



# Arklow Bank Wind Park 2

## Environmental Impact Assessment Report

Volume III, Appendix 12.2: Offshore Ornithology Technical Report -  
Monthly Seabird Density



MacArthur  
Green

## Arklow Bank Wind Park 2

### Technical Appendix 12.02 Offshore Ornithology

### Monthly Seabird Density

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## Document Quality Record

Version	Date	Status	Author	Reviewed by	Approved by
1.0	02/05/2024	Final (External)	MacArthur Green	GoBe Consultants	Sure Partners Limited

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## Glossary

Term	Meaning
Array Area	The Array Area is the area within which the Wind Turbine Generators (WTGs), the Offshore Substation Platforms (OSPs), and associated cables (export, inter-array and interconnector cabling) and foundations will be installed.

## Acronyms

Term	Meaning
c.i.	95% confidence range
JNCC	Joint Nature Conservation Committee

## Units

Unit	Description
Birds/km <sup>2</sup>	Birds per square kilometre (density)
km	Kilometre (distance)

## 1 OFFSHORE ORNITHOLOGY TECHNICAL REPORT: MONTHLY SEABIRD DENSITY

### 1.1 Introduction

1. This Technical Report provides tables of seabird density in each calendar month for each species recorded in the Survey Area (Volume III, Appendix 12.01: Offshore Ornithology – Overview).
2. The tables provide density estimates for species recorded within the Array Area, the Array Area plus 2 km buffer and the Array Area plus 4 km buffer. These have been derived from the complete two-year dataset including 25 surveyed months of survey data (March 2018 to April 2020)<sup>1</sup>.
3. For each species there are three tables (a to c) showing the density of all birds recorded, birds recorded on the sea surface only and birds in flight only in the following sequence:
  - a. Density of all birds recorded (i.e. in flight and on the sea);
  - b. Density of birds recorded in flight only; and
  - c. Density of birds recorded on the sea surface only.
4. A key to the table numbering is provided in Table 12.2.1.

### 1.2 Monthly seabird density

5. For each species, monthly densities are summarised as the mean and 95% confidence range, derived from 1,000 nonparametric bootstrap samples. The upper and lower confidence intervals were calculated by pooling all the bootstrap samples for each month. Thus, for all months except July these have been calculated from 2,000 samples in each month, and for July 3,000 samples were used. The mean was calculated as the average of the individual monthly mean values (i.e. across two estimates for all months except July and across three estimates in July only).
6. Density of birds recorded within the following five high-level species groups (i.e. birds identified to family level, not to species) are also presented in this appendix:
  - Arctic/common tern;
  - Large auk species (guillemot and razorbill);
  - Cormorant or shag;
  - Diver species (red-throated diver, black-throated diver, great northern diver); and
  - Small gull species (common gull, black-headed gull, little gull, kittiwake).
7. For guillemot and razorbill, adjustment was made to account for availability bias, with the number 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 the Joint Nature Conservation Committee (JNCC) (Allen, 2013): 1.316 (24%) and 1.204 (17%) for

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<sup>1</sup> Twenty-five aerial surveys were carried out; three surveys in July and two in every other calendar month.

guillemot and razorbill respectively, to account for estimates that 24% and 17% of these species respectively are underwater at any given time.

**Table 12.2.1: Key to species density tables. Each table is provided as ‘a’ ‘b’ or ‘c’ for density of all birds in flight and on the sea, in flight only or on the sea only respectively.**

Species	All birds in flight and on sea	In flight	On sea
Arctic skua	12.2.1 a	12.2.1 b	12.2.1 c
Arctic tern	12.2.2 a	12.2.2 b	12.2.1 c
Arctic/common tern	12.2.3 a	12.2.3 b	12.2.3 c
Auk species	12.2.4 a	12.2.4 b	12.2.4 c
Black headed gull	12.2.5 a	12.2.5 b	12.5.1 c
Common gull	12.2.6 a	12.2.6 b	12.2.6 c
Common scoter	12.2.7 a	12.2.7 b	12.2.7 c
Common tern	12.2.8 a	12.2.8 b	12.2.8 c
Cormorant	12.2.9 a	12.2.9 b	12.2.9 c
Cormorant/shag species	12.2.10 a	12.2.10 b	12.2.10 c
Diver species	12.2.11 a	12.2.11 b	12.2.11 c
Fulmar	12.2.12 a	12.2.12 b	12.2.12 c
Gannet	12.2.13 a	12.2.13 b	12.2.13 c
Great black-backed gull	12.2.14 a	12.2.14 b	12.2.14 c
Great northern diver	12.2.15 a	12.2.15 b	12.2.15 c
Guillemot	12.2.16 a	12.2.16 b	12.2.16 c
Herring gull	12.2.17 a	12.2.17 b	12.2.17 c
Kittiwake	12.2.18 a	12.2.18 b	12.2.18 c
Lesser black-backed gull	12.2.19 a	12.2.19 b	12.2.19 c
Little gull	12.2.20 a	12.2.20 b	12.2.20 c
Manx shearwater	12.2.21 a	12.2.21 b	12.2.21 c
Puffin	12.2.22 a	12.2.22 b	12.2.22 c
Razorbill	12.2.23 a	12.2.23 b	12.2.23 c
Red-throated diver	12.2.24 a	12.2.24 b	12.2.24 c
Sandwich tern	12.2.25 a	12.2.25 b	12.2.25 c
Shag	12.2.26 a	12.2.26 b	12.2.26 c
Small gull species	12.2.27 a	12.2.27 b	12.2.27 c

