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Appendix 11.1, Annex A: Offshore Ornithology Design-Based Abundance Estimates

Array EIA Report

2024

Revision	Comments	Author	Checker	Approver
FINAL	Final	RPS/NIRAS	RPS	RPS

Approval for Issue		
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1. DESIGN-BASED ABUNDANCE ESTIMATES

1. This annex provides survey results for all species recorded in the site-specific Digital Aerial Surveys (DAS). Abundance estimates are only of birds identified to species level (i.e. prior to the apportionment of unidentified birds) and have not been corrected for availability bias. Data are presented for sitting birds, flying birds and total (all behaviours) – note that the total may include a small number of birds classified as other behaviours. Dead birds are not included in these data.

KITTIWAKE

Table 1.1: Kittiwake Design-based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	131	78	195	31	23.22	30	0	60	15	50.82	99	50	149	26	25.57
April 2021	381	69	963	226	59.24	90	19	189	45	49.49	284	20	812	229	80.66
May 2021	2,472	1,726	3,415	449	18.13	1,652	1,127	2,395	325	19.65	839	508	1,185	177	21.02
June 2021	721	456	1,049	158	21.84	362	125	735	157	43.43	362	219	510	74	20.37
July 2021	20	0	50	14	70.16	11	0	30	11	100.10	11	0	30	10	95.20
August 2021	31	0	79	22	68.62	-	-	-	-	-	31	0	70	21	67.65
September 2021	60	10	130	32	53.61	10	0	31	10	97.04	49	0	111	32	63.59
October 2021	61	20	106	22	36.50	11	0	38	11	94.55	52	10	99	22	42.19
November 2021	61	20	100	20	32.75	11	0	30	11	98.98	50	20	88	18	36.41
December 2021	153	80	225	36	23.56	11	0	31	10	97.76	144	71	218	37	25.48
January 2022	72	10	148	36	50.24	10	0	30	10	101.25	60	10	117	27	44.60
February 2022	103	40	185	37	35.92	51	10	100	24	47.29	51	19	90	20	38.73
March 2022	210	134	299	43	20.14	62	20	120	27	43.95	150	86	227	38	24.80
April 2022	21	0	50	14	66.83	-	-	-	-	-	21	0	50	15	68.40
May 2022	220	134	316	47	20.99	-	-	-	-	-	219	131	318	47	21.44
June 2022	189	98	305	55	28.76	69	0	183	48	69.69	120	77	169	25	20.54
July 2022	1,231	781	1,684	223	18.09	888	520	1,304	208	23.35	348	174	584	108	31.07
August 2022	109	0	314	102	93.65	110	0	315	98	89.46		-	-	-	-
September 2022	11	0	31	10	94.04	-	-	-	-	-	10	0	31	10	94.21
October 2022	41	0	89	23	54.88	-	-	-	-	-	42	10	90	23	53.53
November 2022	613	205	1,159	250	40.68	271	10	661	179	65.73	357	157	675	134	37.38
December 2022	10	0	30	10	93.23	-	-	-	-	-	11	0	30	10	94.77
January 2023	31	0	60	15	49.25	10	0	30	10	94.65	21	0	49	13	63.47
February 2023	162	80	240	40	24.52	20	0	49	13	66.04	143	87	218	35	24.08

Table 1.2: Kittiwake Design Based Abundance Estimates for Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	182	119	254	35	18.99	40	10	79	18	44.15	140	80	208	32	22.63
April 2021	493	151	1,010	232	46.91	140	30	269	62	44.26	334	76	783	206	61.60
May 2021	3,174	2,320	4,172	489	15.40	2,140	1,502	2,994	379	17.68	1,053	707	1,444	189	17.94
June 2021	1,314	902	1,779	224	17.05	707	350	1173	211	29.78	601	419	805	97	16.08
July 2021	31	0	69	17	55.46	11	0	30	11	99.92	21	0	50	14	68.23
August 2021	32	0	80	22	68.05	-	-	-	-	-	31	0	79	22	71.08
September 2021	60	10	129	33	55.34	10	0	30	10	99.03	50	0	120	31	62.77
October 2021	81	39	129	26	31.35	20	0	50	14	71.72	60	20	109	24	38.72
November 2021	132	57	233	47	35.38	10	0	30	10	99.68	120	49	219	45	37.40
December 2021	162	88	250	44	26.69	11	0	31	11	94.94	155	80	244	44	28.06
January 2022	70	10	146	35	49.30	11	0	30	10	94.45	62	10	124	30	47.74
February 2022	101	39	185	37	36.24	50	10	100	24	47.06	50	20	90	20	39.00
March 2022	290	209	382	44	14.92	81	29	148	32	39.14	211	127	309	47	22.32
April 2022	41	10	79	19	44.76	10	0	30	10	97.74	31	0	68	17	54.12
May 2022	341	234	459	58	16.79	21	0	60	21	99.67	320	219	431	54	16.83
June 2022	311	158	488	87	28.04	130	0	302	76	58.44	178	98	287	49	27.58
July 2022	2,069	1,310	2,917	421	20.35	1,557	875	2,272	355	22.78	526	283	809	135	25.61
August 2022	185	10	450	121	65.27	171	0	444	117	68.48	10	0	30	10	98.34
September 2022	11	0	30	10	94.62	-	-	-	-	-	10	0	30	10	96.84
October 2022	59	10	110	27	45.84	-	-	-	-	-	60	10	119	29	47.57
November 2022	1,162	339	2,314	522	44.93	433	59	1,066	265	61.15	716	250	1,355	299	41.73
December 2022	41	10	78	18	43.25	10	0	30	10	95.44	30	0	68	17	54.54
January 2023	41	10	78	18	44.08	10	0	30	10	95.42	31	0	69	17	53.71
February 2023	189	108	286	47	24.52	20	0	48	13	63.05	171	97	255	42	24.07

Table 1.3: Kittiwake Design Based Abundance Estimates for Array Plus 4 km Buffer (Array Offshore Ornithology Study Area)

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	1,078	172	2,758	830	77.02	661	20	1,795	577	87.33	440	138	984	253	57.43
April 2021	546	189	1,070	232	42.39	180	59	331	69	37.92	362	89	869	224	61.92
May 2021	4,218	3,265	5,381	534	12.64	2,564	1,891	3,385	384	14.98	1,621	1,132	2,181	273	16.80
June 2021	1,536	1,126	1,956	210	13.64	824	450	1,240	202	24.47	709	516	903	102	14.28

