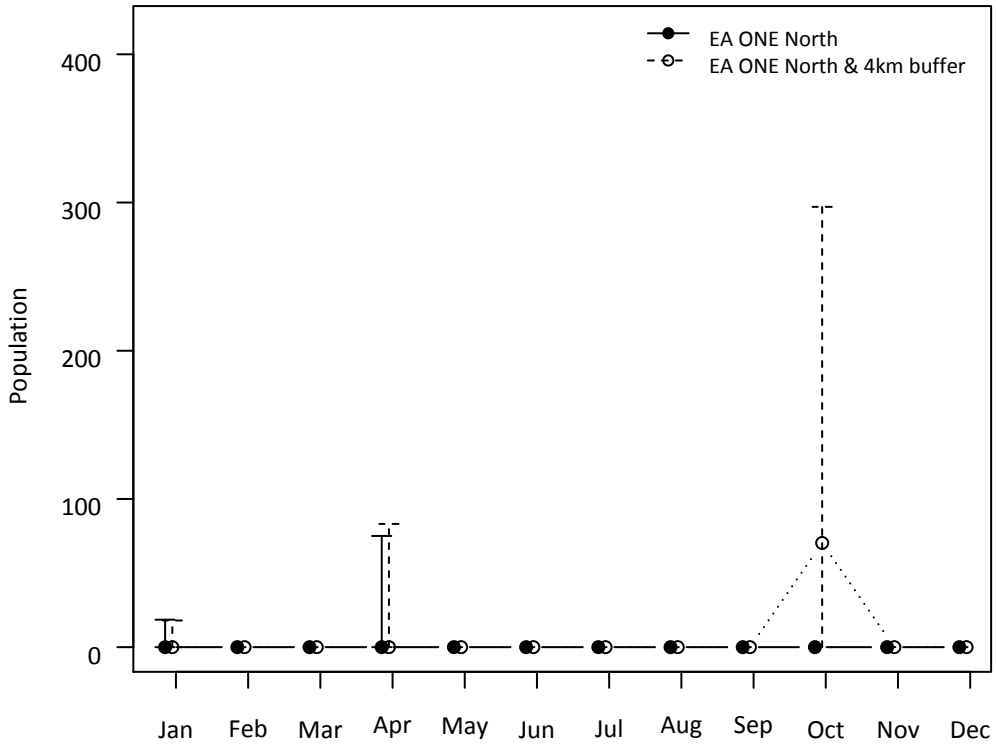


Figure 11. Little Gull. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

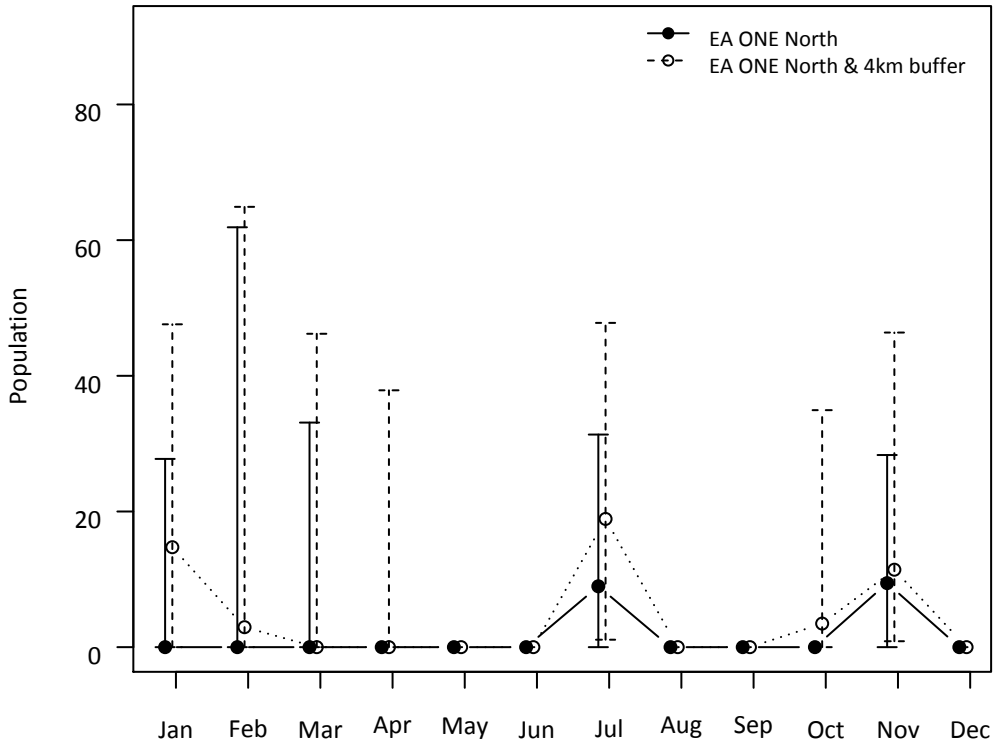


