



**LLYR**

# LLYR FLOATING OFFSHORE WIND PROJECT

**Llŷr 1 Floating Offshore Wind Farm**

**Environmental Statement**

**Volume 6: Appendix 22A, Annex D – Design-Based Estimates**

**August 2024**





Document Status

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Prepared by	HiDef Aerial Surveying Ltd
Prepared for	Llŷr Floating Wind Limited
Approved by	Jay Hilton-Miller

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## Acronyms and abbreviations

Acronym or Abbreviation	Definition	Acronym or Abbreviation	Definition
%	Percentage	n	Number
CV	Coefficient of Variation	SD	Standard Deviation
km <sup>2</sup>	Kilometre square	UCL	Upper Confidence Limit
LCL	Lower Confidence Limit		

## Glossary of project terms

Term	Definition
The Applicant	The developer of the Project, Llŷr Floating Wind Limited
Array	All wind turbine generators, inter array cables, mooring lines, floating sub-structures and supporting subsea infrastructure within the Array Area, as defined, when considered collectively, excluding the offshore export cable(s).
Array Area	The area within which the wind turbine generators, inter array cables, mooring lines, floating sub-structures and supporting subsea infrastructure will be located
Floventis Energy	A joint venture company between Cierco Ltd and SBM Offshore Ltd of which Llŷr Floating Wind Limited is a wholly owned subsidiary.
Landfall	The location where the offshore export cable(s) from the Array Area, as defined, are brought onshore and connected to the onshore export cables (as defined) via the transition joint bays (TJB).
Llŷr 1	The proposed Project, for which the Applicant is applying for Section 36 and Marine Licence consents. Including all offshore and onshore infrastructure and activities, and all project phases.
Marine Licence	A licence required under the Marine and Coastal Access Act 2009 for marine works which is administered by Natural Resources Wales (NRW) Marine Licensing Team (MLT) on behalf of the Welsh Ministers.
Offshore Development Area	The footprint of the offshore infrastructure and associated temporary works, comprised of the Array Area and the Offshore Export Cable Corridor, as defined, that forms the offshore boundary for the S36 Consent and Marine Licence application
Offshore Export Cable	The cable(s) that transmit electricity produced by the WTGs to landfall.
Offshore Export Cable Corridor (OfECC)	The area within which the offshore export cable circuit(s) will be located, from the Array Area to the Landfall.
Onshore Development Area	The footprint of the onshore infrastructure and associated temporary works, comprised of the Onshore Export Cable Corridor and the Onshore Substation, as defined, and including new access routes and visibility splays, that forms the onshore boundary for the planning application.
Onshore Export Cable(s)	The cable(s) that transmit electricity from the landfall to the onshore substation
Onshore Export Cable Corridor (OnECC)	The area within which the onshore export cable circuit(s) will be located.



Term	Definition
proposed Project	All aspects of the Llŷr 1 development (i.e. the onshore and offshore components).
Onshore Substation	Located within the Onshore Development Area, converts high voltage generated electricity into low voltage electricity that can be used for the grid and domestic consumption.
Section 36 consent	Consent to construct and operate an offshore generating station, under Section 36 (S.36) of the Electricity Act 1989. This includes deemed planning permission for onshore works.



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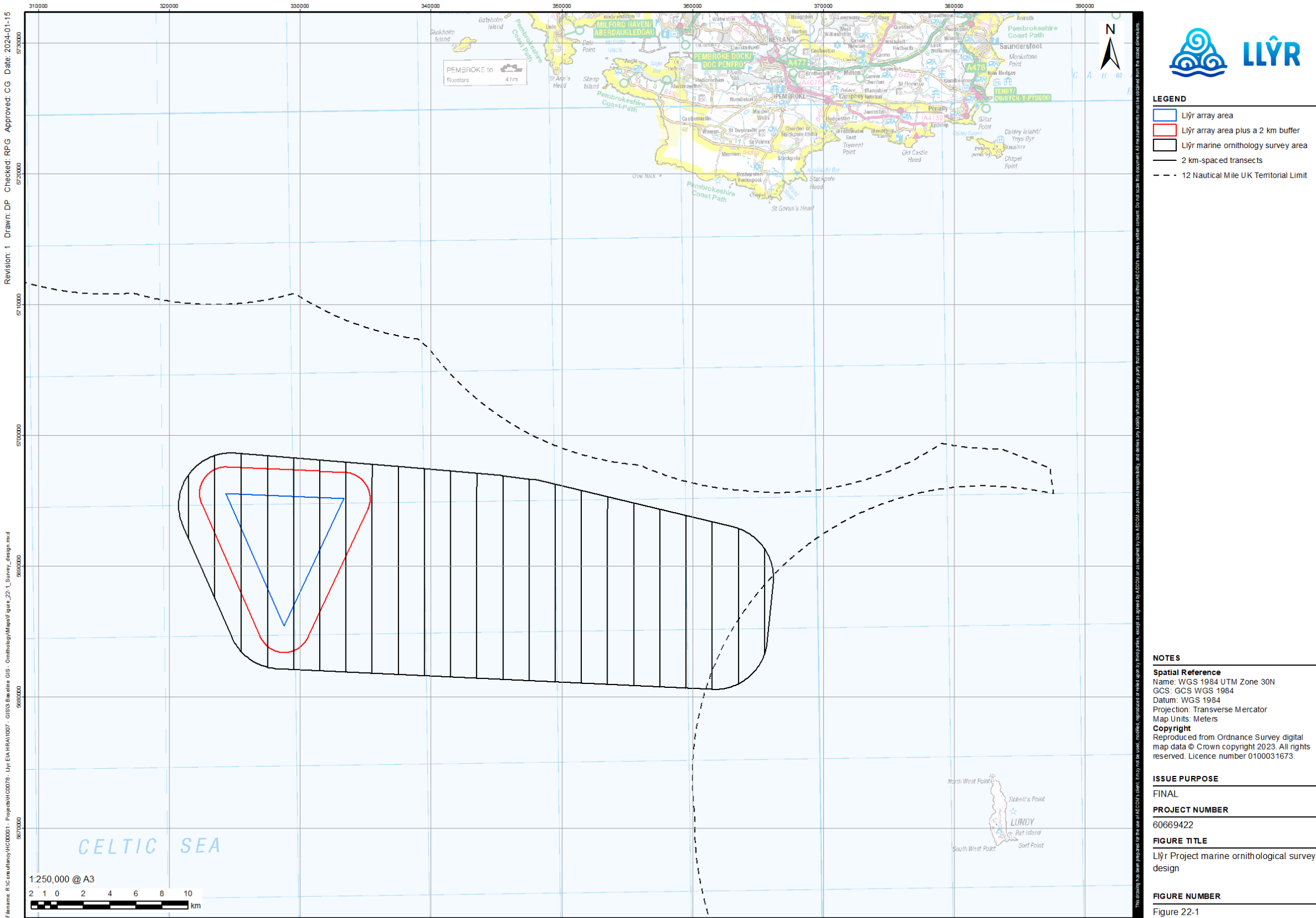
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## **22A. Annex D - Design-Based Estimates**

1. This **Annex D** to **Appendix 22A: Marine Ornithology Baseline** presents the design-based estimates for all seabird species recorded within the Llŷr marine ornithology survey area (**Annex D, Figure 22A-1**).
2. For the Array Area (and 2 km buffer where relevant), design-based estimates are presented in this **Annex D** for the key seabird species recorded on-site, scoped into impact assessment. These have been requested by NRW (A) and JNCC for comparison with the model-based estimates in **Appendix 22A: Marine Ornithology Baseline**, which are the ones actually taken forward in (quantitative) assessment; as presented in **Chapter 22: Marine Ornithology** and **Appendix 8E: Habitats Regulations Assessment (HRA) Report to Inform Appropriate Assessment (RIAA)**.
3. Estimates are presented in the form of density (number of birds per square kilometre ( $n/km^2$ )); the lower and upper 95% confidence limits (LCL and UCL); population (the number of birds in the area); the standard deviation of the population estimate (SD) and the coefficient of variation (CV (%)).
4. In a few cases, a very low population estimate may be produced for the smaller Array Area where no birds were recorded. This is due to the way the density grid is formulated. Transects are divided into a series of bins with a centroid at each point. Observations are assigned to the nearest centroid. It is possible that a bird positioned just outside of a boundary can be assigned to the nearest centroid point that is actually located within that boundary and the bird is carried into the population analysis for that region. This should not impact the purpose of this document which is produced for context only.
5. Design-based densities were apportioned to account for unidentified birds and corrected for availability bias where possible (guillemot, razorbill, puffin) (see detailed methodology in **Appendix 22A: Marine Ornithology Baseline**).