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
July 2021	31	0	68	17	54.08	11	0	31	11	99.50	21	0	50	14	65.29
August 2021	60	10	120	29	47.37	20	0	60	19	94.74	41	0	89	23	56.12
September 2021	60	10	130	34	55.36	10	0	30	10	98.68	50	0	119	32	62.78
October 2021	99	49	156	27	27.36	30	0	68	17	56.20	71	29	128	27	37.07
November 2021	168	87	288	53	31.54	11	0	39	11	97.60	160	79	297	56	34.53
December 2021	204	121	286	41	20.07	21	0	51	14	66.95	183	107	266	42	23.03
January 2022	81	20	150	35	42.89	20	0	50	14	69.39	61	10	118	28	46.28
February 2022	192	79	357	72	37.51	110	38	219	47	42.56	80	30	139	29	35.82
March 2022	331	251	423	44	13.19	90	30	159	33	36.42	239	159	331	46	18.87
April 2022	50	10	90	21	40.42	11	0	30	10	97.93	41	10	79	19	45.12
May 2022	439	305	587	74	16.74	51	0	115	30	57.49	389	278	513	61	15.55
June 2022	414	236	626	102	24.43	144	10	316	78	53.78	273	164	394	60	21.92
July 2022	3,099	1,901	4,511	659	21.24	2,316	1,240	3,689	616	26.59	811	499	1,193	181	22.25
August 2022	217	39	488	120	55.34	196	20	446	115	58.65	21	0	50	14	66.92
September 2022	22	0	148	20	92.94	655	99	1,483	363	55.36	19	0	60	19	99.98
October 2022	72	10	3,067	36	49.70	11	0	30	10	96.45	71	10	146	35	48.77
November 2022	1,583	476	100	669	42.24	10	0	30	10	97.41	964	398	1,867	363	37.58
December 2022	60	20	77	21	33.71	21	0	50	14	66.39	51	10	90	20	39.01
January 2023	40	10	339	18	44.30	661	20	1795	577	87.33	30	0	67	16	52.85
February 2023	229	127	148	55	23.71	180	59	331	69	37.92	210	119	314	50	23.65

Table 1.4: Kittiwake Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
March 2021	179	1,818	355	4,235	1,039	57.10	110	1,108	70	2,808	708	63.87	68	669	259	1,287	274	40.86
April 2021	123	1,213	465	2,337	464	38.23	74	722	213	1,591	356	49.30	49	500	178	1,016	235	46.93
May 2021	680	6,827	5,509	8,350	751	10.99	364	3,630	2,764	4,628	489	13.45	315	3,148	2,383	3,960	398	12.64
June 2021	234	2,346	1,805	2,926	298	12.69	127	1,250	740	1,756	257	20.51	107	1,062	807	1,327	134	12.56
July 2021	10	100	49	158	29	28.97	4	41	10	80	20	46.77	6	62	20	120	27	42.00
August 2021	13	126	50	218	44	34.55	4	40	0	88	23	58.32	9	88	20	170	39	44.23
September 2021	7	70	20	147	34	48.44	2	21	0	50	14	67.17	5	50	0	120	33	64.82
October 2021	15	150	89	213	32	21.08	3	30	0	67	17	55.93	12	122	69	180	30	24.55

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
November 2021	22	219	128	336	56	25.24	4	40	10	79	19	46.93	18	180	97	294	52	28.81
December 2021	23	233	130	352	57	24.12	2	21	0	51	14	67.04	21	213	112	335	57	26.53
January 2022	12	120	49	207	43	35.92	3	30	0	61	16	52.40	9	90	30	160	34	37.36
February 2022	27	266	125	424	80	29.95	14	140	59	245	49	34.41	13	132	59	220	43	32.42
March 2022	50	497	369	638	70	13.91	14	140	68	226	43	30.23	36	360	245	496	66	18.06
April 2022	8	80	30	137	28	34.51	3	31	0	68	17	54.33	5	50	19	90	21	40.86
May 2022	80	802	576	1,054	116	14.41	6	60	10	127	30	50.27	74	741	555	960	104	13.94
June 2022	92	916	542	1,514	258	28.08	52	523	173	1,052	234	44.68	40	403	277	547	71	17.43
July 2022	524	5,267	3,195	7,645	1,098	20.84	392	3,915	2,174	5,761	950	24.27	132	1,325	875	1,867	247	18.63
August 2022	417	4,156	887	8,364	1,928	46.38	398	3,981	754	8,522	1,957	49.16	19	191	30	454	110	57.51
September 2022	3	31	0	79	22	71.78	0	-	-	-	-	-	3	31	0	79	22	68.89
October 2022	17	169	70	280	55	32.65	0	-	-	-	-	-	17	172	69	283	55	31.98
November 2022	237	2,361	1,078	3,886	738	31.25	80	789	187	1,581	360	45.64	157	1,578	836	2,511	429	27.17
December 2022	9	90	40	148	29	31.81	3	30	0	79	22	70.33	6	62	20	109	23	36.67
January 2023	4	42	10	80	19	45.73	1	11	0	30	11	95.59	3	30	0	60	16	52.94
February 2023	36	362	249	476	60	16.53	6	60	20	100	21	35.01	30	299	197	419	57	18.91

Table 1.5: Gannet Design Based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	20	0	49	13	65.87	-	-	-	-	-	21	0	50	14	66.94
April 2021	294	80	566	125	42.37	60	0	138	35	57.46	235	68	457	102	43.15
May 2021	729	477	1,013	141	19.31	443	234	693	117	26.22	280	185	382	51	17.97
June 2021	414	244	620	96	23.20	201	80	339	67	33.09	211	116	314	53	25.01
July 2021	1,821	1,277	2,344	278	15.26	943	679	1,242	148	15.65	870	492	1,271	199	22.81
August 2021	99	48	170	33	32.80	31	0	69	17	52.40	70	29	124	26	36.53
September 2021	333	169	540	98	29.28	101	41	165	31	30.44	230	96	404	81	35.19
October 2021	446	277	617	87	19.35	202	105	319	55	27.23	254	140	368	59	23.13
November 2021	20	0	49	14	66.88	-	-	-	-	-	20	0	50	14	71.32
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	20	0	49	14	66.88	-	-	-	-	-	-	-	-	-	-
February 2022	11	0	30	10	90.94	11	0	31	10	94.75	-	-	-	-	-
March 2022	60	20	108	24	39.32	30	0	60	16	51.65	30	0	66	16	53.17
April 2022	141	50	240	49	34.74	91	20	186	44	48.21	50	10	97	22	43.36
May 2022	560	339	882	138	24.54	132	40	273	59	44.48	430	248	628	97	22.49
June 2022	311	197	437	63	20.03	100	48	175	34	33.59	140	79	207	33	23.32
July 2022	1,208	994	1,443	115	9.51	151	58	271	54	35.59	91	30	160	33	35.40
August 2022	357	222	511	74	20.64	241	137	362	58	23.98	113	48	192	39	34.55
September 2022	51	10	99	25	48.27	19	0	49	14	69.28	31	10	61	15	47.90
October 2022	111	40	198	43	38.04	20	0	50	14	69.64	91	30	171	36	39.88
November 2022	21	0	51	15	69.03	11	0	30	10	94.22	11	0	38	11	100.98
December 2022	11	0	30	10	95.71	-	-	-	-	-	11	0	30	10	96.53
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	10	0	30	10	96.98	-	-	-	-	-	11	0	31	10	98.01

Table 1.6: Gannet Design Based Abundance Estimates for Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	31	0	61	16	51.8	11	0	30	10	94.67	20	0	50	14	69.27