Figure 12. Common Gull. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

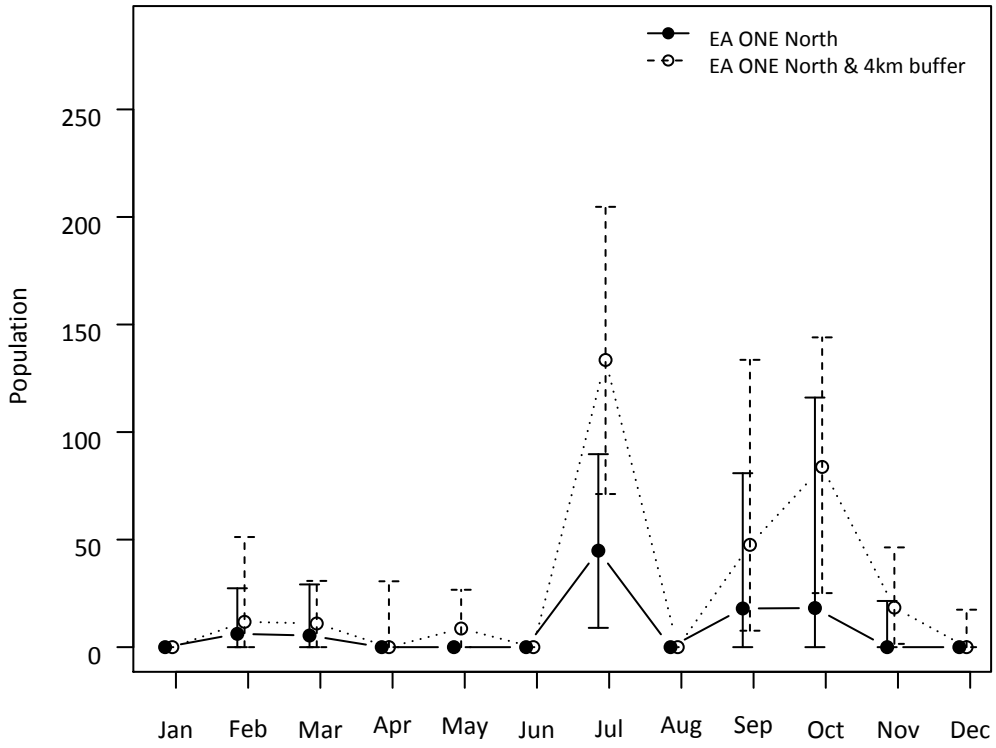


Figure 13. Lesser Black-backed Gull. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