Annex D, Figure 22A-1. Llŷr proposed Project marine ornithological survey design



## 22.1 Species Considered for Impact Assessment

### 22.1.1. Kittiwake

#### Llŷr Marine Ornithology Survey Area

Annex D, Table 22A-1. Design-based density and abundance estimates accounting for unidentified individuals for all kittiwakes in the Llŷr marine ornithology survey area\*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.36	0.23	0.54	229	146	344	50	21.46
14-Apr-20	0.03	0.00	0.06	17	0	40	11	66.04
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.06	0.02	0.11	40	16	71	16	38.61
21-Jul-20	0.01	0.00	0.04	8	0	24	8	95.08
31-Aug-20	0.37	0.10	0.74	237	63	470	108	45.26
12-Sep-20	0.32	0.01	0.78	203	8	501	129	63.36
22-Oct-20	6.62	1.97	12.45	4,226	1,256	7,949	1,772	41.92
26-Nov-20	4.22	2.62	6.06	2,697	1,676	3,870	557	20.63
10-Jan-21	2.41	1.62	3.34	1,538	1,037	2,134	278	18.02
25-Jan-21	3.21	2.67	3.80	2,049	1,704	2,430	183	8.91
22-Feb-21	0.42	0.21	0.66	271	134	422	75	27.71
14-May-21	0.04	0.00	0.11	24	0	72	24	98.52
27-May-21	0.02	0.00	0.06	16	0	40	11	68.30
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.03	0.00	0.06	17	0	40	11	64.81
16-Aug-21	0.01	0.00	0.04	8	0	24	8	101.30
01-Sep-21	0.01	0.00	0.04	8	0	24	8	98.61
22-Oct-21	10.72	6.03	16.33	6,846	3,854	10,432	1,698	24.79
20-Nov-21	5.93	3.43	8.94	3,786	2,193	5,711	896	23.65
16-Dec-21	0.07	0.01	0.14	47	8	92	21	43.05
05-Jan-22	0.13	0.07	0.21	86	43	132	24	27.42
26-Feb-22	0.20	0.07	0.35	129	47	225	47	36.03
20-Mar-22	1.11	0.78	1.45	708	499	927	112	15.80

\*For all tables: n = number, LCL = Lower 95% Confidence Limit, UCL = Upper 95% Confidence Limit, SD = Standard Deviation of Population Estimate, CV = Coefficient of Variation



*Annex D, Table 22A-2. Design-based density and abundance estimates accounting for unidentified individuals for flying kittiwakes in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.25	0.14	0.38	163	92	244	40	24.35
14-Apr-20	0.01	0.00	0.04	8	0	24	8	96.05
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.05	0.01	0.10	31	8	61	14	43.72
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.17	0.05	0.32	111	32	206	45	39.79
12-Sep-20	0.01	0.00	0.04	8	0	24	8	97.68
22-Oct-20	2.22	0.64	4.28	1,419	412	2,731	605	42.59
26-Nov-20	3.34	2.26	4.56	2,131	1,445	2,911	384	18.01
10-Jan-21	1.48	0.97	2.05	943	618	1,309	173	18.32
25-Jan-21	1.89	1.55	2.31	1,207	988	1,473	122	10.07
22-Feb-21	0.23	0.12	0.36	146	79	228	38	25.68
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.01	0.00	0.04	9	0	24	8	93.02
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.02	0.00	0.06	16	0	40	11	68.82
16-Aug-21	0.01	0.00	0.04	8	0	24	8	96.60
01-Sep-21	0.01	0.00	0.04	8	0	24	8	96.80
22-Oct-21	6.28	3.17	10.21	4,009	2,027	6,524	1,170	29.19
20-Nov-21	2.76	1.73	4.09	1,761	1,105	2,614	389	22.10
16-Dec-21	0.06	0.01	0.13	40	8	86	20	50.01
05-Jan-22	0.14	0.07	0.21	88	44	132	23	26.10
26-Feb-22	0.14	0.05	0.25	89	31	162	35	38.67
20-Mar-22	0.56	0.36	0.77	358	228	492	68	18.95



### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-3. Design-based density and abundance estimates accounting for unidentified individuals for all kittiwakes in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.14	0.00	0.30	17	0	37	10	56.12
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.14	0.00	0.26	17	0	32	9	48.86
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	15.71	1.21	36.51	1,873	145	4,352	1,107	59.11
26-Nov-20	2.03	1.29	2.91	243	154	348	49	19.98
10-Jan-21	1.57	0.77	2.31	188	92	275	49	25.75
25-Jan-21	2.57	1.72	3.55	307	205	424	58	18.62
22-Feb-21	0.14	0.00	0.27	17	0	32	9	50.26
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	16.26	3.33	34.45	1,938	397	4,106	977	50.41
20-Nov-21	5.52	2.53	10.30	659	302	1,228	268	40.68
16-Dec-21	0.07	0.00	0.19	8	0	23	7	83.51
05-Jan-22	0.29	0.08	0.48	36	10	57	13	36.30
26-Feb-22	0.67	0.29	1.07	80	36	128	25	30.89
20-Mar-22	1.01	0.33	1.79	121	40	214	45	36.84



*Annex D, Table 22A-4. Design-based density and abundance estimates accounting for unidentified individuals for flying kittiwakes in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.13	0.00	0.29	16	0	35	9	55.76
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.07	0.00	0.20	9	0	24	8	86.64
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	4.81	1.06	11.02	573	126	1,314	315	54.96
26-Nov-20	2.02	1.18	2.83	241	141	338	51	21.02
10-Jan-21	0.82	0.42	1.22	99	51	146	25	25.00
25-Jan-21	1.79	0.98	2.54	214	117	303	48	22.42
22-Feb-21	0.14	0.00	0.26	17	0	32	9	49.44
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	10.98	1.60	25.88	1,309	191	3,085	785	59.94
20-Nov-21	4.62	1.83	9.09	551	219	1,084	250	45.32
16-Dec-21	0.07	0.00	0.19	9	0	23	7	81.03
05-Jan-22	0.29	0.08	0.49	36	10	59	14	37.06
26-Feb-22	0.40	0.18	0.59	49	23	71	13	25.81
20-Mar-22	0.55	0.13	0.96	66	16	115	27	40.47



## Array Area

Annex D, Table 22A-5. Design-based density and abundance estimates accounting for unidentified individuals for all kittiwakes in the Array Area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.19	0.00	0.61	9	0	28	9	95.39
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.18	0.00	0.43	9	0	20	6	68.13
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	26.27	2.12	80.90	1,180	96	3,633	1,008	85.39
26-Nov-20	2.54	0.98	3.93	115	45	177	34	28.96
10-Jan-21	2.32	0.42	4.09	105	19	184	46	43.30
25-Jan-21	2.71	1.43	5.11	122	65	230	43	34.85
22-Feb-21	0.18	0.00	0.43	9	0	20	6	67.71
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	13.24	2.95	34.36	595	133	1,543	387	65.07
20-Nov-21	4.69	2.04	8.33	211	92	374	71	33.62
16-Dec-21	0.18	0.00	0.42	9	0	20	6	64.44
05-Jan-22	0.22	0.00	0.48	10	0	22	7	62.75
26-Feb-22	0.73	0.00	1.50	33	0	68	19	55.39
20-Mar-22	0.71	0.00	1.43	33	0	65	17	50.17



*Annex D, Table 22A-6. Design-based density and abundance estimates accounting for unidentified individuals for flying kittiwakes in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.18	0.00	0.67	9	0	31	8	95.22
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	3.87	0.98	8.19	174	45	368	81	46.56
26-Nov-20	2.50	0.98	3.93	113	45	177	34	30.00
10-Jan-21	0.89	0.14	1.64	40	7	74	19	46.24
25-Jan-21	2.12	0.57	4.18	96	26	188	42	43.28
22-Feb-21	0.18	0.00	0.43	9	0	20	6	66.33
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	9.35	0.97	25.77	420	44	1,157	323	76.89
20-Nov-21	3.56	1.88	6.41	160	85	288	60	36.94
16-Dec-21	0.18	0.00	0.42	8	0	20	6	67.27
05-Jan-22	0.22	0.00	0.48	10	0	22	7	63.75
26-Feb-22	0.35	0.00	0.75	16	0	34	10	56.73
20-Mar-22	0.52	0.00	1.07	24	0	49	17	68.82





### 22.1.2. Great Black-Backed Gull

#### Llŷr Marine Ornithology Survey Area

Annex D, Table 22A-7. Design-based density and abundance estimates accounting for unidentified individuals for all great black-backed gulls in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.01	0.00	0.04	9	0	24	9	101.93
14-Apr-20	0.04	0.00	0.10	24	0	61	17	69.89
08-Jun-20	0.09	0.00	0.27	60	0	176	58	97.00
24-Jun-20	0.06	0.00	0.24	42	0	152	41	97.70
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.03	0.00	0.06	17	0	39	11	63.34
12-Sep-20	0.01	0.00	0.04	8	0	24	8	91.12
22-Oct-20	0.47	0.10	0.97	302	63	623	145	48.09
26-Nov-20	0.19	0.00	0.52	125	1	335	101	80.69
10-Jan-21	0.01	0.00	0.04	8	0	24	8	96.20
25-Jan-21	0.03	0.00	0.06	17	0	39	11	66.18
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.03	0.00	0.06	17	0	40	11	66.25
27-May-21	0.04	0.00	0.08	25	0	54	13	52.55
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.04	0.00	0.10	23	0	62	17	70.81
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.06	0.01	0.13	40	8	81	20	50.35
20-Nov-21	0.05	0.00	0.10	29	1	61	16	52.83
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