**Table 12.2.1 a: Arklow Bank. Design-based estimates of Arctic skua density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0.03	0-0.09
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.1 b: Arklow Bank. Design-based estimates of Arctic skua density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0.03	0-0.10
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.1 c: Arklow Bank. Design-based estimates of Arctic skua density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.2 a: Arklow Bank. Design-based estimates of Arctic tern density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	3.79	0.8-8.54	1.52	0.46-3.22	0.89	0.36-2.20
May	4.40	1.27-8.73	1.80	0.73-3.36	1.08	0.44-2.08
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	49.89	12.78-84.55	17.13	5.69-32.11	10.39	5.23-19.65
Sep	0.47	0.07-1.12	0.66	0.24-1.31	0.60	0.2-1.06
Oct	0.31	0-0.74	0.10	0.03-0.23	0.07	0-0.17
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.2 b: Design-based estimates of Arctic tern density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	3.79	0.61-9.80	1.52	0.5-3.26	0.89	0.28-2.04
May	1.39	0.38-3.06	0.80	0.31-1.44	0.53	0.26-0.86
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	25.33	11.11-41.47	8.98	4-17.20	5.34	1.94-8.48
Sep	0.47	0-1.16	0.66	0.24-1.11	0.60	0.25-1.15
Oct	0.31	0-0.74	0.10	0.01-0.20	0.07	0-0.16
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.2 c: Arklow Bank. Design-based estimates of Arctic tern density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	3.01	0-7.38	1.00	0-2.22	0.56	0-1.36
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	24.56	2.07-57.70	8.16	1.04-20.46	5.05	0.90-12.17
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.3 a: Arklow Bank. Design-based estimates of Arctic/common tern density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	2.94	0.19-8.07	1.10	0.13-2.94	0.66	0.1-1.69
May	2.32	0.31-5.03	0.98	0.24-1.85	0.63	0.22-1.16
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0.06	0-0.17
Aug	8.34	3.54-13.71	3.16	1.47-5.25	1.84	0.82-3.31
Sep	1.24	0.31-2.66	0.95	0.34-1.61	0.60	0.26-0.98
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.3 b: Arklow Bank. Design-based estimates of Arctic/common tern density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0.54	0.07-1.00	0.30	0.13-0.54	0.21	0.09-0.38
May	1.47	0.07-3.22	0.66	0.14-1.37	0.46	0.17-0.88
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0.06	0-0.17
Aug	3.94	1.74-6.76	1.56	0.80-2.52	0.96	0.46-1.55
Sep	0.78	0.12-1.74	0.74	0.18-1.46	0.47	0.17-0.84
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.3 c: Arklow Bank. Design-based estimates of Arctic/common tern density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	2.40	0-7.18	0.80	0-2.81	0.44	0-1.33
May	0.85	0-2.4	0.30	0-0.88	0.17	0-0.62
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	4.40	0.92-9.04	1.59	0.27-3.33	0.88	0.21-1.90
Sep	0.47	0-1.39	0.20	0.05-0.42	0.13	0.01-0.30
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.4 a: Arklow Bank. Design-based estimates of Auk species density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	15.06	8.21-23.11	6.03	3.84-9.26	3.42	2.06-5.73
Feb	5.95	2.66-9.86	2.02	0.87-3.87	1.21	0.64-2.10
Mar	0.07	0-0.23	0.05	0-0.13	0.03	0-0.07
Apr	0.07	0-0.23	0.16	0.01-0.34	0.18	0.09-0.31
May	0.38	0-1.01	0.46	0.13-0.81	0.34	0.14-0.55
Jun	0.47	0-1.31	0.20	0.03-0.48	0.13	0.01-0.32
Jul	0.41	0.02-0.90	0.39	0.14-0.73	0.44	0.23-0.68
Aug	0.92	0.15-1.90	0.64	0.19-1.23	0.70	0.34-1.06
Sep	1.08	0.11-2.70	0.70	0.28-1.43	0.60	0.28-0.97
Oct	1.08	0.31-1.85	0.87	0.46-1.23	0.74	0.49-1.01
Nov	4.02	1.31-7.54	2.18	1.16-3.58	1.60	0.81-2.36
Dec	2.78	0.96-5.8	1.46	0.55-2.59	0.96	0.44-1.68

**Table 12.2.4 b: Arklow Bank. Design-based estimates of Auk species density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.23	0-0.78	0.13	0-0.33	0.10	0.03-0.22
Feb	0.23	0-0.54	0.10	0-0.30	0.06	0-0.16
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0.03	0-0.10
May	0.16	0-0.47	0.13	0-0.28	0.09	0.01-0.22
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0.01	0-0.04
Oct	0.31	0-0.93	0.10	0-0.31	0.14	0.03-0.30
Nov	0.54	0-1.59	0.23	0-0.52	0.17	0.03-0.40
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.4 c: Arklow Bank. Design-based estimates of Auk species density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	14.82	7.8-22.22	5.90	3.42-8.89	3.33	2.03-5.29
Feb	5.72	2.12-10.27	1.93	0.77-3.68	1.16	0.52-1.84
Mar	0.07	0-0.23	0.05	0-0.16	0.03	0-0.07
Apr	0.07	0-0.23	0.16	0.03-0.33	0.16	0.06-0.29
May	0.23	0-0.62	0.33	0.09-0.69	0.26	0.1-0.48
Jun	0.47	0-1.24	0.20	0-0.58	0.13	0.01-0.30
Jul	0.41	0.05-0.93	0.39	0.14-0.68	0.44	0.22-0.69
Aug	0.92	0.23-1.90	0.64	0.22-1.36	0.70	0.39-1.23
Sep	1.08	0.15-2.59	0.70	0.21-1.23	0.58	0.27-0.98
Oct	0.77	0.23-1.32	0.77	0.41-1.08	0.60	0.34-0.86
Nov	3.47	1.35-6.62	1.95	0.97-3.04	1.42	0.81-2.22
Dec	2.78	0.78-5.44	1.46	0.48-2.51	0.96	0.48-1.50

**Table 12.2.5 a: Arklow Bank. Design-based estimates of Black-headed gull density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	8.50	2.18-16.82	3.05	1.02-6.44	1.75	0.54-3.00
Feb	9.27	2.28-19.08	3.15	1.17-6.47	1.81	0.38-3.74
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0.07	0-0.23	0.13	0.03-0.27	0.09	0.02-0.21
Aug	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Sep	0	0-0	0	0-0	0	0-0
Oct	1.00	0.16-2.12	0.34	0.07-0.67	0.22	0.04-0.42
Nov	8.88	1.89-20.51	3.59	1.01-6.81	2.48	0.96-4.64
Dec	7.11	0.84-19.95	2.44	0.4-6.72	1.46	0.26-3.45

**Table 12.2.5 b: Arklow Bank. Design-based estimates of Black-headed gull density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	6.49	1.85-13.71	2.39	0.66-4.39	1.37	0.49-2.88
Feb	5.72	1.08-12.87	1.97	0.49-4.28	1.16	0.34-2.40
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0.07	0-0.27	0.13	0.01-0.28	0.09	0.01-0.17
Aug	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Sep	0	0-0	0	0-0	0	0-0
Oct	0.85	0.16-1.85	0.28	0.05-0.70	0.18	0.04-0.47
Nov	2.78	0.65-5.64	1.51	0.58-2.73	0.96	0.42-1.56
Dec	6.88	1.03-18.44	2.36	0.48-5.32	1.42	0.26-3.29