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
April 2021	315	98	591	126	40.08	82	0	177	44	53.85	244	79	463	101	41.21
May 2021	1,005	676	1,341	174	17.31	513	307	752	115	22.40	503	346	668	86	17.04
June 2021	579	368	812	114	19.60	289	155	438	74	25.64	288	163	445	73	25.21
July 2021	2,272	1,668	2,890	310	13.61	1,203	879	1,592	179	14.86	1,068	657	1,553	226	21.09
August 2021	209	96	346	65	31.04	91	30	170	37	40.47	119	49	194	38	31.55
September 2021	449	251	690	111	24.71	142	69	225	42	29.24	309	159	503	89	28.56
October 2021	682	478	907	108	15.71	309	179	485	78	25.07	366	227	512	74	20.23
November 2021	21	0	50	14	66.48	-	-	-	-	-	20	0	50	14	71.07
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	31	0	60	16	49.64	20	0	49	13	64.39	10	0	30	10	97.03
March 2022	91	40	149	30	32.38	51	11	97	21	39.64	41	10	79	18	43.46
April 2022	193	79	333	69	35.59	112	20	229	55	49.32	79	29	138	29	36.06
May 2022	772	528	1,068	148	19.06	171	69	317	67	39.16	601	392	813	109	18.13
June 2022	520	385	675	76	14.46	141	69	217	37	26.13	282	170	410	61	21.66
July 2022	1,587	1,330	1,856	133	8.36	170	77	296	58	33.70	110	49	182	35	31.33
August 2022	400	252	560	80	19.87	281	169	439	67	23.61	111	40	193	39	35.00
September 2022	90	30	164	33	35.99	32	0	67	16	50.90	60	20	100	22	35.61
October 2022	152	69	246	46	30.19	21	0	50	14	69.11	132	60	220	40	30.29
November 2022	61	10	126	29	47.12	40	10	81	20	48.85	21	0	50	14	67.62
December 2022	30	0	68	17	54.81	10	0	30	10	97.85	21	0	50	14	68.22
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	11	0	30	10	93.64	-	-	-	-	-	11	0	30	10	97.14

Table 1.7: Gannet Design Based Abundance Estimates for Array Plus 4 km Buffer (Array Offshore Ornithology Study Area)

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	51	20	90	20	37.93	11	0	30	10	11	40	10	79	18	43.96
April 2021	365	140	664	133	36.48	92	20	187	43	92	279	109	506	101	36.14
May 2021	1,423	1,015	1,916	229	16.09	633	397	896	130	633	779	491	1,198	188	24.14
June 2021	750	504	995	129	17.15	400	240	580	89	400	351	205	514	80	22.53
July 2021	2,852	2,214	3,524	332	11.63	1,454	1,107	1,817	183	1,454	1,409	995	1,917	236	16.72
August 2021	278	149	434	74	26.66	120	49	212	42	120	151	70	240	45	29.23

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
September 2021	588	363	842	125	21.18	180	87	288	53	180	401	222	607	103	25.47
October 2021	924	694	1,213	131	14.17	465	267	697	112	465	454	306	603	80	17.41
November 2021	21	0	50	14	66.11	-	-	-	-	-	21	0	50	14	68.65
December 2021	11	0	31	10	94.35	-	-	-	-	-	11	0	31	10	93.30
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	40	10	78	17	43.06	20	0	49	13	20	20	0	49	14	65.59
March 2022	141	68	218	39	27.19	60	20	109	25	60	81	30	137	28	33.77
April 2022	258	129	409	74	28.41	159	58	290	61	159	98	39	169	35	35.14
May 2022	1,002	709	1,331	162	16.11	206	99	348	67	206	782	555	1047	128	16.33
June 2022	620	451	808	92	14.83	188	108	269	42	188	313	200	429	60	19.09
July 2022	1,914	1,636	2,215	151	7.84	191	90	316	57	191	159	87	247	42	26.37
August 2022	497	352	655	79	15.84	327	212	473	68	327	159	87	233	40	24.89
September 2022	111	50	180	34	30.74	50	10	100	24	50	61	20	108	23	36.58
October 2022	198	99	310	54	26.90	30	0	69	17	30	167	87	258	45	26.70
November 2022	80	29	145	30	37.04	50	10	97	22	50	30	0	69	17	56.99
December 2022	40	10	79	19	47.04	10	0	30	10	10	31	0	68	17	54.34
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	10	0	30	10	93.53	-	-	-	-	-	0.02	10	0	30	10

Table 1.8: Gannet Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
March 2021	25	253	100	466	93	36.66	6	62	0	169	51	81.73	19	188	79	336	64	33.62
April 2021	60	602	297	941	166	27.51	11	112	30	217	51	45.17	49	493	259	793	135	27.38
May 2021	212	2,111	1,568	2,664	268	12.65	103	1,036	710	1,433	186	17.94	108	1,084	711	1,606	227	20.95
June 2021	98	978	693	1,292	155	15.85	50	497	311	711	110	22.00	48	479	327	654	85	17.64
July 2021	416	4,151	3,396	4,920	397	9.55	214	2,146	1,671	2,675	250	11.65	201	1,998	1,387	2,620	316	15.78
August 2021	77	767	385	1,273	227	29.54	35	352	148	615	122	34.60	41	399	203	631	109	27.20
September 2021	90	895	582	1,252	166	18.53	30	301	157	465	78	25.79	60	598	365	888	133	22.22
October 2021	158	1,584	1,238	1,917	174	10.98	87	860	626	1,148	132	15.35	71	710	517	906	101	14.23
November 2021	8	81	30	139	29	35.90	2	20	0	50	14	68.69	6	61	20	107	23	36.74
December 2021	2	22	0	51	15	67.79	0	-	-	-	-	-	2	21	0	50	14	65.41

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
January 2022	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-
February 2022	7	69	29	117	24	33.64	3	30	0	69	17	54.4	4	40	10	80	19	48.50
March 2022	42	405	125	901	230	56.80	29	291	30	889	222	76.43	13	131	69	203	35	26.54
April 2022	43	432	271	608	85	19.58	27	269	144	412	70	26.04	16	159	89	235	38	23.74
May 2022	170	1,698	1,321	2,117	203	11.95	48	483	266	758	128	26.45	122	1,212	959	1,499	140	11.48
June 2022	74	881	665	1,115	119	13.50	29	291	178	408	59	20.10	45	451	314	600	73	16.04
July 2022	49	2,833	2,453	3,191	190	6.69	29	288	166	427	69	23.96	20	201	99	313	56	27.51
August 2022	71	708	501	952	112	15.80	45	452	290	661	94	20.74	25	250	139	375	59	23.32
September 2022	15	152	79	230	39	25.29	6	62	10	119	26	42.36	9	89	40	139	26	28.63
October 2022	33	333	211	473	67	20.03	7	70	30	119	24	33.47	26	260	145	399	65	24.72
November 2022	22	223	110	361	64	28.67	8	80	30	140	29	35.76	14	143	60	239	46	31.83
December 2022	6	62	20	118	26	41.74	2	21	0	51	14	66.73	4	40	0	89	23	55.83
January 2023	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-
February 2023	1	10	0	30	10	99.06	0	-	-	-	-	-	1	11	0	31	10	95.84