*Annex D, Table 22A-8. Design-based density and abundance estimates accounting for unidentified individuals for flying great black-backed gulls in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.01	0.00	0.04	9	0	24	8	93.44
14-Apr-20	0.01	0.00	0.04	9	0	24	8	94.85
08-Jun-20	0.05	0.00	0.16	35	0	100	34	97.94
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.01	0.00	0.04	8	0	24	8	99.25
26-Nov-20	0.01	0.00	0.04	9	0	24	8	94.92
10-Jan-21	0.01	0.00	0.04	8	0	24	8	97.16
25-Jan-21	0.02	0.00	0.06	16	0	40	11	68.35
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.02	0.00	0.06	16	0	39	11	65.70
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.01	0.00	0.04	9	0	25	8	92.10
20-Nov-21	0.01	0.00	0.04	9	0	26	8	86.33
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-9. Design-based density and abundance estimates accounting for unidentified individuals for all great black-backed gulls in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.07	0.00	0.20	8	0	24	8	90.57
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.34	0.00	0.94	41	0	112	31	75.85
26-Nov-20	0.07	0.00	0.20	9	0	24	8	86.89
10-Jan-21	0.07	0.00	0.18	8	0	22	7	78.47
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.06	0.00	0.20	8	0	24	8	92.12
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.14	0.00	0.33	18	0	40	11	62.88
20-Nov-21	0.07	0.00	0.19	8	0	23	7	84.68
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



*Annex D, Table 22A-10. Design-based density and abundance estimates accounting for unidentified individuals for flying great black-backed gulls in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.07	0.00	0.20	9	0	25	8	89.33
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.07	0.00	0.20	8	0	24	8	91.29
10-Jan-21	0.07	0.00	0.19	9	0	24	7	82.43
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.07	0.00	0.19	9	0	23	7	81.68
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



## Array Area

*Annex D, Table 22A-11. Design-based density and abundance estimates accounting for unidentified individuals for all great black-backed gulls in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.18	0.00	0.58	8	0	27	8	97.11
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.18	0.00	0.42	8	0	19	6	69.94
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.18	0.00	0.41	9	0	19	6	69.01
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



*Annex D, Table 22A-12. Design-based density and abundance estimates accounting for unidentified individuals for flying great black-backed gulls in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.19	0.00	0.58	9	0	27	8	91.79
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.18	0.00	0.42	9	0	19	6	68.17
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.18	0.00	0.44	8	0	20	6	72.86
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



### 22.1.3. Herring Gull

#### Llŷr Marine Ornithology Survey Area

Annex D, Table 22A-13. Design-based density and abundance estimates accounting for unidentified individuals for all herring gulls in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.21	0.00	0.59	138	0	377	122	88.35
24-Jun-20	0.16	0.00	0.57	103	0	367	98	95.19
21-Jul-20	0.01	0.00	0.04	8	0	24	8	96.81
31-Aug-20	0.02	0.00	0.07	16	0	48	16	97.23
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.25	0.05	0.53	161	32	337	79	49.01
26-Nov-20	1.16	0.07	3.19	739	46	2,039	629	85.17
10-Jan-21	0.01	0.00	0.04	8	0	24	8	94.49
25-Jan-21	0.11	0.00	0.24	72	0	156	40	54.85
22-Feb-21	0.03	0.00	0.06	17	0	40	11	64.30
14-May-21	0.06	0.00	0.12	36	0	79	21	58.21
27-May-21	0.08	0.00	0.19	49	0	125	34	68.64
15-Jun-21	0.07	0.00	0.18	42	0	115	32	76.15
14-Jul-21	0.02	0.00	0.06	16	0	40	11	66.85
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.01	0.00	0.04	8	0	24	8	93.95
20-Nov-21	0.19	0.05	0.44	122	30	278	69	56.64
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



*Annex D, Table 22A-14. Design-based density and abundance estimates accounting for unidentified individuals for flying herring gulls in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.04	0.00	0.10	26	0	66	18	68.47
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.01	0.00	0.04	8	0	24	8	92.73
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.06	0.00	0.15	40	0	95	26	64.27
26-Nov-20	0.07	0.02	0.13	48	16	85	17	33.99
10-Jan-21	0.01	0.00	0.04	8	0	24	8	99.94
25-Jan-21	0.11	0.00	0.23	72	0	148	38	52.75
22-Feb-21	0.02	0.00	0.06	16	0	40	11	65.06
14-May-21	0.01	0.00	0.04	9	0	25	8	95.40
27-May-21	0.01	0.00	0.04	8	0	24	8	95.11
15-Jun-21	0.06	0.00	0.17	40	0	109	31	77.91
14-Jul-21	0.02	0.00	0.06	16	0	39	11	65.72
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.01	0.00	0.04	9	0	25	9	99.34
20-Nov-21	0.10	0.01	0.24	65	7	153	38	58.24
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00





### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-15. Design-based density and abundance estimates accounting for unidentified individuals for all herring gulls in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.07	0.00	0.20	9	0	25	8	92.61
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.07	0.00	0.20	8	0	25	8	95.06
26-Nov-20	0.07	0.00	0.19	9	0	23	7	80.22
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.20	0.06	0.36	25	8	43	10	37.94
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



*Annex D, Table 22A-16. Design-based density and abundance estimates accounting for unidentified individuals for flying herring gulls in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.07	0.00	0.20	9	0	24	8	90.98
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.07	0.00	0.19	8	0	23	7	82.45
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.13	0.00	0.30	16	0	37	10	58.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00

### Array Area

6. No herring gulls were recorded within the Array Area.



#### 22.1.4. Lesser Black-Backed Gull

##### Llŷr Marine Ornithology Survey Area

Annex D, Table 22A-17. Design-based density and abundance estimates accounting for unidentified individuals for all lesser black-backed gulls in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.05	0.00	0.12	33	0	78	21	64.41
14-Apr-20	0.05	0.00	0.11	32	0	71	19	58.64
08-Jun-20	1.67	0.00	4.80	1,066	0	3,067	1,005	94.20
24-Jun-20	0.19	0.01	0.50	123	8	317	95	77.11
21-Jul-20	0.02	0.00	0.06	16	0	39	11	65.69
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.09	0.01	0.17	58	9	111	27	46.52
26-Nov-20	0.04	0.00	0.11	24	0	72	23	95.65
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.01	0.00	0.04	8	0	24	8	94.20
22-Feb-21	0.01	0.00	0.04	8	0	24	8	99.50
14-May-21	0.09	0.00	0.22	58	0	140	36	61.71
27-May-21	0.05	0.01	0.10	32	8	63	15	46.60
15-Jun-21	0.10	0.04	0.17	64	24	108	21	32.87
14-Jul-21	0.01	0.00	0.04	8	0	24	8	97.95
16-Aug-21	0.03	0.00	0.06	17	0	40	11	63.11
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.05	0.00	0.11	33	0	71	18	54.14
20-Nov-21	0.01	0.00	0.04	8	0	24	8	95.84
16-Dec-21	0.02	0.00	0.07	16	0	48	16	96.93
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.08	0.02	0.15	49	16	93	20	41.13
20-Mar-22	0.09	0.02	0.18	56	16	116	27	47.63



*Annex D, Table 22A-18. Design-based density and abundance estimates accounting for unidentified individuals for flying lesser black-backed gulls in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.04	0.00	0.10	25	0	62	18	70.77
14-Apr-20	0.05	0.00	0.11	31	0	70	18	57.90
08-Jun-20	1.05	0.00	3.11	670	0	1,984	622	92.86
24-Jun-20	0.05	0.01	0.10	32	8	62	14	43.97
21-Jul-20	0.01	0.00	0.04	8	0	24	8	93.92
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.06	0.00	0.15	39	0	94	25	64.12
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.01	0.00	0.04	8	0	24	8	96.28
22-Feb-21	0.01	0.00	0.04	9	0	24	8	91.75
14-May-21	0.05	0.00	0.11	33	0	71	18	55.03
27-May-21	0.01	0.00	0.04	9	0	24	8	96.84
15-Jun-21	0.10	0.05	0.17	64	31	109	21	31.74
14-Jul-21	0.01	0.00	0.04	8	0	24	8	97.22
16-Aug-21	0.02	0.00	0.06	16	0	39	11	67.34
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.05	0.00	0.11	33	0	73	19	58.13
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.03	0.00	0.07	17	0	48	16	94.47
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.08	0.02	0.14	49	16	88	20	40.66
20-Mar-22	0.09	0.02	0.18	57	16	117	27	46.38



### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-19. Design-based density and abundance estimates accounting for unidentified individuals for all lesser black-backed gulls in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.07	0.00	0.20	8	0	24	8	93.98
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.21	0.00	0.70	25	0	84	24	94.92
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.07	0.00	0.20	8	0	25	8	96.70
14-May-21	0.20	0.00	0.59	24	0	70	23	93.16
27-May-21	0.07	0.00	0.19	9	0	24	7	80.29
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.14	0.00	0.33	17	0	40	11	63.27
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.20	0.00	0.59	24	0	70	22	90.91



*Annex D, Table 22A-20. Design-based density and abundance estimates accounting for unidentified individuals for flying lesser black-backed gulls in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.07	0.00	0.24	9	0	29	8	95.63
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.20	0.00	0.60	24	0	72	24	98.27
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.07	0.00	0.22	9	0	27	8	93.50
14-May-21	0.07	0.00	0.20	9	0	24	8	87.65
27-May-21	0.07	0.00	0.19	9	0	24	7	80.82
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.14	0.00	0.32	17	0	38	10	60.36
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.21	0.00	0.60	26	0	72	23	87.83