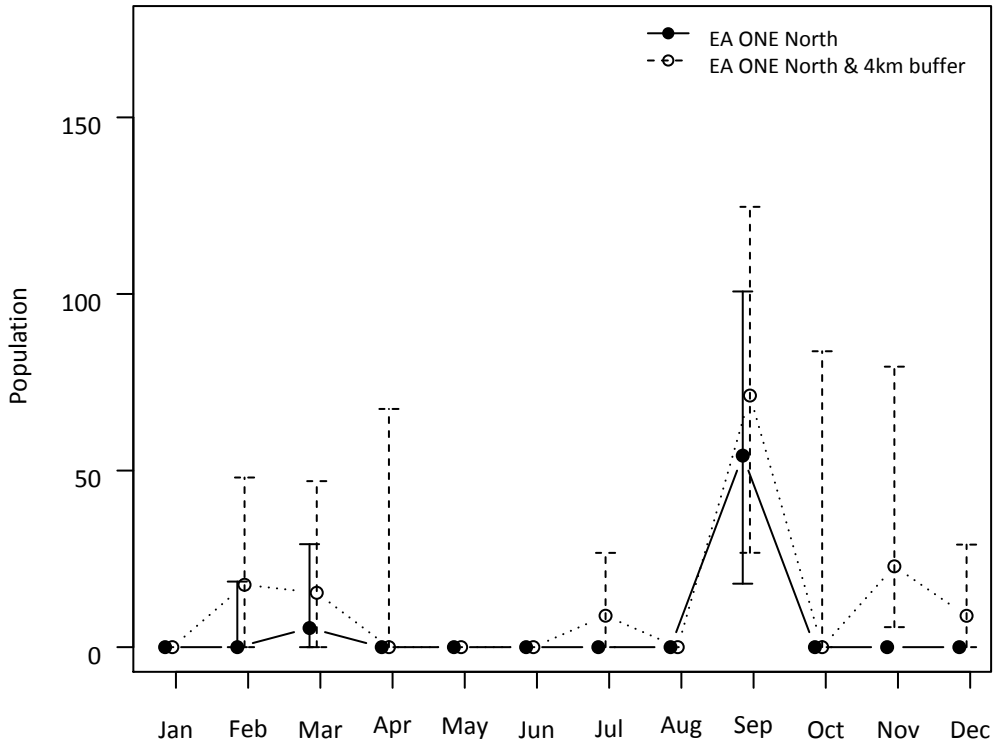


Figure 14. Herring Gull. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

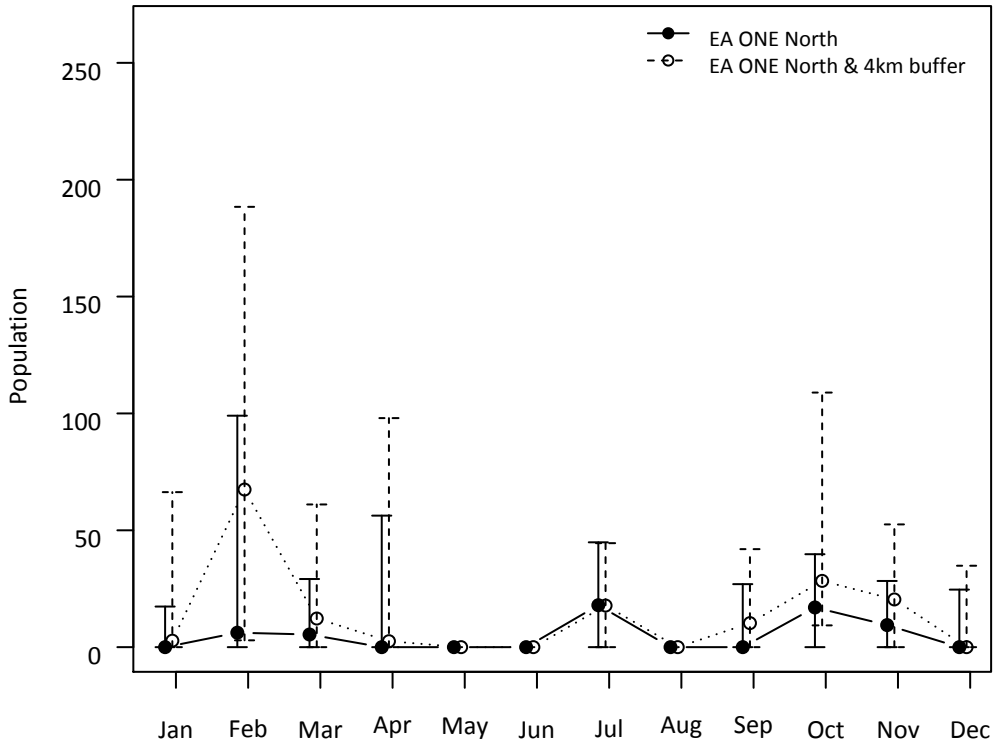


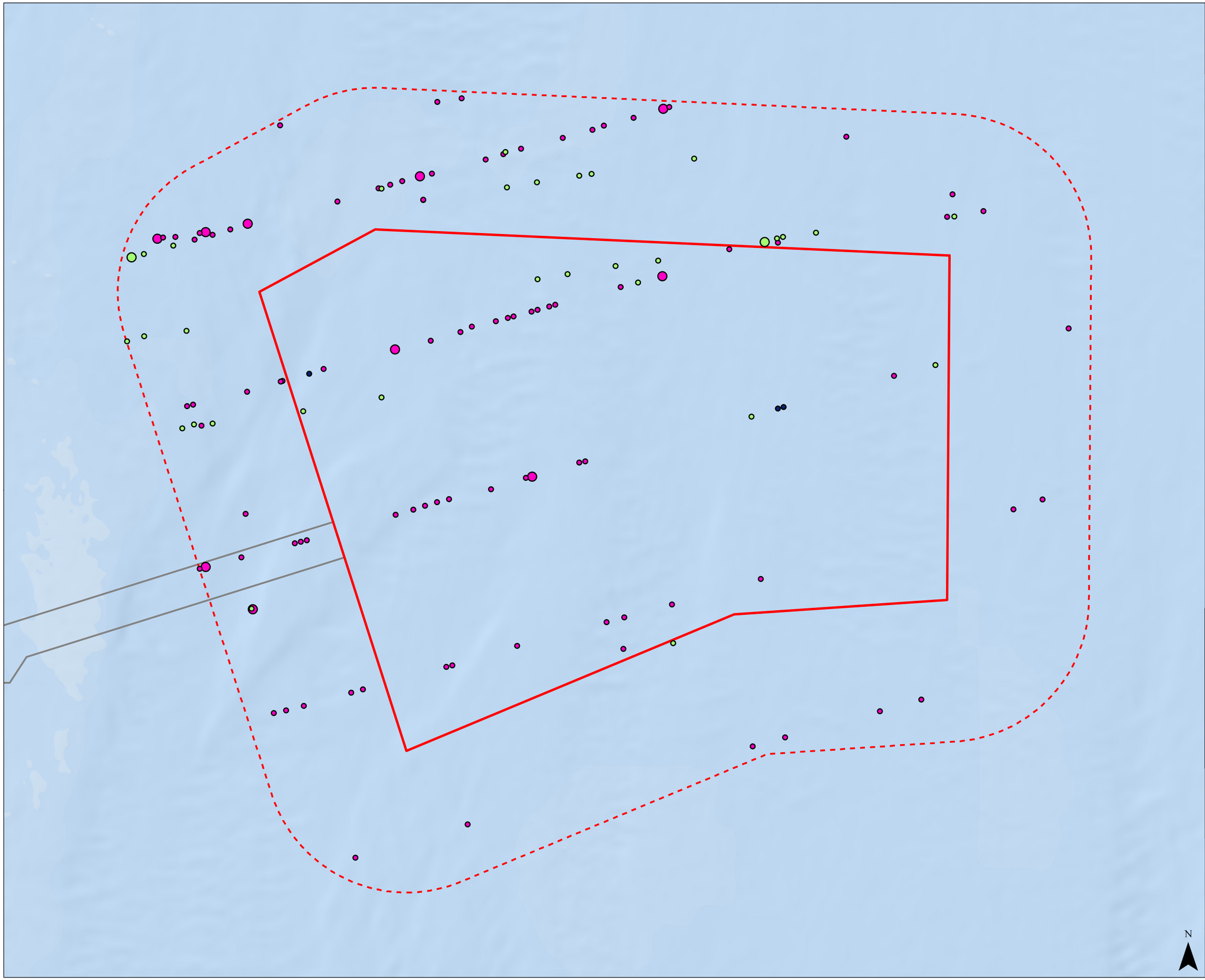
Figure 15. Great Black-backed Gull. Median design based abundance estimates (plus 95% confidence intervals) of birds in flight and on the sea in East Anglia ONE North (filled circles, solid lines) and East Anglia ONE North plus 4km buffer (open circles, dashed lines).