Table 1.9: Fulmar Design Based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	19	0	45	12	65.81	-	-	-	-	-	-	-	-	-	-
April 2021	191	110	274	42	22.03	132	77	196	31	23.49	60	20	111	25	41.10
May 2021	290	170	427	65	22.24	170	87	261	46	26.76	122	49	220	44	36.02
June 2021	408	234	607	99	24.07	804	348	1540	334	41.52	230	139	325	47	20.06
July 2021	342	247	456	53	15.44	192	105	296	51	26.53	151	90	213	30	19.98
August 2021	340	169	595	112	32.87	268	135	463	84	31.31	70	20	130	28	40.19
September 2021	472	216	788	153	32.39	361	160	648	129	35.68	100	40	163	32	32.05
October 2021	88	29	170	38	42.41	70	0	146	37	51.59	21	0	50	14	67.4
November 2021	398	269	532	69	17.34	181	88	283	50	27.25	220	118	329	52	23.61
December 2021	367	240	504	68	18.31	92	31	171	35	37.94	274	178	378	52	18.73
January 2022	140	60	232	44	30.82	71	20	130	29	40.56	70	29	119	24	33.82
February 2022	211	110	318	53	24.87	141	67	229	44	30.66	70	30	120	25	34.74
March 2022	81	10	158	37	45.86	72	10	159	39	53.62	10	0	30	10	96.06
April 2022	150	59	264	53	34.83	112	30	222	52	46.07	40	0	90	24	58.94
May 2022	61	20	100	21	33.65	10	0	30	10	93.67	50	19	97	21	40.09
June 2022	675	497	875	99	14.56	427	250	640	95	22.15	250	149	360	55	21.76
July 2022	2515	306	6047	1550	61.62	2342	135	5827	1560	66.6	189	107	276	44	22.84
August 2022	121	59	188	34	28.27	62	19	113	26	42.03	60	20	109	23	37.89
September 2022	296	181	443	67	22.61	251	149	370	56	22.09	42	0	89	22	52.38
October 2022	30	0	91	30	99.07	32	0	90	29	92.08	-	-	-	-	-
November 2022	200	98	312	56	28.11	117	29	245	58	49.45	78	30	137	28	34.75
December 2022	730	546	924	95	13.01	71	10	150	36	50.2	660	508	810	77	11.58
January 2023	279	186	370	50	17.59	50	10	99	22	42.98	232	146	319	48	20.35
February 2023	152	81	239	41	26.86	91	40	150	30	32.26	61	20	100	21	33.45

Table 1.10: Fulmar Design Based Abundance Estimates for Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	10	0	30	10	10	10	0	30	10	10	-	-	-	-	-

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
April 2021	190	113	270	41	190	131	71	194	32	131	59	19	109	25	41.45
May 2021	271	165	407	63	271	150	75	236	43	150	121	48	213	43	35.21
June 2021	1,026	557	1,764	326	1,026	804	346	1,496	331	804	231	144	327	46	19.93
July 2021	320	218	424	52	320	168	86	251	43	168	151	98	209	29	18.84
August 2021	338	164	559	109	338	262	120	457	87	262	71	20	134	30	41.91
September 2021	467	218	798	153	467	368	157	656	134	368	102	41	171	33	32.04
October 2021	80	20	157	35	80	61	0	137	35	61	21	0	50	14	66.77
November 2021	399	269	533	69	399	183	88	279	50	183	218	122	329	51	23.19
December 2021	359	225	495	69	359	83	30	159	35	83	275	177	374	52	18.61
January 2022	122	58	200	39	122	51	10	105	24	51	70	30	119	24	33.29
February 2022	192	108	275	44	192	120	59	192	35	120	70	30	120	24	34.20
March 2022	83	20	169	40	83	72	10	159	40	72	10	0	30	10	94.02
April 2022	151	50	278	56	151	110	29	224	50	110	40	0	97	24	58.89
May 2022	60	20	100	21	60	10	0	30	10	10	51	20	96	21	39.91
June 2022	673	489	872	100	673	419	258	594	89	419	251	158	359	53	20.83
July 2022	2,390	273	5,803	1,498	2,390	2,219	120	5,623	1,483	2,219	190	107	281	46	23.87
August 2022	120	59	183	34	120	61	20	115	27	61	60	20	106	22	36.73
September 2022	296	178	441	69	296	249	145	366	57	249	40	0	88	22	54.47
October 2022	32	0	90	29	32	31	0	90	29	31	-	-	-	-	-
November 2022	182	89	299	56	182	110	20	255	59	110	71	20	126	27	37.24
December 2022	728	554	915	95	728	72	19	149	36	72	660	525	815	73	11.00
January 2023	277	178	379	52	277	50	10	90	21	50	232	148	324	46	19.68
February 2023	140	67	219	41	140	92	31	157	32	92	50	10	90	21	41.57

Table 1.11: Fulmar Design Based Abundance Estimates for Array Plus 4 km Buffer (Array Offshore Ornithology Study Area)

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	21	0	49	14	63.77	10	0	30	10	95.47	10	0	30	10	95.11
April 2021	349	227	484	67	18.98	278	167	405	61	21.81	68	20	119	25	36.38
May 2021	712	348	1326	266	37.23	470	172	1,029	220	46.64	249	134	406	71	28.42
June 2021	1,540	1,017	2296	352	22.83	1,190	702	1,999	345	28.99	331	234	432	51	15.31
July 2021	616	442	811	93	15.11	359	224	503	74	20.43	261	177	348	44	16.80
August 2021	666	427	943	134	20.01	432	261	635	98	22.54	227	119	366	63	27.75

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
September 2021	1,096	476	2,047	408	37.18	884	303	1,788	392	44.35	213	127	302	46	21.20
October 2021	110	48	188	39	35.08	80	20	154	35	43.48	29	0	68	17	56.70
November 2021	627	480	787	81	12.81	308	199	418	56	18.08	321	225	422	53	16.35
December 2021	608	423	803	101	16.57	152	58	262	55	35.94	456	323	600	72	15.70
January 2022	168	70	284	53	31.10	62	19	126	28	44.99	111	49	180	33	29.29
February 2022	319	211	425	57	17.71	211	127	314	49	22.95	111	50	172	31	27.30
March 2022	110	40	195	40	35.69	79	10	168	42	53.26	30	0	60	16	51.74
April 2022	360	186	596	109	30.28	265	108	480	99	37.31	90	30	160	33	36.27
May 2022	100	49	156	28	27.82	11	0	30	10	97.61	89	40	145	28	30.55
June 2022	1,164	904	1,433	134	11.51	698	490	938	117	16.65	457	327	586	65	14.05
July 2022	3,581	798	7,654	1785	49.83	3,274	512	7,170	1,729	52.81	398	229	578	89	22.34
August 2022	181	107	260	39	21.52	110	50	175	31	28.26	70	30	110	21	29.71
September 2022	491	335	675	88	17.80	380	265	503	61	16.02	100	40	159	31	31.05
October 2022	90	0	238	65	72.52	94	0	238	65	69.54	151	39	312	75	49.11
November 2022	398	144	808	172	43.17	229	58	445	104	45.09	1,026	859	1,196	88	8.50
December 2022	1,197	986	1,429	114	9.51	162	70	258	48	29.55	341	244	443	50	14.63
January 2023	411	301	526	59	14.25	70	30	118	24	33.47	90	30	165	36	39.23
February 2023	188	96	299	55	29.06	99	40	164	31	30.89	10	0	30	10	95.11