## Array Area

*Annex D, Table 22A-21. Design-based density and abundance estimates accounting for unidentified individuals for all lesser black-backed gulls in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.18	0.00	0.48	8	0	22	7	76.41
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.55	0.00	2.01	25	0	91	24	94.28



*Annex D, Table 22A-22. Design-based density and abundance estimates accounting for unidentified individuals for flying lesser black-backed gulls in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.18	0.00	0.50	9	0	23	7	77.11
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.55	0.00	1.73	25	0	78	24	95.58





## 22.1.5. Guillemot

**Llŷr Marine Ornithology Survey Area**

*Annex D, Table 22A-23. Absolute design-based density and abundance estimates accounting for availability bias and unidentified individuals for all guillemots in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	15.87	11.66	20.42	10,136	7,446	13,041	1,414	13.95
14-Apr-20	20.99	10.05	33.65	13,405	6,418	21,491	3,806	28.39
08-Jun-20	1.69	1.33	2.09	1,081	850	1,333	124	11.41
24-Jun-20	18.38	12.82	24.59	11,742	8,187	15,707	1,877	15.98
21-Jul-20	9.58	6.92	12.43	6,121	4,419	7,937	876	14.30
31-Aug-20	22.79	16.19	29.82	14,554	10,341	19,047	2,173	14.93
12-Sep-20	33.17	22.86	46.06	21,184	14,603	29,421	3,930	18.55
22-Oct-20	58.63	40.16	80.87	37,446	25,653	51,651	6,621	17.68
26-Nov-20	35.10	26.89	45.76	22,416	17,174	29,229	3204	14.29
10-Jan-21	14.75	12.71	16.61	9,420	8,118	10,607	653	6.93
25-Jan-21	30.28	25.72	34.67	19,341	16,425	22,142	1,484	7.67
22-Feb-21	26.16	21.49	30.62	16,705	13,725	19,558	1,473	8.82
14-May-21	8.07	7.15	9.15	5,155	4,569	5,842	329	6.38
27-May-21	9.69	8.01	11.41	6,192	5,119	7,287	546	8.82
15-Jun-21	7.83	6.09	9.97	5,000	3,888	6,366	637	12.74
14-Jul-21	6.07	3.34	9.29	3,880	2,132	5,935	965	24.86
16-Aug-21	2.76	1.33	4.65	1,766	850	2,969	529	29.92
01-Sep-21	0.33	0.15	0.51	210	96	328	62	29.27
22-Oct-21	48.72	33.74	64.45	31,120	21,549	41,163	4,897	15.73
20-Nov-21	43.31	30.19	57.38	27,664	19,284	36,650	4,495	16.25
16-Dec-21	0.41	0.22	0.62	262	141	395	65	24.71
05-Jan-22	0.78	0.49	1.18	500	310	753	112	22.35
26-Feb-22	0.78	0.35	1.35	498	226	864	167	33.37
20-Mar-22	19.32	16.07	23.43	12,343	10,263	14,966	1,213	9.82



*Annex D, Table 22A-24. Design-based density and abundance estimates accounting for unidentified individuals for flying guillemots in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	1.33	0.22	2.89	853	140	1,844	456	53.40
14-Apr-20	0.68	0.29	1.10	433	187	705	138	31.80
08-Jun-20	0.08	0.02	0.15	49	16	96	21	42.29
24-Jun-20	0.16	0.11	0.21	103	70	135	18	16.82
21-Jul-20	0.01	0.00	0.04	9	0	24	8	96.72
31-Aug-20	0.06	0.01	0.13	40	8	81	19	47.58
12-Sep-20	0.06	0.01	0.13	41	8	86	20	48.29
22-Oct-20	0.84	0.48	1.28	534	309	819	130	24.30
26-Nov-20	0.60	0.31	0.91	386	196	584	102	26.26
10-Jan-21	0.57	0.05	1.29	364	31	826	207	56.77
25-Jan-21	0.82	0.53	1.15	526	341	736	107	20.32
22-Feb-21	1.05	0.69	1.44	668	443	923	123	18.28
14-May-21	0.05	0.01	0.10	33	8	63	15	44.93
27-May-21	0.35	0.21	0.51	222	131	329	52	23.26
15-Jun-21	0.18	0.07	0.33	113	47	210	42	36.73
14-Jul-21	0.01	0.00	0.04	8	0	24	8	97.64
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.03	0.00	0.07	17	0	48	16	93.47
22-Oct-21	0.67	0.42	0.94	426	269	602	87	20.40
20-Nov-21	1.86	1.02	2.85	1,186	651	1,820	297	25.00
16-Dec-21	0.05	0.00	0.13	32	0	85	24	76.45
05-Jan-22	0.03	0.00	0.07	17	0	44	12	68.90
26-Feb-22	0.31	0.03	0.81	200	18	519	142	71.00
20-Mar-22	0.09	0.02	0.17	60	16	112	25	41.18



### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-25. Absolute design-based density and abundance estimates accounting for availability bias and unidentified individuals for all guillemots in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	6.42	3.05	9.86	766	364	1,176	214	27.91
14-Apr-20	2.59	1.99	3.28	309	238	392	41	13.17
08-Jun-20	0.69	0.17	1.32	82	21	158	37	44.34
24-Jun-20	3.04	1.42	5.25	363	169	626	120	32.91
21-Jul-20	4.00	2.70	5.21	477	323	622	77	16.08
31-Aug-20	40.81	33.56	48.44	4,864	4,000	5,774	439	9.02
12-Sep-20	36.83	26.41	47.56	4,390	3,148	5,669	647	14.72
22-Oct-20	142.94	98.00	190.95	17,036	11,681	22,758	2,827	16.59
26-Nov-20	11.22	8.80	13.83	1,338	1,049	1,649	153	11.37
10-Jan-21	13.86	10.26	18.21	1,653	1,224	2,171	243	14.69
25-Jan-21	27.98	24.82	31.87	3,335	2,959	3,798	217	6.48
22-Feb-21	10.72	9.24	12.54	1,278	1,102	1,495	103	8.03
14-May-21	11.01	8.17	15.11	1,313	974	1,802	218	16.57
27-May-21	6.20	4.72	8.11	739	563	967	106	14.22
15-Jun-21	4.48	3.54	5.41	534	422	645	58	10.80
14-Jul-21	1.34	0.38	2.46	160	46	293	66	40.90
16-Aug-21	0.70	0.00	1.49	83	0	178	47	56.09
01-Sep-21	0.58	0.00	1.29	70	0	154	41	58.28
22-Oct-21	42.03	19.99	71.96	5,010	2,383	8,577	1,567	31.27
20-Nov-21	86.25	57.41	110.47	10,280	6,842	13,166	1,582	15.39
16-Dec-21	0.27	0.00	0.66	33	0	79	21	64.52
05-Jan-22	0.77	0.00	1.60	93	0	191	49	52.84
26-Feb-22	1.39	0.21	3.14	166	26	374	90	54.18
20-Mar-22	20.68	15.42	26.73	2,465	1,838	3,186	353	14.31



*Annex D, Table 22A-26. Design-based density and abundance estimates accounting for unidentified individuals for flying guillemots in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	2.09	0.00	5.68	249	0	677	196	78.58
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.14	0.00	0.26	17	0	32	9	49.23
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.07	0.00	0.24	9	0	29	9	96.92
22-Oct-20	1.67	0.50	3.11	200	60	371	82	40.66
26-Nov-20	1.03	0.54	1.59	123	65	190	32	26.12
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	1.59	0.80	2.41	190	96	287	51	26.81
22-Feb-21	0.81	0.30	1.27	98	36	152	30	30.54
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.28	0.06	0.53	33	8	64	15	45.73
15-Jun-21	0.07	0.00	0.19	9	0	23	7	77.57
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	1.05	0.36	1.85	126	43	220	47	37.35
20-Nov-21	4.04	2.24	6.09	482	267	727	122	25.31
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.99	0.00	2.75	118	0	329	99	83.55
20-Mar-22	0.28	0.06	0.56	34	8	68	16	46.40



## Array Area

*Annex D, Table 22A-27. Absolute design-based density and abundance estimates accounting for availability bias and unidentified individuals for all guillemots in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	4.47	2.81	5.80	201	127	261	34	16.67
14-Apr-20	1.20	0.43	1.84	54	20	83	18	31.73
08-Jun-20	0.78	0.20	1.40	36	10	64	15	40.39
24-Jun-20	2.19	0.47	4.36	99	22	196	50	49.93
21-Jul-20	4.30	1.60	8.54	193	73	384	85	43.67
31-Aug-20	51.61	38.65	69.47	2,318	1,736	3,120	392	16.89
12-Sep-20	35.94	23.54	50.64	1,614	1,058	2,274	297	18.35
22-Oct-20	237.58	155.18	323.59	10,669	6,969	14,531	2,033	19.05
26-Nov-20	10.34	8.27	12.82	465	372	576	52	11.02
10-Jan-21	16.07	10.49	19.70	722	471	885	118	16.34
25-Jan-21	25.45	22.27	29.24	1,144	1,000	1,313	88	7.66
22-Feb-21	13.06	10.79	17.19	587	485	772	76	12.81
14-May-21	6.73	6.53	6.97	303	294	314	6	1.83
27-May-21	7.29	5.12	10.73	328	230	482	69	20.78
15-Jun-21	3.47	2.13	4.71	156	96	212	30	19.26
14-Jul-21	0.92	0.00	1.90	42	0	86	23	55.48
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	38.48	15.96	69.47	1,728	717	3,120	581	33.62
20-Nov-21	52.62	22.12	84.14	2,363	994	3,779	721	30.47
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.83	0.00	2.15	38	0	97	27	71.13
26-Feb-22	2.93	0.11	7.37	132	5	331	98	74.09
20-Mar-22	23.80	16.39	31.99	1,069	737	1,437	177	16.56