**Table 12.2.5 c: Arklow Bank. Design-based estimates of Black-headed gull density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	2.01	0.23-4.68	0.66	0.06-1.25	0.37	0.03-0.8
Feb	3.55	0.77-7.22	1.18	0.27-2.38	0.66	0.1-1.29
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0.16	0-0.39	0.05	0-0.13	0.03	0-0.09
Nov	6.10	0.34-13.87	2.08	0.28-4.38	1.52	0.22-3.40
Dec	0.23	0-0.70	0.07	0-0.23	0.04	0-0.13

**Table 12.2.6 a: Arklow Bank. Design-based estimates of Common gull density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	26.88	3.32-78.50	11.49	1.32-25.39	6.56	1.14-15.68
Feb	34.44	11.07-80.61	11.44	3.5-23.20	6.41	1.53-12.84
Mar	0.23	0-0.70	0.12	0-0.36	0.10	0.01-0.22
Apr	0.54	0.04-1.16	0.18	0-0.44	0.10	0.01-0.20
May	0	0-0	0.07	0-0.23	0.04	0-0.13
Jun	0.46	0-1.17	0.15	0-0.46	0.09	0-0.26
Jul	0	0-0	0.03	0-0.07	0.01	0-0.04
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	6.10	2.43-10.86	2.98	1.4-4.99	1.75	0.79-3.08
Dec	7.80	0.54-21.20	2.80	0.34-7.19	1.80	0.39-4.16

**Table 12.2.6 b: Arklow Bank. Design-based estimates of Common gull density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	9.73	1.47-20.40	5.80	0.60-16.88	3.40	0.45-7.68
Feb	26.41	7.44-49.72	8.77	3.46-16.36	4.91	1.16-8.70
Mar	0.07	0-0.23	0.07	0.01-0.16	0.07	0.03-0.14
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0.46	0-1.39	0.15	0-0.54	0.09	0-0.26
Jul	0	0-0	0.03	0-0.07	0.01	0-0.04
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	2.94	0.92-6.38	1.82	0.80-3.03	1.10	0.57-1.69
Dec	7.26	0.42-20.20	2.59	0.27-6.71	1.69	0.29-4.14

**Table 12.2.6 c: Arklow Bank. Design-based estimates of Common gull density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	17.14	1.59-49.97	5.70	0.64-18.53	3.17	0.24-10.30
Feb	8.04	0.52-19.98	2.66	0.49-6.06	1.50	0.12-3.41
Mar	0.16	0-0.47	0.05	0-0.16	0.03	0-0.09
Apr	0.54	0.04-1.51	0.18	0.05-0.42	0.10	0.01-0.26
May	0	0-0	0.07	0-0.27	0.04	0-0.15
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	3.16	0.31-6.50	1.16	0.16-2.29	0.66	0.14-1.05
Dec	0.54	0-1.43	0.20	0-0.50	0.12	0-0.31

**Table 12.2.7 a: Arklow Bank. Design-based estimates of Common scoter density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.15	0-0.50	0.05	0-0.18	0.03	0-0.09
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0.03	0-0.09
May	0	0-0	0	0-0	0	0-0
Jun	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0.03	0-0.07
Nov	0	0-0	0	0-0	0	0-0
Dec	0.31	0-0.86	0.10	0-0.22	0.06	0-0.14

**Table 12.2.7 b: Arklow Bank. Design-based estimates of Common scoter density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0.01	0-0.04
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.7 c: Arklow Bank. Design-based estimates of Common scoter density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.15	0-0.54	0.05	0-0.15	0.03	0-0.10
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0.03	0-0.09
May	0	0-0	0	0-0	0	0-0
Jun	0.15	0-0.46	0.05	0-0.15	0.03	0-0.10
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0.01	0-0.04
Nov	0	0-0	0	0-0	0	0-0
Dec	0.31	0-0.96	0.10	0-0.3	0.06	0-0.13

**Table 12.2.8 a: Arklow Bank. Design-based estimates of Common tern density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	1	0.38-1.85	0.51	0.24-0.84	0.40	0.2-0.68
May	0	0-0	0	0-0	0.01	0-0.05
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0.06	0-0.17
Aug	13.44	6.25-20.55	4.87	2.66-7.47	3.23	1.92-4.98
Sep	1.70	0.38-3.09	2.72	1.1-5.08	2.43	0.61-4.91
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.8 b: Arklow Bank. Design-based estimates of Common tern density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	1	0.47-1.85	0.46	0.23-0.79	0.37	0.20-0.60
May	0	0-0	0	0-0	0.01	0-0.04
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0.06	0-0.23
Aug	11.74	4.54-20.25	4.31	2.13-7.06	2.91	1.63-4.83
Sep	1.70	0.46-2.93	2.72	0.87-5.21	2.43	0.40-4.82
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.8 c: Arklow Bank. Design-based estimates of Common tern density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0.05	0-0.16	0.03	0-0.09
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	1.70	0.15-4.41	0.56	0.05-1.21	0.31	0.03-0.72
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.9 a: Arklow Bank. Design-based estimates of Cormorant density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Feb	0	0-0	0.03	0-0.07	0.01	0-0.04
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0.03	0-0.09
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0.07	0-0.23	0.03	0-0.09	0.01	0-0.04
Oct	0.16	0-0.47	0.05	0-0.20	0.03	0-0.09
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.9 b: Arklow Bank. Design-based estimates of Cormorant density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0.16	0-0.47	0.05	0-0.16	0.03	0-0.09
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.9 c: Arklow Bank. Design-based estimates of Cormorant density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Feb	0	0-0	0.03	0-0.07	0.01	0-0.04
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0.03	0-0.09
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.10 a: Arklow Bank. Design-based estimates of Cormorant/shag density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09
Apr	0	0-0	0	0-0	0.03	0-0.09
May	0.15	0-0.62	0.05	0-0.18	0.03	0-0.11
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0.15	0-0.46	0.05	0-0.21	0.03	0-0.09