Table 1.12: Fulmar Design Based Abundance Estimates for Array plus 8 km Buffer

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
March 2021	7	69	20	130	29	41.77	3	31	0	79	23	73.05	4	41	0	90	23	55.86
April 2021	78	780	330	1,558	346	44.40	67	679	244	1,411	334	49.18	11	110	50	178	33	29.29
May 2021	132	1,300	592	2,481	541	41.58	94	931	302	2,044	496	53.22	37	368	248	529	74	20.02
June 2021	222	2,225	1,544	3,119	400	17.96	160	1,597	1028	2,357	344	21.52	60	603	447	775	85	14.04
July 2021	79	795	545	1,067	137	17.23	47	470	312	668	92	19.45	32	321	208	455	62	19.33
August 2021	84	841	584	1,140	142	16.89	56	558	385	773	101	17.99	28	281	164	423	67	23.85
September 2021	149	1,484	784	2,478	459	30.90	118	1,177	489	2,123	437	37.09	31	308	198	419	56	18.03
October 2021	20	199	97	329	65	32.21	15	150	60	248	48	31.75	5	50	0	108	29	56.14
November 2021	92	918	743	1,099	90	9.73	45	448	322	583	66	14.64	47	469	361	600	61	12.85
December 2021	78	791	595	1,012	105	13.21	21	214	109	333	60	27.72	57	580	410	746	85	14.65
January 2022	26	257	150	376	58	22.44	9	91	30	160	32	34.61	17	170	100	247	37	21.54

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
February 2022	44	442	289	605	81	18.29	32	321	189	478	75	23.21	12	119	59	188	35	29.23
March 2022	16	163	79	247	44	26.94	10	102	30	185	41	39.75	6	61	20	107	22	35.62
April 2022	47	467	265	772	128	27.26	34	338	169	554	103	30.30	13	128	50	210	42	32.80
May 2022	31	313	167	501	90	28.49	7	71	10	160	42	59.36	23	230	138	339	53	22.74
June 2022	163	1,639	1,365	1,927	148	9.00	98	977	725	1,242	134	13.70	65	657	506	807	78	11.8
July 2022	473	4,744	1,757	8,608	1,785	37.63	407	4,054	1,227	7,851	1,738	42.86	66	659	412	936	130	19.61
August 2022	28	281	197	366	43	15.28	18	181	99	265	41	22.64	10	101	50	150	26	25.16
September 2022	70	710	529	923	101	14.20	57	575	419	748	84	14.59	13	130	69	207	37	27.82
October 2022	12	121	20	266	64	52.90	11	108	10	245	63	58.02	1	10	0	30	10	98.49
November 2022	63	636	341	1,075	191	29.95	39	387	179	685	133	34.30	22	221	90	401	81	36.28
December 2022	180	1,819	1,497	2,185	180	9.88	25	253	160	363	53	20.58	155	1,561	1,276	1,872	157	10.01
January 2023	56	564	414	722	78	13.80	12	123	50	210	42	33.90	44	430	298	559	65	15.06
February 2023	35	355	219	506	76	21.21	13	131	60	202	37	27.82	22	222	121	344	56	24.90

RAZORBILL

Table 1.13: Razorbill Design Based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	122	20	246	57	46.62	120	30	238	56	46.25	-	-	-	-	-
April 2021	624	148	1,362	315	50.38	588	147	1,290	297	50.42	10	0	30	10	94.59
May 2021	141	40	246	53	37.47	142	49	250	53	37.29	-	-	-	-	-
June 2021	389	231	579	92	23.57	395	229	592	94	23.56	10	0	30	10	92.06
July 2021	332	145	564	111	33.47	333	149	584	114	34.03	-	-	-	-	-
August 2021	11	0	30	10	92.26	10	0	30	10	97.37	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	31	0	61	16	50.07	31	0	61	16	51.89	-	-	-	-	-
January 2022	20	0	50	14	67.22	21	0	50	15	68.11	-	-	-	-	-
February 2022	10	0	31	10	99.32	11	0	39	10	99.78	-	-	-	-	-
March 2022	61	0	150	39	64.31	62	0	158	41	65.94	-	-	-	-	-
April 2022	123	50	210	41	33.29	112	40	197	41	36.42	-	-	-	-	-
May 2022	30	0	68	17	55.08	30	0	69	17	56.85	-	-	-	-	-
June 2022	80	20	149	33	40.68	72	20	142	32	44.22	-	-	-	-	-
July 2022	1,744	1,338	2,159	208	11.91	1,721	1,327	2,128	210	12.16	-	-	-	-	-
August 2022	1,644	996	2,240	313	18.99	1,650	1,075	2,249	310	18.78	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	240	20	572	143	59.54	30	0	66	16	53.22	215	0	539	143	66.64
November 2022	60	0	138	37	60.59	60	0	139	37	61.62	-	-	-	-	-
December 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	91	40	141	27	29.78	70	30	120	24	33.51	20	0	60	19	95.61

Table 1.14: Razorbill Design Based Abundance Estimates for Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	195	61	388	85	43.70	178	50	359	82	46.28	20	0	60	20	100.02
April 2021	1,015	339	1,962	424	41.76	1,034	356	1,950	429	41.40	21	0	60	20	96.51
May 2021	173	68	287	59	34.03	170	60	297	59	34.37	-	-	-	-	-
June 2021	521	331	738	103	19.69	521	343	741	104	19.84	-	-	-	-	-
July 2021	447	194	793	153	34.16	442	178	801	164	37.07	-	-	-	-	-
August 2021	21	0	50	15	70.57	21	0	50	14	68.24	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	31	0	62	17	52.34	32	0	70	17	52.03	-	-	-	-	-
January 2022	30	0	69	17	56.62	30	0	68	17	55.04	-	-	-	-	-
February 2022	30	0	90	29	97.97	31	0	90	29	94.83	-	-	-	-	-
March 2022	98	29	198	45	45.00	78	10	170	41	52.58	21	0	60	21	96.20
April 2022	230	130	342	55	23.90	222	129	321	52	23.19	11	0	30	10	96.69
May 2022	59	10	129	33	56.06	60	10	138	35	57.00	10	0	30	10	94.85
June 2022	112	40	185	36	31.49	101	39	177	36	34.79	-	-	-	-	-
July 2022	2,402	1,871	2,914	277	11.53	2,377	1,845	2,942	276	11.57	-	-	-	-	-
August 2022	2,446	1,542	3,380	480	19.62	2,393	1,494	3,446	496	20.73	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	250	20	595	152	60.46	31	0	67	16	50.89	216	0	519	148	68.15
November 2022	113	39	202	43	38.13	109	39	201	44	39.57	-	-	-	-	-
December 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	111	40	181	35	31.78	90	30	160	33	36.58	22	0	60	20	93.28