*Annex D, Table 22A-28. Design-based density and abundance estimates accounting for unidentified individuals for flying guillemots in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.18	0.00	0.46	8	0	21	6	75.38
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.18	0.00	0.41	9	0	19	6	67.80
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	2.57	0.31	5.89	116	14	265	69	59.14
26-Nov-20	0.91	0.36	1.66	41	17	75	14	34.04
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.72	0.16	1.25	33	8	57	14	41.65
22-Feb-21	0.68	0.00	1.67	31	0	75	22	69.81
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.18	0.00	0.43	8	0	20	6	70.57
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	1.13	0.51	1.78	51	23	80	16	30.09
20-Nov-21	2.46	0.68	4.73	111	31	213	42	37.68
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	2.53	0.00	7.82	114	0	352	99	86.32
20-Mar-22	0.18	0.00	0.56	8	0	26	8	94.60

22.1.6. *Razorbill***Llŷr Marine Ornithology Survey Area**

*Annex D, Table 22A-29. Absolute design-based density and abundance estimates accounting for availability bias and unidentified individuals for all razorbills in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	5.51	4.24	6.95	3,517	2,708	4,442	439	12.47
14-Apr-20	0.65	0.26	1.10	416	168	704	140	33.51
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.06	0.00	0.13	39	1	86	22	56.22
21-Jul-20	0.02	0.00	0.05	10	1	30	10	95.45
31-Aug-20	0.18	0.07	0.32	113	43	205	43	37.82
12-Sep-20	1.01	0.58	1.48	646	369	943	143	22.10
22-Oct-20	4.34	2.33	6.68	2,774	1,491	4,269	735	26.50
26-Nov-20	4.38	2.17	7.08	2,797	1,385	4,523	820	29.29
10-Jan-21	2.61	1.36	4.15	1,670	869	2,653	464	27.76
25-Jan-21	1.85	1.25	2.51	1,184	801	1,604	203	17.13
22-Feb-21	2.71	1.72	3.95	1,729	1,101	2,526	374	21.59
14-May-21	0.07	0.00	0.16	48	1	104	28	57.05
27-May-21	0.31	0.14	0.50	200	91	321	61	30.10
15-Jun-21	0.03	0.00	0.08	20	0	49	14	68.30
14-Jul-21	0.05	0.00	0.13	35	0	84	23	65.13
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.03	0.00	0.09	20	0	59	20	97.78
22-Oct-21	15.10	9.43	21.03	9,644	6,023	13,431	1,977	20.49
20-Nov-21	4.55	3.09	6.16	2,906	1,973	3,933	502	17.26
16-Dec-21	0.06	0.00	0.18	40	0	118	38	96.33
05-Jan-22	0.05	0.00	0.15	33	0	96	31	93.93
26-Feb-22	0.96	0.54	1.41	616	347	903	140	22.73
20-Mar-22	3.97	2.53	5.77	2,533	1,615	3,688	530	20.89



*Annex D, Table 22A-30. Design-based density and abundance estimates accounting for unidentified individuals for flying razorbills in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.10	0.03	0.18	65	18	119	26	39.19
14-Apr-20	0.04	0.00	0.10	25	0	63	17	68.33
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.14	0.04	0.30	91	24	191	42	46.04
26-Nov-20	0.03	0.00	0.06	17	0	40	11	65.81
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.02	0.00	0.06	16	0	40	12	70.81
22-Feb-21	0.25	0.13	0.38	161	86	245	42	25.90
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.05	0.01	0.10	32	8	63	15	45.42
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.03	0.00	0.07	17	0	48	16	95.67
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	1.36	0.59	2.45	871	377	1,567	333	38.22
20-Nov-21	0.03	0.00	0.08	18	1	51	16	86.43
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.22	0.08	0.38	138	51	241	49	35.45
20-Mar-22	0.08	0.00	0.20	52	0	127	33	64.53





### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-31.. Absolute design-based density and abundance estimates accounting for availability bias and unidentified individuals for all razorbills in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	2.61	1.72	3.35	311	205	400	52	16.70
14-Apr-20	0.04	0.00	0.13	6	0	16	5	82.48
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.04	0.00	0.10	5	1	13	4	71.28
12-Sep-20	1.54	0.12	2.94	184	15	351	86	46.54
22-Oct-20	11.59	7.18	15.74	1,381	856	1,877	265	19.18
26-Nov-20	0.79	0.35	1.19	94	42	142	27	27.82
10-Jan-21	2.65	0.93	4.51	317	111	538	110	34.54
25-Jan-21	2.12	0.31	4.84	253	38	578	145	57.02
22-Feb-21	0.87	0.44	1.26	104	53	150	26	24.20
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.41	0.01	0.96	49	2	114	32	64.65
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	23.15	9.21	38.69	2,760	1,098	4,611	910	32.96
20-Nov-21	7.76	5.07	10.42	926	605	1,242	177	19.11
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	1.66	0.12	3.47	198	15	414	101	50.90
20-Mar-22	0.18	0.08	0.31	22	10	38	8	32.54



*Annex D, Table 22A-32.. Design-based density and abundance estimates accounting for unidentified individuals for flying razorbills in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.14	0.00	0.39	17	0	47	14	80.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.62	0.23	1.13	75	28	136	31	41.39
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.40	0.06	0.88	48	8	105	27	55.47
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	1.34	0.67	2.32	160	80	277	53	32.52
20-Nov-21	0.00	0.00	0.01	1	0	2	1	88.76
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.23	0.00	0.47	28	0	56	15	51.88
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



## Array Area

*Annex D, Table 22A-33. Absolute design-based density and abundance estimates accounting for availability bias and unidentified individuals for all razorbills in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	2.20	0.11	4.23	99	6	191	48	48.40
14-Apr-20	0.01	0.00	0.01	1	0	1	1	68.64
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.01	0.00	0.04	1	0	3	1	89.82
12-Sep-20	2.27	0.00	6.11	103	0	275	77	75.27
22-Oct-20	15.46	7.38	20.70	695	332	930	164	23.55
26-Nov-20	0.53	0.00	1.37	24	0	62	19	79.82
10-Jan-21	3.12	0.12	6.13	141	6	276	69	48.65
25-Jan-21	0.92	0.00	1.75	42	0	79	19	44.67
22-Feb-21	1.30	0.61	2.28	59	28	103	20	33.20
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.44	0.00	1.18	20	0	53	15	71.54
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	17.97	8.40	24.23	807	378	1089	188	23.19
20-Nov-21	10.72	2.49	19.06	482	112	856	197	40.86
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	2.61	0.00	5.21	118	0	235	59	50.23
20-Mar-22	0.28	0.17	0.36	13	8	17	3	18.93



*Annex D, Table 22A-34. Design-based density and abundance estimates accounting for unidentified individuals for flying razorbills in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.54	0.16	0.98	25	8	45	10	40.35
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.52	0.00	1.70	24	0	77	23	97.77
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	2.61	0.67	4.95	118	30	223	52	43.77
20-Nov-21	0.01	0.00	0.02	1	0	1	1	96.66
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.44	0.00	1.04	20	0	47	14	69.35
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



## 22.1.7. Puffin

**Llŷr Marine Ornithology Survey Area**

*Annex D, Table 22A-35. Absolute design-based density and abundance estimates accounting for availability bias and unidentified individuals for all puffins in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	4.70	3.10	6.40	3,002	1,982	4,089	545	18.16
14-Apr-20	0.57	0.29	0.88	364	186	563	99	27.05
08-Jun-20	0.20	0.04	0.39	125	28	251	57	45.59
24-Jun-20	1.19	0.67	1.77	760	431	1,130	180	23.67
21-Jul-20	0.20	0.08	0.37	131	51	239	49	37.23
31-Aug-20	0.09	0.03	0.17	56	18	110	25	44.35
12-Sep-20	0.39	0.20	0.63	252	126	405	75	29.67
22-Oct-20	0.65	0.33	0.97	415	213	622	105	25.30
26-Nov-20	0.48	0.24	0.78	310	151	500	89	28.45
10-Jan-21	0.11	0.04	0.24	73	26	151	35	47.38
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.27	0.15	0.39	171	99	252	40	23.08
14-May-21	0.80	0.44	1.25	513	283	799	134	26.13
27-May-21	0.35	0.23	0.49	222	144	311	43	19.42
15-Jun-21	2.31	1.83	2.82	1,476	1,170	1,803	161	10.85
14-Jul-21	0.18	0.03	0.42	117	18	267	67	57.33
16-Aug-21	0.11	0.03	0.22	74	18	143	33	44.03
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.07	0.02	0.13	42	12	85	19	45.01
20-Nov-21	0.05	0.01	0.09	29	9	57	12	41.49
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.58	0.39	0.80	369	253	511	67	17.96