**Table 12.2.10 b: Arklow Bank. Design-based estimates of Cormorant/shag density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.10 c: Arklow Bank. Design-based estimates of Cormorant/shag density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0.15	0-0.46	0.05	0-0.15	0.03	0-0.10
Apr	0	0-0	0	0-0	0.03	0-0.09
May	0.15	0-0.39	0.05	0-0.13	0.03	0-0.11
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09

**Table 12.2.11 a: Arklow Bank. Design-based estimates of Diver species density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0.31	0-0.93	0.10	0-0.31	0.09	0-0.26
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.11 b: Arklow Bank. Design-based estimates of Diver species density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.11 c: Arklow Bank. Design-based estimates of Diver species density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0.31	0-0.93	0.10	0-0.31	0.09	0-0.24
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.12 a: Arklow Bank. Design-based estimates of Fulmar density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0.06	0-0.17
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0.07	0-0.23	0.05	0-0.15	0.04	0-0.11
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0.01	0-0.04
Jul	0	0-0	0.05	0-0.12	0.03	0-0.07
Aug	0	0-0	0.1	0-0.26	0.06	0-0.13
Sep	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.12 b: Arklow Bank. Design-based estimates of Fulmar density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0.07	0-0.23	0.05	0-0.16	0.04	0-0.11
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0.03	0-0.07	0.01	0-0.04
Aug	0	0-0	0.05	0-0.18	0.03	0-0.11
Sep	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.12 c: Arklow Bank. Design-based estimates of Fulmar density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0.06	0-0.20
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0.01	0-0.04
Jul	0	0-0	0.03	0-0.07	0.01	0-0.04
Aug	0	0-0	0.05	0-0.15	0.03	0-0.09
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.13 a: Arklow Bank. Design-based estimates of Gannet density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.07	0-0.23	0.05	0-0.12	0.04	0-0.12
Feb	0	0-0	0	0-0	0	0-0
Mar	0.15	0-0.46	0.05	0-0.15	0.09	0-0.20
Apr	0	0-0	0.46	0-1.29	0.26	0-0.85
May	0	0-0	0.03	0-0.05	0.03	0-0.08
Jun	0.30	0-0.81	0.12	0-0.31	0.10	0.01-0.22
Jul	0.15	0-0.44	0.08	0-0.25	0.07	0-0.17
Aug	0.47	0.07-0.96	0.23	0.07-0.45	0.17	0.05-0.32
Sep	0.16	0-0.38	0.16	0.04-0.28	0.15	0.01-0.32
Oct	0.54	0-1.35	0.21	0-0.50	0.18	0.04-0.33
Nov	0.31	0-0.77	0.10	0-0.26	0.06	0-0.13
Dec	0.31	0-0.77	0.16	0-0.32	0.12	0.02-0.25

**Table 12.2.13 b: Arklow Bank. Design-based estimates of Gannet density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.07	0-0.23	0.05	0-0.13	0.04	0-0.12
Feb	0	0-0	0	0-0	0	0-0
Mar	0.15	0-0.46	0.05	0-0.18	0.09	0-0.21
Apr	0	0-0	0.46	0-1.47	0.26	0-0.73
May	0	0-0	0.03	0-0.07	0.03	0-0.07
Jun	0.23	0-0.74	0.10	0-0.31	0.08	0.01-0.22
Jul	0.15	0-0.39	0.08	0-0.21	0.07	0-0.15
Aug	0.23	0-0.58	0.13	0.03-0.26	0.09	0.03-0.16
Sep	0.07	0-0.27	0.10	0.01-0.24	0.12	0.01-0.30
Oct	0.38	0-0.92	0.12	0.03-0.27	0.12	0.01-0.22
Nov	0	0-0	0	0-0	0	0-0
Dec	0.15	0-0.46	0.10	0-0.26	0.06	0-0.16

**Table 12.2.13 c: Arklow Bank. Design-based estimates of Gannet density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0.07	0-0.27	0.03	0-0.07	0.01	0-0.04
Jul	0	0-0	0	0-0	0	0-0
Aug	0.23	0-0.47	0.10	0.03-0.22	0.09	0.04-0.16
Sep	0.07	0-0.23	0.05	0-0.14	0.03	0-0.06
Oct	0.15	0-0.50	0.08	0-0.21	0.07	0-0.18
Nov	0.31	0-0.77	0.10	0-0.26	0.06	0-0.13
Dec	0.15	0-0.43	0.05	0-0.18	0.06	0.01-0.14

**Table 12.2.14 a: Arklow Bank. Design-based estimates of Great black-backed gull density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.31	0-0.77	0.1	0-0.23	0.06	0-0.14
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0.03	0-0.09	0.01	0-0.04
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0.01	0-0.04
Aug	0	0-0	0	0-0	0	0-0
Sep	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Oct	0	0-0	0	0-0	0.01	0-0.04
Nov	0.23	0-0.7	0.07	0-0.23	0.04	0-0.13
Dec	0.07	0-0.23	0.05	0-0.18	0.03	0-0.09

**Table 12.2.14 b: Arklow Bank. Design-based estimates of Great black-backed gull density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.15	0-0.46	0.05	0-0.15	0.03	0-0.10
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0.03	0-0.07	0.01	0-0.04
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0.01	0-0.04
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0.01	0-0.04
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.14 c: Arklow Bank. Design-based estimates of Great black-backed gull density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.15	0-0.46	0.05	0-0.21	0.03	0-0.09
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Oct	0	0-0	0	0-0	0	0-0
Nov	0.23	0-0.70	0.07	0-0.23	0.04	0-0.13
Dec	0.07	0-0.23	0.05	0-0.15	0.03	0-0.10

**Table 12.2.15 a: Arklow Bank. Design-based estimates of Great northern diver density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.15	0-0.46	0.05	0-0.15	0.06	0-0.13
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09

**Table 12.2.15 b: Arklow Bank. Design-based estimates of Great northern diver density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.15 c: Arklow Bank. Design-based estimates of Great northern diver density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.15	0-0.46	0.05	0-0.15	0.06	0-0.11
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0.15	0-0.46	0.05	0-0.21	0.03	0-0.09