Table 1.15: Razorbill Design Based Abundance Estimates for Array Plus 4 km Buffer (Array Offshore Ornithology Study Area)

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	345	146	582	113	32.60	319	129	582	118	36.78	20	0	60	20	99.15
April 2021	1,337	520	2,409	468	34.98	1,303	524	2,350	471	36.13	41	0	98	27	64.36
May 2021	208	99	333	59	28.18	211	99	338	62	29.20	-	-	-	-	-
June 2021	617	408	836	109	17.58	621	434	826	101	16.19	-	-	-	-	-

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
July 2021	642	253	1,235	247	38.48	642	258	1,201	246	38.28	-	-	-	-	-
August 2021	21	0	50	14	68.10	21	0	50	14	67.63	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	61	20	110	24	38.68	60	20	110	24	39.46	-	-	-	-	-
January 2022	39	10	78	19	47.04	41	10	80	19	45.13	-	-	-	-	-
February 2022	30	0	90	29	98.15	32	0	90	31	96.30	-	-	-	-	-
March 2022	101	30	189	43	42.54	79	19	169	41	52.05	21	0	60	20	95.34
April 2022	291	176	425	67	22.79	272	160	391	59	21.70	20	0	50	14	69.86
May 2022	120	40	221	47	38.60	102	30	187	43	41.82	20	0	60	21	100.32
June 2022	161	80	246	43	26.18	149	70	238	42	28.13	10	0	30	9	92.10
July 2022	3,627	2,739	4,652	508	13.98	3,574	2,673	4,650	504	14.09	-	-	-	-	-
August 2022	2,909	1,854	4,184	585	20.09	2,933	1,859	4,158	586	19.96	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	291	57	624	149	51.18	82	20	178	42	50.88	213	0	541	148	69.41
November 2022	183	80	298	55	30.02	179	79	291	55	30.50	-	-	-	-	-
December 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	181	96	279	48	26.50	119	50	193	38	31.46	61	0	135	35	58.19

Table 1.16: Razorbill Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
March 2021	61	608	321	938	156	25.54	58	580	311	906	150	25.82	3	30	0	79	22	72.25
April 2021	221	2,184	905	3,737	725	33.17	209	2,124	938	3,769	749	35.25	12	123	40	230	51	41.26
May 2021	31	309	175	470	73	23.55	31	309	186	460	72	23.20	0	-	-	-	-	-
June 2021	118	1,176	888	1,459	143	12.17	118	1,182	909	1,469	148	12.46	0	-	-	-	-	-
July 2021	99	967	414	1,722	336	34.73	98	983	403	1,735	350	35.54	1	10	0	30	10	99.46
August 2021	6	60	10	137	35	58.48	6	61	10	138	35	57.15	0	-	-	-	-	-
September 2021	0	-	-	-	-	-	0	-	-	-	-	100.78	0	-	-	-	-	-
October 2021	1	10	0	30	10	100.76	1	11	0	30	11	38.10	0	-	-	-	-	-
November 2021	0	-	-	-	-	-	0	-	-	-	-	11	0	-	-	-	-	-

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
December 2021	7	72	30	122	26	35.63	7	71	21	130	28	71	0	-	-	-	-	-
January 2022	7	70	20	138	32	45.69	7	70	20	139	32	70	0	-	-	-	-	-
February 2022	3	30	0	90	30	98.22	3	31	0	90	31	31	0	-	-	-	-	-
March 2022	17	169	70	289	56	32.63	15	149	50	252	52	149	2	20	0	60	20	98.24
April 2022	45	447	256	641	99	21.96	43	427	246	611	93	427	2	21	0	50	14	66.31
May 2022	31	312	165	469	80	25.53	29	290	148	447	79	290	2	21	0	60	20	95.63
June 2022	29	304	180	446	66	21.62	28	282	168	422	67	282	1	10	0	30	10	98.38
July 2022	563	5,620	4,398	7,118	685	12.19	562	5,597	4,268	7,001	707	5,597	0	-	-	-	-	-
August 2022	399	3,991	2,780	5,310	643	16.09	398	3,985	2,775	5,317	647	3,985	0	-	-	-	-	-
September 2022	1	10	0	30	10	97.82	1	10	0	31	10	10	0	-	-	-	-	-
October 2022	35	352	108	670	152	43.11	11	110	40	197	42	110	24	247	0	625	160	64.75
November 2022	23	233	130	356	57	24.34	23	229	128	350	56	229	0	-	-	-	-	-
December 2022	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-
January 2023	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-
February 2023	27	274	150	404	67	24.29	16	158	70	253	48	29.86	11	111	20	220	52	46.45

GUILLEMOT

Table 1.17: Guillemot Design Based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	1,104	810	1,445	158	14.29	857	645	1,093	114	13.26	255	40	516	123	47.95
April 2021	7,372	3,127	13,065	2,523	34.22	7,179	2,870	12,239	2,439	33.97	200	105	308	53	26.48
May 2021	6,549	4,710	8,575	1,016	15.51	6,499	4,456	8,583	1,034	15.91	20	0	50	14	68.79
June 2021	1,006	605	1,490	223	22.09	1,002	629	1,470	215	21.44	-	-	-	-	-
July 2021	2,708	2,153	3,298	291	10.72	2,628	2,091	3,172	284	10.80	70	30	117	24	33.05
August 2021	1,307	945	1,697	191	14.57	1,300	983	1,674	178	13.68	-	-	-	-	-
September 2021	8,810	4,564	14,213	2,502	28.40	8,869	4,459	14,314	2,532	28.54	-	-	-	-	-
October 2021	867	553	1,231	163	18.77	864	574	1,164	155	17.93	10	0	30	10	93.45
November 2021	1,519	1,118	1,936	215	14.13	1,518	1,124	1,909	200	13.14	-	-	-	-	-
December 2021	1,543	1,129	1,968	219	14.16	1,486	1,081	1,909	212	14.24	52	10	102	25	46.85
January 2022	982	771	1,197	111	11.24	981	771	1,186	107	10.83	-	-	-	-	-
February 2022	3,061	2,654	3,477	208	6.78	3,048	2,656	3,443	207	6.77	-	-	-	-	-
March 2022	1,857	1,444	2,337	227	12.18	1,534	1,216	1,871	165	10.75	327	127	561	113	34.50
April 2022	3,654	2,871	4,525	424	11.58	3,480	2,635	4,333	438	12.57	171	77	278	53	30.58
May 2022	1,835	885	2,863	513	27.93	1,696	843	2,759	485	28.60	150	40	269	60	40
June 2022	1,454	908	2,118	322	22.13	1,444	872	2,130	329	22.78	-	-	-	-	-
July 2022	19,543	16,722	22,555	1,468	7.51	19,461	16,734	22,327	1,454	7.47	-	-	-	-	-
August 2022	40,980	28,358	53,939	6,461	15.77	41,048	28,455	54,334	6,555	15.97	-	-	-	-	-
September 2022	417	254	608	94	22.51	400	240	595	92	22.98	10	0	30	10	98.90
October 2022	1,528	1,019	2,063	265	17.29	1,510	1,008	2,074	263	17.40	10	0	31	10	95.89
November 2022	4,954	4,345	5,657	333	6.72	4,813	4,169	5,481	341	7.07	131	70	201	35	26.61
December 2022	1,024	810	1,258	115	11.18	953	739	1,150	108	11.26	61	0	139	36	58.45
January 2023	607	432	787	94	15.42	566	405	732	87	15.25	42	0	96	25	58.77
February 2023	781	538	1,034	129	16.47	656	414	923	132	20.00	134	50	245	48	35.81