*Annex D, Table 22A-36. Design-based density and abundance estimates accounting for unidentified individuals for flying puffins in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.10	0.01	0.22	63	8	139	34	53.43
14-Apr-20	0.05	0.00	0.11	32	0	70	18	56.01
08-Jun-20	0.03	0.00	0.10	18	0	63	17	95.43
24-Jun-20	0.04	0.00	0.08	25	0	54	13	52.09
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.01	0.00	0.04	8	0	24	8	99.65
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.05	0.00	0.11	32	0	72	18	56.95
14-May-21	0.02	0.00	0.07	16	0	48	15	93.81
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.01	0.00	0.04	9	0	24	8	97.41
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.02	0.00	0.07	16	0	48	15	96.91
20-Nov-21	0.02	0.00	0.05	13	0	29	8	63.98
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-37. Absolute design-based density and abundance estimates accounting for availability bias and unidentified individuals for all puffins in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	9.27	7.07	11.68	1,105	843	1,393	142	12.81
14-Apr-20	0.18	0.00	0.41	22	0	49	14	61.90
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.46	0.15	0.85	56	18	102	21	37.65
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.04	0.00	0.14	5	0	17	5	99.97
12-Sep-20	0.78	0.15	1.66	93	19	198	48	50.82
22-Oct-20	1.86	1.21	2.48	222	144	296	39	17.34
26-Nov-20	0.26	0.00	0.54	32	0	65	17	50.99
10-Jan-21	0.02	0.00	0.07	3	0	8	3	83.14
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.19	0.00	0.49	23	0	59	16	69.21
14-May-21	1.50	0.46	3.03	179	56	362	77	42.67
27-May-21	0.24	0.08	0.36	29	10	43	9	28.68
15-Jun-21	1.41	1.08	1.88	169	129	224	26	15.44
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.02	0.01	0.04	3	1	5	1	41.35
20-Nov-21	0.11	0.00	0.25	14	1	30	8	60.99
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.32	0.13	0.51	38	16	61	12	30.28



*Annex D, Table 22A-38. Design-based density and abundance estimates accounting for unidentified individuals for flying puffins in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.41	0.00	0.85	50	0	102	26	51.27
14-Apr-20	0.06	0.00	0.23	8	0	28	8	104.70
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.06	0.00	0.19	8	0	23	7	89.61
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.14	0.00	0.38	17	0	45	13	79.03
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00





## Array Area

Annex D, Table 22A-39. Absolute design-based density and abundance estimates accounting for availability bias and unidentified individuals for all puffins in the Array Area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	10.25	4.86	15.77	461	219	708	125	27.07
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.18	0.00	0.52	9	0	24	8	90.25
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	2.07	0.74	4.13	93	34	186	40	42.31
22-Oct-20	1.15	0.52	1.62	52	24	73	14	26.50
26-Nov-20	0.22	0.00	0.62	10	0	28	9	89.49
10-Jan-21	0.07	0.00	0.18	4	0	8	3	76.72
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.17	0.00	0.34	8	0	16	4	45.59
14-May-21	1.87	0.17	3.38	85	8	152	38	44.75
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	1.47	1.13	1.87	66	51	85	9	12.79
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.22	0.00	0.55	10	0	25	7	70.55
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.47	0.24	0.76	22	11	35	7	28.82



*Annex D, Table 22A-40. Design-based density and abundance estimates accounting for unidentified individuals for flying puffins in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.91	0.33	1.45	41	16	65	14	31.76
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.17	0.00	0.52	8	0	24	8	95.28
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



### 22.1.8. European Storm Petrel

#### Llŷr Marine Ornithology Survey Area

Annex D, Table 22A-41. Design-based density and abundance estimates accounting for unidentified individuals for all European storm petrels in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.04	0.00	0.10	25	0	63	17	69.66
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.02	0.00	0.06	16	0	39	11	66.24
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



*Annex D, Table 22A-42. Design-based density and abundance estimates accounting for unidentified individuals for flying European storm petrels in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.04	0.00	0.10	24	0	62	17	69.17
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.02	0.00	0.06	16	0	39	11	67.51
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-43. Design-based density and abundance estimates accounting for unidentified individuals for all European storm petrels in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.07	0.00	0.19	9	0	23	7	77.51
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



*Annex D, Table 22A-44. Design-based density and abundance estimates accounting for unidentified individuals for flying European storm petrels in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.07	0.00	0.19	8	0	23	7	83.36
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



## Array Area

*Annex D, Table 22A-45. Design-based density and abundance estimates accounting for unidentified individuals for all European storm petrels in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.18	0.00	0.43	9	0	20	6	68.33
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



*Annex D, Table 22A-46. Design-based density and abundance estimates accounting for unidentified individuals for flying European storm petrels in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.18	0.00	0.43	9	0	20	6	69.38
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00





### 22.1.9. Manx Shearwater

#### Llŷr Marine Ornithology Survey Area

Annex D, Table 22A-47. Design-based density and abundance estimates accounting for unidentified individuals for all Manx shearwaters in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	11.63	7.75	16.19	7,428	4,949	10,341	1,387	18.66
14-Apr-20	0.59	0.29	0.96	378	183	615	111	29.26
08-Jun-20	13.95	6.40	22.28	8,913	4,090	14,229	2,604	29.21
24-Jun-20	37.65	20.73	55.42	24,045	13,238	35,398	5,716	23.77
21-Jul-20	17.30	9.50	26.46	11,052	6,069	16,903	2,818	25.50
31-Aug-20	25.96	7.06	52.99	16,581	4,509	33,847	7,584	45.74
12-Sep-20	0.19	0.11	0.31	125	70	198	33	25.78
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.13	0.02	0.25	81	16	160	37	45.36
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.13	0.06	0.20	85	40	131	24	28.20
14-May-21	1.79	0.38	3.89	1,146	246	2,483	599	52.25
27-May-21	11.81	7.29	17.02	7,541	4,657	10,872	1,610	21.35
15-Jun-21	15.53	6.81	27.95	9,918	4,351	17,849	3,410	34.37
14-Jul-21	0.33	0.12	0.61	213	78	388	79	37.06
16-Aug-21	10.70	3.68	21.03	6,837	2,348	13,430	2,918	42.67
01-Sep-21	0.12	0.04	0.23	80	24	149	32	40.29
22-Oct-21	0.17	0.01	0.37	106	8	236	58	54.88
20-Nov-21	0.07	0.02	0.13	45	12	84	19	41.10
16-Dec-21	0.01	0.00	0.04	9	0	24	8	93.69
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	6.45	3.05	11.26	4,117	1,950	7,194	1,430	34.72



*Annex D, Table 22A-48. Design-based density and abundance estimates accounting for unidentified individuals for flying Manx shearwaters in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	3.85	2.15	6.52	2,458	1,372	4,165	750	30.49
14-Apr-20	0.06	0.01	0.13	41	8	84	20	48.12
08-Jun-20	10.26	3.98	17.60	6,552	2,540	11,240	2,236	34.13
24-Jun-20	20.81	11.08	32.32	13,293	7,080	20,644	3,473	26.13
21-Jul-20	4.81	3.29	6.74	3,075	2,105	4,306	557	18.09
31-Aug-20	3.47	1.83	5.76	2,215	1,172	3,682	647	29.22
12-Sep-20	0.06	0.01	0.13	40	8	85	20	48.79
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.04	0.00	0.11	26	0	73	25	98.44
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.06	0.01	0.12	40	8	80	19	47.93
14-May-21	0.56	0.13	1.39	358	86	890	217	60.56
27-May-21	5.88	2.82	9.93	3,758	1,803	6,344	1,140	30.32
15-Jun-21	4.04	1.62	6.71	2,580	1,038	4,289	835	32.35
14-Jul-21	0.24	0.10	0.40	152	63	254	49	32.21
16-Aug-21	4.27	1.06	8.89	2,725	679	5,680	1,271	46.63
01-Sep-21	0.05	0.00	0.11	32	0	71	18	56.09
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.06	0.01	0.10	36	8	64	14	39.33
16-Dec-21	0.01	0.00	0.04	9	0	24	8	96.36
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	1.86	0.68	3.34	1,191	435	2,132	431	36.16



### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-49. Design-based density and abundance estimates accounting for unidentified individuals for all Manx shearwaters in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	3.49	2.02	5.76	416	242	687	122	29.23
14-Apr-20	0.54	0.13	1.00	65	16	119	28	42.25
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	5.11	1.13	9.86	609	135	1,175	268	43.97
21-Jul-20	23.32	5.05	49.33	2,780	603	5,879	1,384	49.77
31-Aug-20	19.22	6.60	31.44	2,291	788	3,748	762	33.25
12-Sep-20	0.27	0.06	0.56	33	8	68	17	50.78
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.20	0.07	0.31	25	8	37	7	28.89
14-May-21	1.20	0.33	2.44	143	40	291	64	44.47
27-May-21	11.88	6.59	17.40	1,416	786	2,074	326	22.98
15-Jun-21	10.31	4.25	16.25	1,229	507	1,938	386	31.38
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	3.50	0.56	7.03	418	67	839	205	49.12
01-Sep-21	0.13	0.00	0.32	17	0	39	10	61.90
22-Oct-21	0.35	0.00	0.96	42	0	115	33	78.11
20-Nov-21	0.07	0.00	0.19	9	0	23	7	75.69
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	17.83	2.19	39.83	2126	261	4,747	1,189	55.93