East Anglia ONE North Offshore Windfarm Appendix 12.1 Ornithology Technical Appendix

Annex 7

Figures

Prepared by:	Mark Trinder
Authorised by:	Bob Furness
Date:	24th August 2018
Tel:	0141 342 5404
Email:	mark.trinder@macarthurgreen.com
Web:	www.macarthurgreen.com
Address:	95 South Woodside Road | Glasgow | G20 6NT



SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

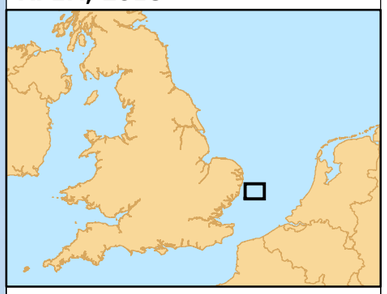
Season [1]

- Autumn Migration
- Winter
- Spring Migration

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**



MacArthur Green

East Anglia ONE North

Figure 12.7.1

Red-throated Diver 2016 - 2018

N

0 2.5 5

km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0

Approved: MT

Checked: BJF

GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.1_RtDiver2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

Season [1]

- Autumn Migration
- Winter
- Spring Migration
- Breeding

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**

MacArthur Green

East Anglia ONE North

Figure 12.7.2

Fulmar 2016 - 2018

N

0 2.5 5 km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA 1N\AppendixFig12.7.2_Fulmar2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

Season [1]

- Autumn Migration
- Spring Migration
- Breeding

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**

MacArthur Green

East Anglia ONE North

Figure 12.7.3

Gannet 2016 - 2018

N

0 2.5 5 km

MAP SCALE: 1:100,000 @ A3

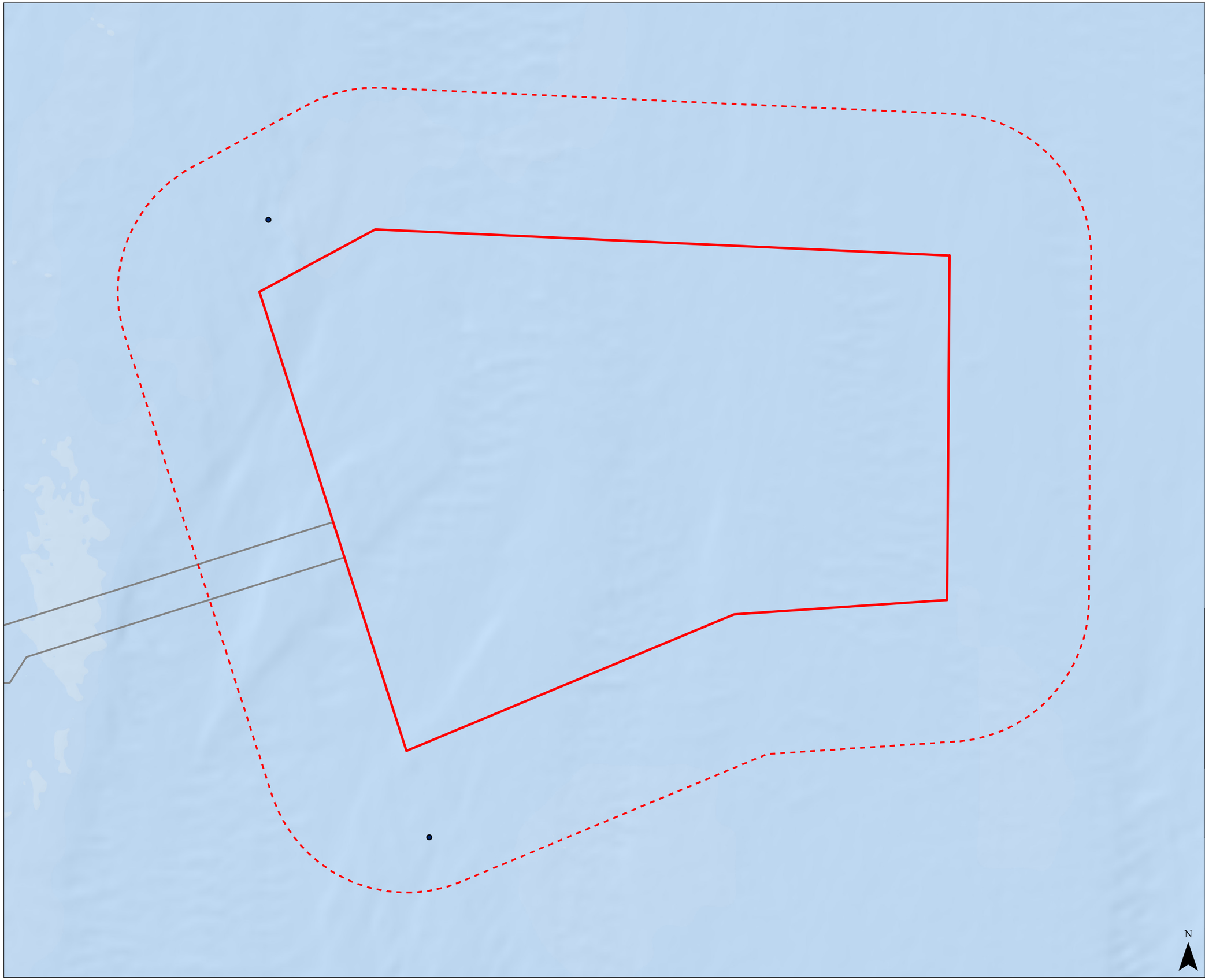
Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1NAppendixFig12.7.3_Gannet2016_2018.mxd



SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

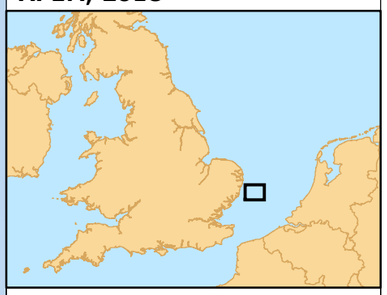
Season [1]

- Autumn migration

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**



MacArthur Green

East Anglia ONE North

Figure 12.7.4

Great Skua 2016 - 2018

N

0 2.5 5 km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.4_GreatSkua2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

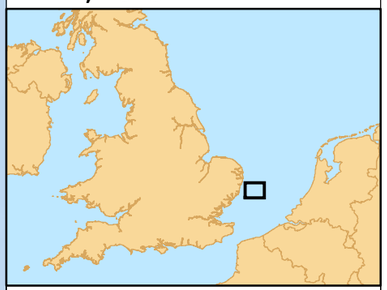
Season [1]

- Autumn Migration
- Winter
- Spring Migration
- Breeding

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**



MacArthur Green

East Anglia ONE North

Figure 12.7.5

Razorbill 2016 - 2018

N

0 2.5 5 km

MAP SCALE: 1:100,000 @ A3

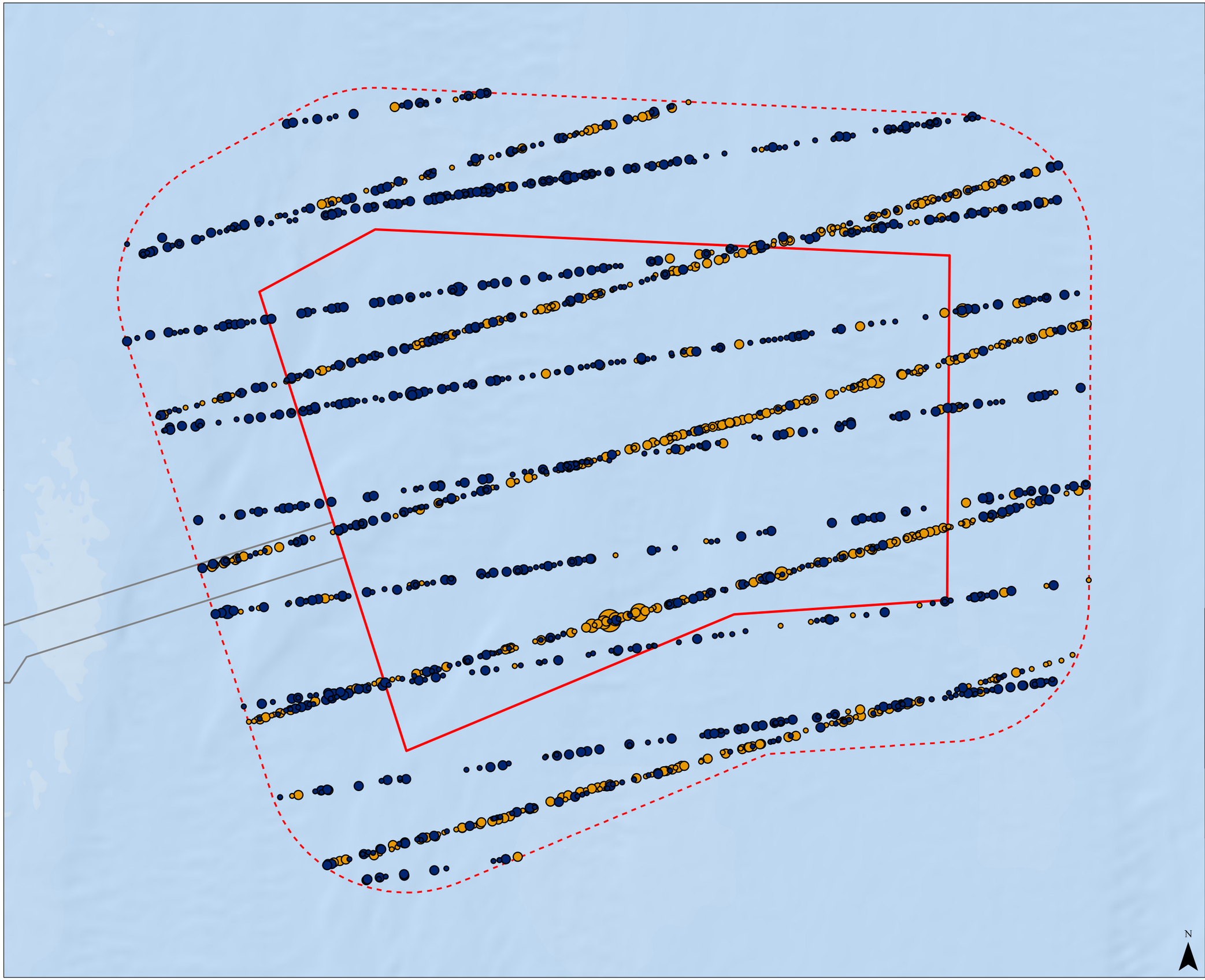
Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.5_Razorbill2016_2018.mxd



SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

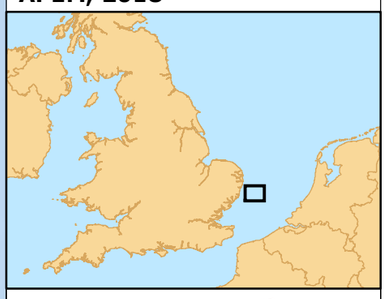
Season [1]

- Nonbreeding
- Breeding

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] APEM, 2018



MacArthur Green

East Anglia ONE North

Figure 12.7.6

Guillemot 2016 - 2018

N

0 2.5 5 km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1NAppendixFig12.7.6_Guillemot2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

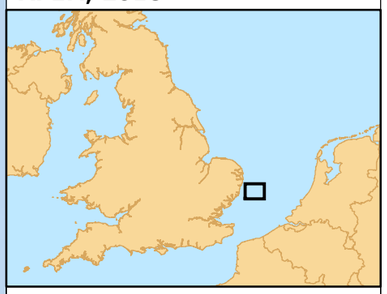
Species[1]

- Guillemot\Razorbill

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**



MacArthur Green

East Anglia ONE North

Figure 12.7.7

Guillemot\Razorbill 2016 - 2018

N

0 2.5 5

km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.7_Guillemot_Razorbill_2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

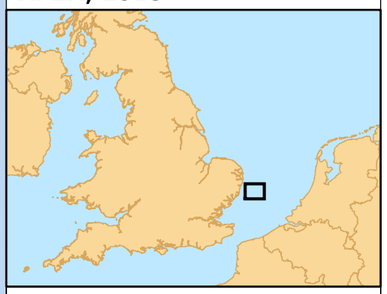
Species[1]