**Table 12.2.16 a: Arklow Bank. Design-based estimates of Guillemot density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	64.83	43.27-98.39	26.06	18.12-35.52	15.05	10.22-21.98
Feb	24.39	10.6-43.33	9.79	4.35-15.93	5.94	3.34-9.32
Mar	0.20	0-0.51	0.24	0.06-0.47	0.20	0.07-0.36
Apr	1.83	0.61-3.20	1.52	0.96-2.23	1.64	1.05-2.35
May	11.38	6.45-17.19	15.56	11.37-20.56	18.10	13.24-25.21
Jun	0.81	0.05-1.98	0.78	0.34-1.35	0.88	0.48-1.34
Jul	8.47	5.04-12.81	10.31	7.18-13.18	11.97	9.61-15.37
Aug	32.21	21.02-45.76	25.41	18.55-32.92	22.09	17.72-26.83
Sep	14.33	8.22-22.55	13.54	10.46-16.80	14.04	11.50-17.27
Oct	16.87	9.2-26.70	11.00	6.44-16.02	9.56	6.86-13.06
Nov	28.96	13.25-51.46	24.44	17.02-34.35	17.72	12.40-24.26
Dec	9.35	3.55-16.87	5.03	2.62-8.37	3.43	2.18-4.93

**Table 12.2.16 b: Arklow Bank. Design-based estimates of Guillemot density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	4.57	1.52-8.23	3.18	1.50-5.26	1.92	1.12-3.05
Feb	0.20	0-0.51	0.20	0.06-0.42	0.17	0.04-0.30
Mar	0	0-0	0	0-0	0	0-0
Apr	0.30	0-0.71	0.14	0-0.33	0.17	0.06-0.34
May	1.02	0.30-2.19	0.64	0.3-1.04	0.78	0.36-1.08
Jun	0	0-0	0.04	0-0.10	0.07	0-0.18
Jul	0.41	0-0.98	0.16	0.02-0.34	0.16	0.04-0.32
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0.13	0-0.34	0.08	0-0.18
Nov	3.35	1.22-7.27	1.28	0.48-2.42	0.82	0.35-1.42
Dec	0.41	0-0.92	0.24	0.06-0.46	0.21	0.10-0.41

**Table 12.2.16 c: Arklow Bank. Design-based estimates of Guillemot density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	60.26	34.62-92.86	22.88	15.37-33.10	13.13	7.12-18.00
Feb	24.19	9.43-52.45	9.59	4.25-16.13	5.77	3.16-9.70
Mar	0.20	0-0.51	0.24	0.09-0.46	0.20	0.06-0.40
Apr	1.52	0.51-2.90	1.39	0.76-1.97	1.46	0.90-2.09
May	10.37	6.29-15.83	14.91	11.08-20.30	17.34	13.04-22.21
Jun	0.81	0.10-1.78	0.74	0.23-1.39	0.80	0.40-1.23
Jul	8.06	4.87-13.08	10.15	7.27-13.46	11.81	8.90-14.65
Aug	32.21	19.20-45.7	25.41	18.86-33.38	22.09	18.43-26.99
Sep	14.33	8.73-20.9	13.54	9.70-18.30	14.04	11.09-16.74
Oct	16.87	9.66-27.65	10.87	7.00-14.69	9.48	7.17-12.65
Nov	25.61	11.98-44.57	23.15	14.73-32.92	16.88	11.32-22.16
Dec	8.94	3.45-16.41	4.80	2.56-7.66	3.23	1.75-4.77

**Table 12.2.17 a: Arklow Bank. Design-based estimates of Herring gull density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0.01	0-0.04
Feb	0.15	0-0.54	0.05	0-0.15	0.03	0-0.1
Mar	0	0-0	0.03	0-0.07	0.01	0-0.04
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0.03	0-0.09	0.04	0-0.09
Jul	0	0-0	0.03	0-0.09	0.03	0-0.08
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0.23	0-0.62	0.10	0.01-0.26	0.08	0.01-0.20
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.17 b: Arklow Bank. Design-based estimates of Herring gull density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0.01	0-0.04
Feb	0.07	0-0.27	0.03	0-0.07	0.01	0-0.05
Mar	0	0-0	0.03	0-0.07	0.01	0-0.04
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0.03	0-0.07	0.01	0-0.04
Jul	0	0-0	0.03	0-0.09	0.03	0-0.08
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0.07	0-0.23	0.03	0-0.06	0.04	0-0.12
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.17 c: Arklow Bank. Design-based estimates of Herring gull density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0.07	0-0.20	0.03	0-0.09	0.01	0-0.04
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0.03	0-0.09
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0.16	0-0.39	0.07	0-0.18	0.04	0-0.12
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.18 a: Arklow Bank. Design-based estimates of Kittiwake density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	82.17	32.77-164.64	27.88	9.94-47.87	15.64	5.62-27.20
Feb	114.14	44.72-197.94	38.11	9.68-66.05	21.30	8.54-33.02
Mar	2.86	0.77-5.49	1.84	0.92-2.99	1.53	0.80-2.24
Apr	29.04	11.67-47	10.80	6.16-17.32	6.50	3.36-10.29
May	11.36	3.54-21.37	6.08	3.45-9.81	4.26	2.66-6.22
Jun	0.92	0.31-1.81	0.33	0.10-0.67	0.38	0.19-0.64
Jul	2.32	0.85-4.20	1.98	0.90-3.65	1.44	0.71-2.51
Aug	10.96	1.77-25.76	4.03	1.04-6.86	2.62	0.95-4.56
Sep	1.00	0.23-2.16	0.62	0.26-1.05	0.41	0.20-0.69
Oct	15.14	0.89-42.25	5.44	0.52-14.67	3.12	0.42-8.25
Nov	50.05	7.04-106.02	18.44	5.60-36.85	10.82	4.44-20.64
Dec	23.63	5.46-53.99	16.62	2.66-37.32	9.41	1.20-23.10

**Table 12.2.18 b: Arklow Bank. Design-based estimates of Kittiwake density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	14.98	6.10-24.09	5.52	2.50-9.89	3.20	1.62-5.36
Feb	79.00	33.19-147.95	26.44	11.25-44.67	14.79	6.61-26.05
Mar	1.85	0.42-4.36	1.16	0.58-2.06	1.03	0.54-1.68
Apr	1.54	0.31-3.24	0.89	0.41-1.56	0.64	0.33-0.97
May	3.48	1.27-6.88	2.20	1.27-3.22	1.71	1.16-2.40
Jun	0.38	0.04-0.96	0.16	0.05-0.33	0.23	0.11-0.38
Jul	1.23	0.18-2.58	0.68	0.33-1.25	0.47	0.23-0.80
Aug	1.31	0.58-2.20	0.69	0.38-1.04	0.62	0.38-0.92
Sep	0.92	0.23-1.90	0.56	0.21-0.99	0.39	0.16-0.62
Oct	2.32	0.7-4.36	1.16	0.52-2.00	0.73	0.29-1.21
Nov	8.96	3.43-16.66	4.80	2.26-7.99	2.81	1.59-4.78
Dec	17.61	3.61-41.61	6.41	1.29-15.58	3.71	0.83-8.47