*Annex D, Table 22A-50. Design-based density and abundance estimates accounting for unidentified individuals for flying Manx shearwaters in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	1.43	0.99	1.82	170	119	218	27	15.45
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	3.91	0.79	7.44	466	95	888	210	45.01
21-Jul-20	8.55	3.06	14.69	1,020	365	1,751	364	35.68
31-Aug-20	5.96	3.52	8.34	711	420	994	151	21.22
12-Sep-20	0.13	0.00	0.46	16	0	55	16	98.18
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.13	0.00	0.26	17	0	31	8	49.42
14-May-21	0.27	0.06	0.53	33	8	63	15	45.96
27-May-21	6.04	2.15	11.41	720	256	1,360	286	39.62
15-Jun-21	3.00	0.26	7.17	358	31	855	227	63.35
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	1.44	0.00	3.91	172	0	467	135	78.20
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	2.84	0.12	7.68	340	15	916	270	79.49



## Array Area

*Annex D, Table 22A-51. Design-based density and abundance estimates accounting for unidentified individuals for all Manx shearwaters in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	3.40	0.36	7.34	153	16	330	88	57.56
14-Apr-20	0.76	0.00	2.12	35	0	96	30	85.84
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	1.78	0.72	2.90	80	33	131	27	32.57
21-Jul-20	3.05	1.32	4.34	138	60	196	36	26.20
31-Aug-20	33.86	1.68	67.54	1,521	76	3,033	724	47.55
12-Sep-20	0.27	0.00	0.55	13	0	25	7	52.11
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.18	0.00	0.52	9	0	24	8	89.51
14-May-21	1.29	0.28	3.04	58	13	137	37	63.85
27-May-21	13.21	8.98	16.27	594	404	731	89	14.85
15-Jun-21	6.46	1.35	12.27	290	61	552	131	45.11
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.90	0.00	2.08	41	0	94	27	66.41
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	45.25	2.19	120.55	2,032	99	5,414	1,340	65.92



*Annex D, Table 22A-52. Design-based density and abundance estimates accounting for unidentified individuals for flying Manx shearwaters in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	1.82	0.43	3.15	82	20	142	34	40.63
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	1.79	0.68	2.85	81	31	128	25	30.98
21-Jul-20	2.33	0.48	4.31	105	22	194	46	43.52
31-Aug-20	5.47	1.53	10.95	246	69	492	112	45.32
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.18	0.00	0.52	9	0	24	8	92.11
14-May-21	0.18	0.00	0.44	8	0	20	6	71.30
27-May-21	6.41	3.08	10.19	288	139	458	83	28.81
15-Jun-21	5.36	0.17	12.27	241	8	552	155	64.09
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	6.99	0.30	20.36	314	14	915	295	93.71



## 22.1.10. Gannet

**Llŷr Marine Ornithology Survey Area**

*Annex D, Table 22A-53. Design-based density and abundance estimates accounting for unidentified individuals for all gannets in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.48	0.25	0.74	308	163	470	78	25.12
14-Apr-20	0.63	0.35	0.96	406	222	617	105	25.66
08-Jun-20	0.55	0.06	1.35	352	40	861	240	68.28
24-Jun-20	0.44	0.22	0.71	282	140	452	79	27.99
21-Jul-20	0.48	0.28	0.76	306	178	483	78	25.38
31-Aug-20	0.70	0.24	1.47	445	155	938	212	47.69
12-Sep-20	1.75	0.57	3.24	1,117	362	2,067	447	39.97
22-Oct-20	1.35	0.36	2.62	865	229	1,672	367	42.40
26-Nov-20	0.46	0.10	1.04	296	63	662	176	59.48
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.06	0.01	0.12	42	8	80	19	45.57
22-Feb-21	0.35	0.11	0.65	224	71	413	90	39.98
14-May-21	1.00	0.33	1.89	639	210	1,211	259	40.47
27-May-21	0.30	0.07	0.62	190	47	397	90	47.12
15-Jun-21	0.21	0.10	0.34	134	63	219	40	29.31
14-Jul-21	0.29	0.10	0.56	188	62	358	81	42.96
16-Aug-21	1.32	0.78	2.00	841	497	1,278	204	24.17
01-Sep-21	0.28	0.16	0.45	182	101	286	48	26.43
22-Oct-21	5.11	2.78	7.97	3,263	1,775	5,093	878	26.91
20-Nov-21	0.77	0.36	1.22	490	229	779	144	29.21
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.07	0.03	0.12	45	17	79	17	38.43
26-Feb-22	0.30	0.18	0.41	193	116	265	39	20.05
20-Mar-22	0.14	0.06	0.22	88	39	141	27	30.42



*Annex D, Table 22A-54. Design-based density and abundance estimates accounting for unidentified individuals for flying gannet in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.45	0.23	0.69	285	150	442	75	26.02
14-Apr-20	0.46	0.22	0.75	293	138	477	89	30.28
08-Jun-20	0.31	0.03	0.81	200	16	516	148	74.01
24-Jun-20	0.31	0.15	0.49	202	95	315	57	28.24
21-Jul-20	0.28	0.12	0.53	182	78	341	70	37.95
31-Aug-20	0.20	0.10	0.32	127	64	206	37	29.01
12-Sep-20	0.98	0.35	1.99	629	222	1,274	286	45.39
22-Oct-20	0.17	0.01	0.35	106	8	227	57	53.09
26-Nov-20	0.14	0.04	0.26	90	24	169	37	40.42
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.05	0.00	0.11	33	0	71	19	56.27
22-Feb-21	0.31	0.10	0.59	198	63	376	81	40.82
14-May-21	0.36	0.12	0.71	232	77	457	98	42.01
27-May-21	0.26	0.05	0.60	169	32	381	89	52.34
15-Jun-21	0.17	0.06	0.30	111	40	190	39	35.05
14-Jul-21	0.28	0.10	0.55	179	62	350	75	41.72
16-Aug-21	1.16	0.67	1.86	744	425	1,187	193	25.86
01-Sep-21	0.25	0.13	0.39	161	86	250	43	26.56
22-Oct-21	1.01	0.48	1.74	645	308	1,111	207	32.11
20-Nov-21	0.04	0.00	0.08	25	0	54	13	53.28
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.06	0.01	0.11	37	9	69	16	43.52
26-Feb-22	0.27	0.17	0.39	176	110	249	37	20.64
20-Mar-22	0.14	0.06	0.22	88	40	141	26	29.25





### Array Area Plus a 2 km Buffer

*Annex D, Table 22A-55. Design-based density and abundance estimates accounting for unidentified individuals for all gannets in the Array Area plus a 2 km buffer*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	1.08	0.53	1.66	129	64	198	35	27.02
14-Apr-20	0.69	0.39	1.00	82	47	120	18	21.33
08-Jun-20	0.22	0.00	0.44	27	0	53	13	46.91
24-Jun-20	0.60	0.12	1.18	72	15	141	33	45.10
21-Jul-20	1.08	0.46	1.76	129	56	210	42	31.96
31-Aug-20	0.21	0.00	0.47	25	0	56	16	61.45
12-Sep-20	0.13	0.00	0.39	17	0	47	14	82.97
22-Oct-20	3.17	0.55	6.41	379	66	764	183	48.24
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.67	0.00	1.75	80	0	209	58	71.83
14-May-21	2.12	0.87	3.69	254	104	440	83	32.65
27-May-21	0.42	0.00	1.04	50	0	125	36	71.66
15-Jun-21	0.13	0.00	0.32	17	0	39	11	63.21
14-Jul-21	0.54	0.18	0.98	65	22	118	26	39.31
16-Aug-21	1.86	0.99	3.21	222	119	383	67	30.22
01-Sep-21	0.28	0.13	0.42	33	16	51	9	26.35
22-Oct-21	6.54	2.26	10.72	780	269	1,278	262	33.50
20-Nov-21	0.41	0.11	0.77	49	14	92	21	42.70
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.34	0.00	0.74	41	0	89	23	55.39
20-Mar-22	0.47	0.27	0.71	57	33	86	14	24.25



Annex D, Table 22A-56. Design-based density and abundance estimates accounting for unidentified individuals for flying gannets in the Array Area plus a 2 km buffer

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	1.02	0.46	1.61	122	55	193	36	28.91
14-Apr-20	0.54	0.13	0.93	65	16	112	25	38.00
08-Jun-20	0.15	0.00	0.33	18	0	40	11	59.74
24-Jun-20	0.60	0.17	1.16	72	20	139	31	42.54
21-Jul-20	0.90	0.32	1.63	108	39	194	42	39.10
31-Aug-20	0.20	0.00	0.46	25	0	56	15	61.07
12-Sep-20	0.14	0.00	0.39	17	0	47	14	84.83
22-Oct-20	0.47	0.00	1.06	57	0	126	35	61.06
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.67	0.00	1.73	80	0	207	57	71.53
14-May-21	0.54	0.27	0.83	65	33	100	17	25.39
27-May-21	0.40	0.00	1.07	48	0	128	36	74.17
15-Jun-21	0.13	0.00	0.33	17	0	39	11	64.14
14-Jul-21	0.55	0.13	0.95	66	16	114	26	38.52
16-Aug-21	1.83	1.04	2.98	218	124	356	63	28.45
01-Sep-21	0.20	0.07	0.32	25	8	38	8	30.67
22-Oct-21	1.52	0.54	3.28	182	65	392	88	47.99
20-Nov-21	0.06	0.00	0.19	8	0	23	7	85.33
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.27	0.00	0.53	33	0	63	17	51.88
20-Mar-22	0.47	0.27	0.72	57	32	86	14	24.13