- Commic Tern
- Sandwich Tern
- Tern Species

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**



MacArthur Green

East Anglia ONE North

Figure 12.7.8

Tern Species 2016 - 2018

N

0 2.5 5

km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.8_Tern_Species_2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

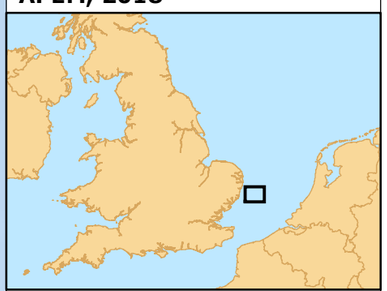
Season [1]

- Autumn Migration
- Spring Migration
- Breeding

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**



MacArthur Green

East Anglia ONE North

Figure 12.7.9

Kittiwake 2016 - 2018

N

0 2.5 5 km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1NAppendix\Fig12.7.9_Kittiwake_Species_2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

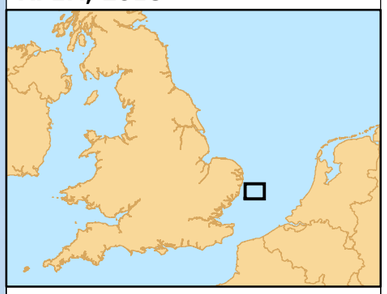
Season [1]

- Black-headed Gull
- Common Gull
- Little Gull

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**



MacArthur Green

East Anglia ONE North

Figure 12.7.10

Small Gull Species 2016 - 2018

N

0 2.5 5

km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.10_Small_Gull_Species_2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

Season [1]

- Autumn Migration
- Winter
- Spring Migration
- Breeding

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**

MacArthur Green

East Anglia ONE North

Figure 12.7.11

Lesser Black-backed Gull 2016 - 2018

N

0 2.5 5 km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHVRHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.11_Lesser Black-backed_Gull_Species_2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

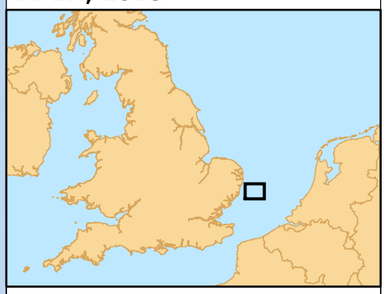
Season [1]

- Nonbreeding
- Breeding

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**



MacArthur Green

East Anglia ONE North

Figure 12.7.12

Herring Gull 2016 - 2018

N

0 2.5 5 km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.12_Herring_Gull_Species_2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

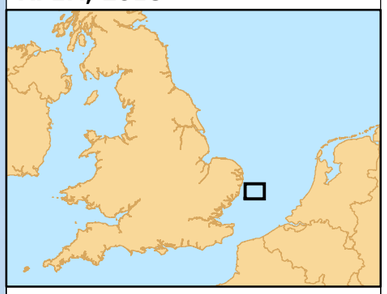
Season [1]

- Nonbreeding
- Breeding

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**



MacArthur Green

East Anglia ONE North

Figure 12.7.13

Great Black-backed Gull 2015 - 2018

N

0 2.5 5

km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHV\RHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.13_Great Black-back Gull_2016_2018.mxd

SCOTTISHPOWER RENEWABLES

Legend:

Count [1]

- 1
- 2 - 10
- 11 - 20
- 21 - 40
- 40 +

Species[1]

- Small Gull Species
- Large Gull Species

Site and Buffer

- East Anglia ONE North Windfarm Site
- East Anglia ONE North Windfarm Site 4km Buffer
- Export Cable Corridor

[1] **APEM, 2018**

MacArthur Green

East Anglia ONE North

Figure 12.7.14

Unidentified Gull Species 2016 - 2018

N

0 2.5 5 km

MAP SCALE: 1:100,000 @ A3

Datum: WGS84, Projection: UTM 31N

Date: 17/01/2019

Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Status: Rev0 Approved: MT Checked: BJF GIS TM: BJF

Document Path: S:\Projects\RHDHVRHDHV 001 EA2 onshore\EA1N\AppendixFig12.7.14_Gull_UnidentifiedSpecies_2016_2018.mxd