**Table 12.2.18 c: Arklow Bank. Design-based estimates of Kittiwake density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	67.18	18.55-123.10	22.36	8.18-47.38	12.45	4.00-20.64
Feb	35.13	12.3-63.14	11.67	3.72-21.39	6.51	2.02-12.56
Mar	1.00	0.19-2.01	0.70	0.18-1.16	0.50	0.23-0.78
Apr	27.49	11.02-49.85	9.90	5.19-15.82	5.85	2.65-9.23
May	7.88	1.65-17.86	3.88	1.44-7.97	2.56	1.3-4.73
Jun	0.54	0.07-1.23	0.18	0.01-0.48	0.16	0.04-0.34
Jul	1.08	0.10-2.30	1.30	0.39-2.54	0.97	0.41-2.13
Aug	9.65	1.45-20.70	3.34	1.23-7.38	2.00	0.36-4.07
Sep	0.07	0-0.23	0.05	0-0.16	0.03	0-0.08
Oct	12.82	0-38.46	4.28	0-12.85	2.40	0-7.18
Nov	41.08	4.78-88.46	13.64	2.51-33.42	8.01	1.31-14.43
Dec	6.02	0.31-16.58	10.20	0.16-22.47	5.70	0.10-14.09

**Table 12.2.19 a: Arklow Bank. Design-based estimates of Lesser black-backed gull density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0.07	0-0.23	0.03	0-0.09	0.07	0-0.22
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.19 b: Arklow Bank. Design-based estimates of Lesser black-backed gull density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0.07	0-0.27	0.03	0-0.10	0.07	0-0.22
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.19 c: Arklow Bank. Design-based estimates of Lesser black-backed gull density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.20 a: Arklow Bank. Design-based estimates of Little gull density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	11.73	0.31-24.06	3.90	0.10-9.27	2.17	0.05-5.25
Feb	5.72	0.23-15.88	1.95	0.12-5.18	1.10	0.05-3.01
Mar	3.55	0.15-8.80	2.15	0.79-3.82	1.28	0.57-2.34
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0.05	0-0.16	0.03	0-0.13
Aug	0.38	0-1.20	0.16	0.03-0.34	0.10	0.02-0.2
Sep	3.86	0.23-9.25	1.49	0.17-3.20	0.91	0.26-1.83
Oct	8.27	1.04-17.25	3.21	0.54-6.64	1.87	0.47-4.14
Nov	12.04	4.78-21.94	4.18	1.38-7.72	2.98	1.36-4.78
Dec	16.14	2.56-36.92	6.87	0.23-18.55	3.85	0.32-9.14

**Table 12.2.20 b: Arklow Bank. Design-based estimates of Little gull density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	7.72	0.31-19.13	2.56	0.07-6.32	1.43	0.06-3.64
Feb	1.31	0.07-3.48	0.46	0.05-1.18	0.26	0.01-0.69
Mar	3.40	0-9.90	1.80	0.51-3.54	1.03	0.41-2.01
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0.05	0-0.16	0.03	0-0.09
Aug	0.38	0-0.92	0.13	0-0.32	0.09	0.01-0.17
Sep	2.47	0.07-6.03	1.01	0.09-2.7	0.64	0.16-1.39
Oct	2.86	0.16-6.95	1.39	0.22-2.99	0.84	0.14-1.88
Nov	7.96	1.97-15.96	2.74	0.71-5.18	1.67	0.58-3.49
Dec	14.99	0.88-29.62	5.74	0.30-13.51	3.22	0.30-7.62

**Table 12.2.20 c: Arklow Bank. Design-based estimates of Little gull density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	4.02	0-9.65	1.33	0-3.94	0.74	0.01-1.81
Feb	4.40	0.16-14.05	1.48	0.05-3.95	0.84	0.05-2.32
Mar	0.15	0-0.46	0.36	0.05-0.69	0.26	0.03-0.50
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0.03	0-0.07	0.01	0-0.04
Sep	1.39	0.30-3.40	0.48	0.06-1.13	0.27	0-0.61
Oct	5.40	0.42-15.91	1.83	0.14-4.97	1.02	0.09-2.71
Nov	4.09	1.62-7.04	1.44	0.55-2.48	1.31	0.60-2.14
Dec	1.08	0-3.02	1.10	0.03-2.54	0.61	0.09-1.41