Table 1.18: Guillemot Design Based Abundance Estimates for Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	1,471	1,092	1,820	184	12.49	1,208	905	1,518	153	12.63	264	67	528	122	46.01
April 2021	12,213	5,271	19,845	3,846	31.49	11,326	5,144	19,485	3,651	32.23	537	227	969	190	35.32
May 2021	8,858	6,541	11,408	1,260	14.21	8,858	6,536	11,372	1,246	14.06	-	-	-	-	-
June 2021	1,500	918	2,239	337	22.47	1,491	870	2,204	347	23.22	32	0	69	17	53.62
July 2021	4,059	3,377	4,835	383	9.42	3,997	3,231	4,829	417	10.41	69	30	116	23	33.30
August 2021	1,909	1,501	2,382	228	11.91	1,922	1,504	2,419	232	12.03	-	-	-	-	-
September 2021	10,940	6,010	17,219	2,789	25.49	10,752	5,783	16,205	2,699	25.10	-	-	-	-	-
October 2021	1,093	798	1,419	161	14.71	1,081	796	1,385	150	13.83	11	0	30	10	95.57
November 2021	2,093	1,626	2,595	248	11.84	2,096	1,653	2,583	246	11.72	-	-	-	-	-
December 2021	1,819	1,348	2,355	259	14.23	1,789	1,316	2,316	255	14.23	51	10	101	24	46.91
January 2022	1,286	1,032	1,541	132	10.23	1,290	1,055	1,554	130	10.03	-	-	-	-	-
February 2022	4,206	3,718	4,650	248	5.88	4,199	3,695	4,678	254	6.04	11	0	30	10	95.44
March 2022	2,857	2,318	3,490	291	10.16	2,433	2,009	2,868	222	9.11	425	225	686	120	28.13
April 2022	5,974	4,758	7,374	672	11.24	5,759	4,667	7,226	636	11.03	204	90	343	64	31.11
May 2022	3,576	1,622	5,933	1,131	31.60	3,399	1,513	5,908	1,121	32.97	201	89	349	67	33.14
June 2022	2,370	1,518	3,422	491	20.69	2,384	1,568	3,483	488	20.46	-	-	-	-	-
July 2022	30,924	25,419	36,857	3,013	9.74	30,877	25,338	36,854	2,931	9.49	11	0	30	10	96.79
August 2022	58,458	41,850	77,767	9,483	16.22	57,909	41,112	76,902	9,404	16.24	-	-	-	-	-
September 2022	598	382	869	127	21.14	583	360	850	121	20.78	21	0	50	14	66.52
October 2022	2,115	1,455	2,781	356	16.82	2,088	1,425	2,794	355	17.00	21	0	50	14	66.68
November 2022	6,976	6,117	7,826	438	6.28	6,793	5,955	7,647	437	6.43	202	117	310	50	24.40
December 2022	1,476	1,217	1,765	141	9.54	1,386	1,151	1,653	132	9.52	104	20	224	55	52.86
January 2023	822	623	1,043	107	12.93	773	559	981	106	13.66	52	10	107	25	48.39
February 2023	1,008	766	1,296	139	13.71	784	522	1,099	147	18.77	222	100	364	66	29.64

Table 1.19: Guillemot Design Based Abundance Estimates for Array Plus 4 km Buffer (Array Offshore Ornithology Study Area)

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	2,093	1,633	2,656	269	12.82	1,768	1,356	2,303	249	14.07	310	108	580	122	39.22
April 2021	16,531	8,268	27,446	4,933	29.84	15,547	7,105	25,050	4,654	29.93	738	388	1151	206	27.86
May 2021	11,839	8,992	15,049	1,585	13.39	11,919	8,777	15,250	1,568	13.15	-	-	-	-	-

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
June 2021	3,024	1,563	5,162	918	30.34	3,066	1,478	5,071	936	30.52	31	0	69	17	55.51
July 2021	5,390	4,446	6,470	532	9.86	5,255	4,231	6,310	544	10.34	109	58	168	30	27.40
August 2021	2,792	2,251	3,357	298	10.64	2,780	2,269	3,375	283	10.17	-	-	-	-	-
September 2021	12,525	7,866	18,435	2,786	22.24	12,401	7,353	18,423	2,858	23.04	-	-	-	-	-
October 2021	1,498	1,137	1,872	188	12.50	1,483	1,129	1,811	174	11.7	11	0	30	10	94.29
November 2021	2,568	2,057	3,144	271	10.52	2,562	2,046	3,123	279	10.89	-	-	-	-	-
December 2021	2264	1,765	2,796	269	11.86	2,222	1,681	2,804	287	12.92	50	10	101	25	49.54
January 2022	1,688	1,400	1,975	150	8.87	1,687	1,399	1,983	151	8.94	-	-	-	-	-
February 2022	5,787	5,239	6,376	294	5.07	5,711	5,080	6,368	323	5.65	-	-	-	-	-
March 2022	4,649	3,621	5,882	571	12.28	3,796	3,042	4,761	448	11.79	62	0	177	51	83.00
April 2022	8,638	6,863	10,680	991	11.47	8,362	6,586	10,516	971	11.61	831	377	1,447	278	33.36
May 2022	5,909	2,853	10,149	1,894	32.05	5,763	2,485	9,806	1,954	33.90	289	137	472	87	30.05
June 2022	2,957	2,044	4,050	513	17.35	2,963	1,998	4,044	543	18.31	251	129	387	67	26.43
July 2022	41,195	33,591	49,612	4,089	9.92	40,982	34,045	49,249	3,966	9.68	-	-	-	-	-
August 2022	75,526	51,683	101,930	12,473	16.51	75,982	53,242	101,937	12,562	16.53	31	0	68	17	54.26
September 2022	786	570	1,030	119	15.15	773	547	1,015	122	15.68	-	-	-	-	-
October 2022	2,858	1,983	3,813	472	16.51	2,776	1,837	3,697	481	17.32	21	0	50	14	69.65
November 2022	8,643	7,492	9,734	582	6.73	8,256	7,186	9,405	572	6.92	70	0	183	49	70.47
December 2022	2,042	1,664	2,427	197	9.62	1,923	1,550	2,323	192	9.95	312	127	554	110	35.21
January 2023	1,012	774	1,251	123	12.08	957	727	1,177	116	12.10	130	40	254	56	42.83
February 2023	1,331	1,026	1,616	151	11.28	1,036	734	1,350	161	15.55	298	132	510	98	32.83