## Array Area

*Annex D, Table 22A-57. Design-based density and abundance estimates accounting for unidentified individuals for all gannets in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	1.26	0.00	3.01	57	0	136	39	68.04
14-Apr-20	0.19	0.00	0.45	9	0	21	6	66.46
08-Jun-20	0.39	0.00	0.78	18	0	35	10	51.32
24-Jun-20	0.35	0.00	1.05	16	0	48	14	89.21
21-Jul-20	0.18	0.00	0.43	8	0	20	6	70.66
31-Aug-20	0.37	0.00	1.07	17	0	49	15	89.01
12-Sep-20	0.19	0.00	0.49	9	0	22	7	75.21
22-Oct-20	3.82	0.00	7.84	172	0	353	92	53.64
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	1.33	0.00	3.02	60	0	136	40	65.19
14-May-21	0.36	0.16	0.53	17	8	24	5	27.71
27-May-21	0.90	0.00	2.62	41	0	118	36	87.09
15-Jun-21	0.18	0.00	0.61	8	0	28	8	99.60
14-Jul-21	0.17	0.00	0.46	8	0	21	6	76.06
16-Aug-21	1.24	0.82	1.64	56	37	74	11	18.12
01-Sep-21	0.18	0.00	0.48	9	0	22	7	73.73
22-Oct-21	6.94	1.97	13.06	312	89	587	119	38.06
20-Nov-21	0.50	0.00	1.21	23	0	55	15	64.62
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.35	0.00	0.71	16	0	33	8	49.87
20-Mar-22	0.36	0.15	0.52	17	7	24	5	28.73



*Annex D, Table 22A-58. Design-based density and abundance estimates accounting for unidentified individuals for flying gannets in the Array Area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	1.26	0.00	2.91	57	0	131	39	67.54
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.20	0.00	0.59	10	0	27	9	88.30
24-Jun-20	0.37	0.00	1.05	17	0	48	15	88.61
21-Jul-20	0.18	0.00	0.42	9	0	19	6	66.72
31-Aug-20	0.38	0.00	1.19	18	0	54	16	88.42
12-Sep-20	0.18	0.00	0.49	9	0	22	7	77.30
22-Oct-20	0.77	0.00	2.00	35	0	90	25	69.95
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	1.22	0.00	3.02	55	0	136	40	71.18
14-May-21	0.36	0.16	0.53	17	8	24	5	28.69
27-May-21	0.90	0.00	2.62	41	0	118	37	90.15
15-Jun-21	0.19	0.00	0.63	9	0	29	9	95.59
14-Jul-21	0.18	0.00	0.46	9	0	21	6	73.29
16-Aug-21	1.24	0.70	1.64	56	32	74	11	18.14
01-Sep-21	0.18	0.00	0.48	9	0	22	7	74.90
22-Oct-21	1.06	0.59	1.69	48	27	76	13	25.94
20-Nov-21	0.19	0.00	0.45	9	0	21	6	68.95
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.36	0.00	0.71	17	0	33	9	50.94
20-Mar-22	0.35	0.15	0.52	16	7	24	5	27.95



## 22.2 Infrequently Recorded Species Screened out of Further Assessment

### 22.2.1. Black-Headed Gull

Annex D, Table 22A-59. Design-based density and abundance estimates accounting for unidentified individuals for all black-headed gulls in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.03	0	0.08	17	0	49	17	96.28
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



### 22.2.2. Common Gull

Annex D, Table 22A-60. Design-based density and abundance estimates accounting for unidentified individuals for all common gulls in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.03	0.00	0.06	17	0	41	12	68.04
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.01	0.00	0.04	8	0	24	8	94.23
26-Nov-20	0.01	0.00	0.04	8	0	24	8	99.75
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.04	0.00	0.07	25	0	48	13	50.41
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.02	0.00	0.06	16	0	39	11	66.32
20-Nov-21	0.19	0.07	0.34	121	47	218	44	36.12
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



### 22.2.3. Common Tern

Annex D, Table 22A-61. Design-based density and abundance estimates accounting for unidentified individuals for all common terns in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.06	0.00	0.16	40	0	100	28	68.13
21-Jul-20	0.04	0.00	0.10	28	0	66	19	67.01
31-Aug-20	0.04	0.00	0.10	24	0	63	17	69.68
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.01	0.00	0.04	8	0	24	8	92.18
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.10	0.02	0.19	63	16	125	29	44.80
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00



### 22.2.5. Arctic Tern

Annex D, Table 22A-62. Design-based density and abundance estimates accounting for unidentified individuals for all Arctic terns in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.02	0.00	0.06	14	0	37	11	79.99
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.10	0.00	0.29	67	0	188	56	83.29
27-May-21	0.07	0.00	0.18	47	0	117	31	66.17
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.01	0.00	0.04	9	0	24	8	96.12
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00





### 22.2.6. Great Skua

Annex D, Table 22A-63. Design-based density and abundance estimates accounting for unidentified individuals for all great skuas in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.00	0.00	0.00	0	0	0	0	0.00
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.01	0.00	0.04	8	0	24	8	104.10
12-Sep-20	0.01	0.00	0.04	8	0	24	8	95.60
22-Oct-20	0.02	0.00	0.06	16	0	40	11	66.72
26-Nov-20	0.01	0.00	0.04	8	0	24	8	98.19
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.01	0.00	0.05	9	0	31	9	98.42
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.00	0.00	0.00	0	0	0	0	0.00

22.2.7. *Fulmar*

Annex D, Table 22A-64. Design-based density and abundance estimates accounting for unidentified individuals for all fulmars in the Llŷr marine ornithology survey area

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.09	0.01	0.18	57	8	119	29	50.49
14-Apr-20	0.07	0.02	0.14	48	16	92	20	41.91
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.05	0.01	0.10	31	8	62	15	47.56
21-Jul-20	0.05	0.01	0.10	32	8	62	15	45.71
31-Aug-20	0.19	0.06	0.33	120	39	211	45	37.03
12-Sep-20	0.09	0.02	0.17	57	16	108	24	41.58
22-Oct-20	0.10	0.02	0.19	63	16	125	29	46.23
26-Nov-20	0.05	0.01	0.10	33	8	63	15	43.69
10-Jan-21	0.04	0.00	0.10	25	0	63	17	68.65
25-Jan-21	0.10	0.04	0.16	64	24	103	21	32.63
22-Feb-21	0.04	0.00	0.11	26	0	72	24	92.66
14-May-21	0.16	0.09	0.26	105	55	163	27	25.61
27-May-21	0.05	0.01	0.10	32	8	63	15	44.32
15-Jun-21	0.00	0.00	0.00	0	0	0	0	0.00
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.02	0.00	0.06	16	0	40	11	65.15
01-Sep-21	0.01	0.00	0.04	8	0	24	8	97.24
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.01	0.00	0.04	8	0	25	8	98.17
16-Dec-21	0.07	0.02	0.14	48	16	88	20	42.05
05-Jan-22	0.06	0.00	0.15	36	0	97	27	75.27
26-Feb-22	0.00	0.00	0.00	0	0	0	0	0.00
20-Mar-22	0.04	0.00	0.08	25	0	54	13	52.69

22.2.8. *Shag**Annex D, Table 22A-65. Design-based density and abundance estimates accounting for unidentified individuals for all shags in the Llŷr marine ornithology survey area*

Survey dates	Density (n/km <sup>2</sup> )	LCL (n/km <sup>2</sup> )	UCL (n/km <sup>2</sup> )	Population (n)	LCL (n)	UCL (n)	SD (n)	CV population (%)
25-Mar-20	0.01	0.00	0.04	9	0	24	8	97.63
14-Apr-20	0.00	0.00	0.00	0	0	0	0	0.00
08-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
24-Jun-20	0.00	0.00	0.00	0	0	0	0	0.00
21-Jul-20	0.00	0.00	0.00	0	0	0	0	0.00
31-Aug-20	0.00	0.00	0.00	0	0	0	0	0.00
12-Sep-20	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-20	0.00	0.00	0.00	0	0	0	0	0.00
26-Nov-20	0.00	0.00	0.00	0	0	0	0	0.00
10-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
25-Jan-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Feb-21	0.00	0.00	0.00	0	0	0	0	0.00
14-May-21	0.00	0.00	0.00	0	0	0	0	0.00
27-May-21	0.00	0.00	0.00	0	0	0	0	0.00
15-Jun-21	0.01	0.00	0.04	8	0	24	8	95.47
14-Jul-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Aug-21	0.00	0.00	0.00	0	0	0	0	0.00
01-Sep-21	0.00	0.00	0.00	0	0	0	0	0.00
22-Oct-21	0.00	0.00	0.00	0	0	0	0	0.00
20-Nov-21	0.00	0.00	0.00	0	0	0	0	0.00
16-Dec-21	0.00	0.00	0.00	0	0	0	0	0.00
05-Jan-22	0.00	0.00	0.00	0	0	0	0	0.00
26-Feb-22	0.01	0.00	0.04	8	0	24	8	99.93
20-Mar-22	0.01	0.00	0.04	9	0	24	8	96.22