**Table 12.2.21 a: Arklow Bank. Design-based estimates of Manx shearwater density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	6.33	1.20-13.25	3.47	1.23-6.03	3.30	1.92-5.04
May	1.23	0.26-2.59	8.52	2.99-15.94	8.97	4.18-14.59
Jun	7.34	1.74-16.27	2.46	0.33-6.15	1.40	0.34-3.19
Jul	0.25	0-0.72	0.75	0.05-1.68	2.34	0.39-5.31
Aug	15.68	1.97-36.88	7.05	2.10-14.88	5.01	1.80-9.15
Sep	1.70	0-5.10	1	0.14-2.43	0.72	0.15-1.60
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.21 b: Arklow Bank. Design-based estimates of Manx shearwater density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	1.16	0.42-1.93	1.08	0.44-1.78	1.07	0.56-1.92
May	0.54	0-1.32	3.18	0.86-6.72	3.47	1.54-6.08
Jun	4.79	0.30-11.82	1.61	0.16-4.22	0.93	0.09-2.34
Jul	0.25	0-0.67	0.24	0.02-0.58	0.72	0.10-1.90
Aug	0.47	0-1.27	0.52	0-1.38	0.43	0.10-0.92
Sep	0	0-0	0.20	0-0.45	0.17	0.05-0.35
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.21 c: Arklow Bank. Design-based estimates of Manx shearwater density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	5.18	0.88-11.97	2.38	0.56-4.99	2.23	0.77-3.80
May	0.70	0.07-1.58	5.34	1.30-11.16	5.51	2.17-10.17
Jun	2.55	0.34-5.80	0.84	0.09-1.68	0.47	0.04-1.05
Jul	0	0-0	0.51	0-1.28	1.62	0.10-4.15
Aug	15.21	1.04-31.61	6.54	2.14-11.49	4.58	1.71-8.71
Sep	1.70	0-5.10	0.80	0.03-2.26	0.54	0.03-1.30
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.22 a: Arklow Bank. Design-based estimates of Puffin density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09
Mar	0.31	0-0.93	0.10	0-0.26	0.06	0-0.14
Apr	0	0-0	0	0-0	0.03	0-0.11
May	0	0-0	0	0-0	0.03	0-0.11
Jun	0.15	0-0.46	0.05	0-0.15	0.09	0-0.21
Jul	0.05	0-0.15	0.05	0-0.14	0.03	0-0.08
Aug	0.07	0-0.27	0.05	0-0.10	0.09	0-0.23
Sep	0	0-0	0	0-0	0.03	0-0.10
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0.03	0-0.10	0.01	0-0.04
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.22 b: Arklow Bank. Design-based estimates of Puffin density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.22 c: Arklow Bank. Design-based estimates of Puffin density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0.15	0-0.46	0.05	0-0.15	0.03	0-0.10
Mar	0.31	0-0.77	0.10	0-0.26	0.06	0-0.13
Apr	0	0-0	0	0-0	0.03	0-0.09
May	0	0-0	0	0-0	0.03	0-0.09
Jun	0	0-0	0	0-0	0.06	0-0.17
Jul	0.05	0-0.15	0.05	0-0.13	0.03	0-0.08
Aug	0.07	0-0.23	0.05	0-0.13	0.09	0-0.23
Sep	0	0-0	0	0-0	0.03	0-0.09
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0.03	0-0.07	0.01	0-0.04
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.23 a: Arklow Bank. Design-based estimates of Razorbill density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	51.17	26.54-77.33	19.04	10.98-31.63	10.71	6.65-16.36
Feb	21.96	8.17-37.34	7.82	2.7-13.84	4.48	1.81-7.71
Mar	0.74	0.14-1.35	0.4	0.1-0.73	0.47	0.22-0.8
Apr	1.02	0.19-2.23	0.78	0.34-1.33	0.90	0.49-1.33
May	0.56	0.18-1.08	1.08	0.4-1.95	1.20	0.67-1.87
Jun	0.28	0-0.84	0.10	0-0.28	0.07	0-0.17
Jul	0.12	0-0.37	0.27	0.03-0.63	0.46	0.17-0.88
Aug	18.32	6.22-34.02	11.52	6.72-19.17	9.61	6.14-13.59
Sep	9.30	4.32-15.22	11.89	7.78-16.32	11.92	8.45-16.44
Oct	1.95	0.65-3.63	1.94	1.08-2.75	1.46	0.96-2.08
Nov	24.75	12.74-44.88	10.63	5.05-17.46	7.80	4.91-11.65
Dec	9.68	1.58-19.92	5.87	1.64-11.48	3.77	1.62-7.45

**Table 12.2.23 b: Arklow Bank. Design-based estimates of Razorbill density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	1.03	0.18-2.51	0.64	0.22-1.39	0.38	0.16-0.72
Feb	0.46	0-1.35	0.34	0.10-0.78	0.21	0.03-0.39
Mar	0	0-0	0	0-0	0.05	0-0.14
Apr	0.47	0-1.17	0.22	0.06-0.47	0.17	0.05-0.30
May	0	0-0	0	0-0	0.12	0-0.31
Jun	0	0-0	0	0-0	0.01	0-0.05
Jul	0.12	0-0.37	0.04	0-0.12	0.02	0-0.07
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0.28	0-0.84	0.34	0.03-0.76	0.22	0.01-0.47
Nov	2.14	0.42-4.56	0.74	0.10-1.43	0.46	0.12-0.90
Dec	0.28	0-0.75	0.12	0-0.32	0.12	0.01-0.26

**Table 12.2.23 c: Arklow Bank. Design-based estimates of Razorbill density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	50.16	20.28-83.52	18.39	10.22-30.17	10.34	5.76-15.80
Feb	21.49	8.28-35.18	7.48	3.50-13.10	4.28	1.91-7.61
Mar	0.74	0.18-1.77	0.40	0.07-0.87	0.42	0.14-0.71
Apr	0.55	0.04-1.21	0.55	0.24-0.95	0.72	0.30-1.11
May	0.56	0.14-1.17	1.08	0.43-1.95	1.08	0.60-1.67
Jun	0.28	0-0.84	0.10	0-0.28	0.05	0-0.16
Jul	0	0-0	0.23	0.02-0.52	0.44	0.18-0.74
Aug	18.32	6.00-40.05	11.52	6.2-17.18	9.61	6.75-13.25
Sep	9.30	4.46-15.74	11.89	7.96-16.43	11.92	8.75-16.09
Oct	1.68	0.56-2.93	1.61	0.78-2.71	1.23	0.74-1.87
Nov	22.61	7.29-39.77	9.89	4.44-15.22	7.35	4.11-11.44
Dec	9.40	1.62-20.16	5.75	2.06-11.61	3.64	1.34-6.46

**Table 12.2.24 a: Arklow Bank. Design-based estimates of Red-throated diver density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	1.77	0.46-3.51	0.72	0.23-1.31	0.47	0.24-0.81
Feb	1.39	0.38-2.55	0.59	0.23-1.07	0.37	0.15-0.66
Mar	0.31	0.04-0.62	0.13	0-0.30	0.09	0.01-0.17
Apr	0.54	0-1.35	0.26	0.04-0.53	0.20	0.06-0.37
May	0.38	0.07-0.85	0.16	0.03-0.31	0.10	0.02-0.22
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0.70	0.16-1.43	0.23	0.05-0.55	0.13	0.03-0.29
Nov	0.07	0-0.23	0.05	0-0.13	0.07	0-0.20
Dec	0.92	0.34-1.58	0.34	0.14-0.60	0.26	0.06-0.47

**Table 12.2.24 b: Arklow Bank. Design-based estimates of Red-throated diver density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0.01	0-0.05

**Table 12.2.24 c: Arklow Bank. Design-based estimates of Red-throated diver density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	1.77	0.54-3.32	0.72	0.26-1.35	0.47	0.21-0.81
Feb	1.39	0.38-2.66	0.59	0.22-0.98	0.37	0.16-0.70
Mar	0.31	0.04-0.74	0.13	0-0.32	0.09	0.01-0.19
Apr	0.54	0-1.31	0.26	0.05-0.56	0.20	0.06-0.34
May	0.38	0.04-0.89	0.16	0.03-0.30	0.10	0.01-0.22
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0.70	0.16-1.51	0.23	0.04-0.50	0.13	0.03-0.27
Nov	0.07	0-0.23	0.05	0-0.13	0.07	0-0.18
Dec	0.92	0.26-1.62	0.34	0.10-0.59	0.24	0.10-0.42

**Table 12.2.25 a: Arklow Bank. Design-based estimates of Sandwich tern density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0.05	0-0.16	0.07	0.01-0.14
May	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0.15	0-0.46	0.10	0-0.26	0.11	0.03-0.29
Sep	0.23	0.07-0.47	0.07	0.03-0.18	0.04	0-0.10
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.25 b: Arklow Bank. Design-based estimates of Sandwich tern density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0.05	0-0.1	0.07	0.01-0.14
May	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0.15	0-0.46	0.10	0-0.26	0.11	0.03-0.23
Sep	0.23	0-0.47	0.07	0-0.16	0.04	0-0.10
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.25 c: Arklow Bank. Design-based estimates of Sandwich tern density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0	0-0	0	0-0	0	0-0
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0	0-0	0	0-0

**Table 12.2.26 a: Arklow Bank. Design-based estimates of Shag density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.38	0-1.12	0.13	0.01-0.36	0.07	0-0.16
Feb	0.54	0.07-1.20	0.18	0.03-0.38	0.10	0.01-0.21
Mar	0.15	0-0.46	0.05	0-0.18	0.03	0-0.11
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0.03	0-0.06
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0.06	0-0.11
Sep	0	0-0	0	0-0	0	0-0
Oct	0.15	0-0.46	0.05	0-0.20	0.03	0-0.09
Nov	0.07	0-0.27	0.03	0-0.10	0.01	0-0.04
Dec	0.23	0-0.58	0.13	0-0.33	0.07	0-0.19

**Table 12.2.26 b: Arklow Bank. Design-based estimates of Shag density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0	0-0	0	0-0	0	0-0
Feb	0.07	0-0.23	0.03	0-0.09	0.01	0-0.04
Mar	0	0-0	0	0-0	0	0-0
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0.01	0-0.04
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0	0-0	0	0-0	0	0-0
Oct	0	0-0	0	0-0	0	0-0
Nov	0	0-0	0	0-0	0	0-0
Dec	0	0-0	0.05	0-0.16	0.03	0-0.1

**Table 12.2.26 c: Arklow Bank. Design-based estimates of Shag density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.38	0.07-0.96	0.13	0-0.36	0.07	0-0.16
Feb	0.46	0.04-1.23	0.15	0.03-0.36	0.09	0-0.20
Mar	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0.01	0-0.04
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0.06	0-0.14
Sep	0	0-0	0	0-0	0	0-0
Oct	0.15	0-0.58	0.05	0-0.18	0.03	0-0.09
Nov	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Dec	0.23	0-0.54	0.07	0-0.18	0.04	0-0.10

**Table 12.2.27 a: Arklow Bank. Design-based estimates of Small gull species density (birds/km<sup>2</sup>), in flight and on the sea in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	8.26	1.54-20.08	2.77	0.85-6.23	1.56	0.32-3.37
Feb	7.65	1.96-15.14	2.54	0.76-5.20	1.42	0.46-2.62
Mar	0	0-0	0	0-0	0.03	0-0.09
Apr	1.16	0.31-2.40	0.41	0.13-0.81	0.23	0.07-0.43
May	0	0-0	0.15	0-0.36	0.09	0-0.20
Jun	0.15	0-0.46	0.05	0-0.15	0.03	0-0.09
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0.16	0-0.31	0.05	0-0.13	0.04	0-0.12
Oct	0.07	0-0.27	0.03	0-0.07	0.03	0-0.07
Nov	5.72	1.11-14.52	2.00	0.38-4.75	1.27	0.45-2.52
Dec	2.55	0.23-6.03	0.90	0.20-2.05	0.56	0.12-1.16

**Table 12.2.27 b: Arklow Bank. Design-based estimates of Small gull species density (birds/km<sup>2</sup>), in flight only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	0.78	0.15-1.51	0.29	0-0.63	0.17	0.03-0.36
Feb	1.16	0.38-2.05	0.38	0.07-0.76	0.22	0.09-0.41
Mar	0	0-0	0	0-0	0.03	0-0.09
Apr	0	0-0	0	0-0	0	0-0
May	0	0-0	0	0-0	0	0-0
Jun	0	0-0	0	0-0	0	0-0
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0.07	0-0.23	0.03	0-0.07	0.01	0-0.04
Oct	0.07	0-0.27	0.03	0-0.07	0.01	0-0.04
Nov	0.70	0.07-1.81	0.26	0-0.60	0.23	0.04-0.42
Dec	1.23	0.38-2.63	0.44	0.13-0.86	0.28	0.10-0.52

**Table 12.2.27 c: Arklow Bank. Design-based estimates of Small gull species density (birds/km<sup>2</sup>), on the sea only in the entire Array Area and buffer zones.**

Month	Array Area Density	95% c.i.	Array Area and 2 km buffer Density	95% c.i.	Array Area and 4 km buffer Density	95% c.i.
Jan	7.49	1.62-15.97	2.49	0.51-5.78	1.39	0.16-3.06
Feb	6.48	2.28-12.48	2.16	0.62-3.92	1.20	0.33-2.45
Mar	0	0-0	0	0-0	0	0-0
Apr	1.16	0.27-2.13	0.41	0.14-0.74	0.23	0.09-0.45
May	0	0-0	0.15	0-0.46	0.09	0-0.21
Jun	0.15	0-0.39	0.05	0-0.15	0.03	0-0.09
Jul	0	0-0	0	0-0	0	0-0
Aug	0	0-0	0	0-0	0	0-0
Sep	0.07	0-0.23	0.03	0-0.07	0.03	0-0.10
Oct	0	0-0	0	0-0	0.01	0-0.04
Nov	5.02	0.31-10.62	1.74	0.36-3.86	1.04	0.20-1.97
Dec	1.31	0-3.70	0.46	0-1.30	0.29	0.01-0.76

### 1.3 References

Allen, S. (2013) JNCC expert statement on ornithological issues for written representations in respect of East Anglia One offshore windfarm.