Table 1.20: Guillemot Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
March 2021	422	4,223	2,797	6,222	905	21.43	379	3,744	2,286	5,650	865	23.09	43	431	187	719	136	31.47
April 2021	2,614	26,374	14,169	40,801	6,931	26.28	2,499	25,114	12,435	39,521	6,872	27.36	113	1,117	636	1,748	285	25.51
May 2021	1,899	19,022	13,924	24,501	2,690	14.14	1,895	18,874	13,763	24,357	2,678	14.18	4	41	10	80	20	48.88
June 2021	771	7,567	3,190	13,417	2,663	35.19	771	7,736	3,397	12,979	2,497	32.28	0	-	-	-	-	-
July 2021	837	8,353	6,932	9,895	786	9.40	815	8,131	6,543	9,670	785	9.65	21	211	129	307	47	21.88
August 2021	579	5,750	3,800	8,546	1,227	21.33	574	5,730	3,754	8,395	1,227	21.41	2	20	0	50	14	69.01
September 2021	1,615	16,223	10,340	22,854	3,157	19.46	1,614	16,133	10,883	22,762	3,064	18.99	1	10	0	30	10	98.71

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
October 2021	226	2,258	1,886	2,616	192	8.46	225	2,243	1,879	2,621	189	8.39	1	11	0	30	10	95.77
November 2021	409	4,080	3,402	4,780	365	8.93	409	4,087	3,375	4,875	379	9.25	0	-	-	-	-	-
December 2021	300	3,056	2,412	3,769	346	11.31	290	2,936	2,327	3,605	335	11.4	10	104	30	187	40	38.30
January 2022	270	2,695	2,352	3,039	175	6.48	270	2,678	2,329	3,020	176	6.56	0	-	-	-	-	-
February 2022	925	9,224	8,205	10,329	545	5.91	919	9,168	8,127	10,266	569	6.20	6	59	0	167	48	81.66
March 2022	681	6,781	5,379	8,262	755	11.13	572	5,680	4,516	7,016	632	11.11	109	1,061	543	1750	313	29.48
April 2022	1,577	15,751	11,749	20,135	2,153	13.66	1,535	15,273	11,630	19,792	2,053	13.44	41	411	233	596	93	22.53
May 2022	975	9,820	5,070	15,161	2,566	26.13	926	9,185	4,603	14,462	2,512	27.35	49	495	324	697	93	18.66
June 2022	620	6,182	4,052	8,706	1,165	18.84	620	6,164	4,010	8,578	1,205	19.54	0	-	-	-	-	-
July 2022	6,653	66,342	55,912	77,392	5,576	8.40	6,638	66,013	55,904	78,364	5,844	8.85	5	50	10	90	21	41.93
August 2022	11,777	118,468	84,852	155,970	18,616	15.71	11,733	118,327	82,804	156,483	18,786	15.88	0	-	-	-	-	-
September 2022	138	1,382	1,092	1,717	159	11.47	134	1,325	1,046	1,668	161	12.13	3	31	0	69	17	56.15
October 2022	483	4,820	3,512	6,292	705	14.62	460	4,592	3,264	5,951	705	15.34	23	219	10	631	192	87.74
November 2022	1,253	12,623	11,155	14,152	761	6.03	1,210	12,162	10,794	13,681	721	5.92	43	436	204	699	126	28.91
December 2022	290	2,926	2,457	3,472	264	9.01	271	2,738	2,287	3,199	238	8.68	19	190	88	332	63	33.15
January 2023	150	1,499	1,239	1,746	129	8.58	143	1,438	1,188	1,669	118	8.16	7	70	29	127	26	37.15
February 2023	189	1,900	1,545	2,275	187	9.83	147	1,470	1,112	1,847	197	13.35	42	429	244	661	106	24.53

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Table 1.21: Puffin Design Based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	503	323	709	98	19.49	499	321	696	97	19.31	-	-	-	-	-
April 2021	292	180	427	66	22.46	290	169	412	63	21.54	-	-	-	-	-
May 2021	1,188	765	1,649	233	19.57	1,183	750	1,639	234	19.74	-	-	-	-	-
June 2021	533	329	764	114	21.34	540	334	774	115	21.16	-	-	-	-	-
July 2021	118	41	211	45	37.47	121	48	221	47	38.63	-	-	-	-	-
August 2021	20	0	49	13	62.71	20	0	49	14	67.95	-	-	-	-	-
September 2021	160	59	288	63	39.07	161	58	296	63	38.67	-	-	-	-	-
October 2021	51	19	90	20	39.49	50	10	91	21	40.54	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	130	69	189	31	23.47	130	70	191	32	24.64	-	-	-	-	-
March 2022	170	94	246	40	23.51	162	88	238	40	24.67	-	-	-	-	-
April 2022	421	281	581	78	18.45	418	266	574	79	18.83	11	0	30	11	100.88
May 2022	431	265	626	93	21.40	430	270	615	91	20.96	-	-	-	-	-
June 2022	60	19	118	27	44.72	59	19	115	25	42.38	-	-	-	-	-
July 2022	382	288	471	48	12.45	370	277	469	50	13.49	11	0	30	10	92.33
August 2022	1,056	443	1,810	353	33.35	1,075	445	1,836	360	33.48	-	-	-	-	-
September 2022	295	180	411	59	19.87	290	180	412	60	20.60	-	-	-	-	-
October 2022	112	40	199	40	35.36	112	40	199	41	36.21	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	31	0	85	23	73.49	31	0	87	23	72.34	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	82	20	174	42	50.44	81	20	178	44	53.67	-	-	-	-	-

Table 1.22: Puffin Design Based Abundance Estimates for Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	722	486	969	125	17.2	718	499	938	116	16.07	-	-	-	-	-

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
April 2021	398	256	574	80	20.09	389	244	560	85	21.76	11	0	30	11	99.64
May 2021	1,640	1,069	2,202	284	17.3	1,631	1,136	2,219	281	17.22	-	-	-	-	-
June 2021	704	445	978	136	19.27	695	435	971	139	19.97	-	-	-	-	-
July 2021	132	49	259	56	41.89	130	41	267	57	43.72	-	-	-	-	-
August 2021	41	10	79	19	47.06	40	10	79	19	47.08	-	-	-	-	-
September 2021	236	109	370	69	29.22	230	107	376	72	31.11	-	-	-	-	-
October 2021	62	20	120	27	43.47	60	19	117	27	43.46	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	10	0	30	10	98.68	11	0	30	10	90.01	-	-	-	-	-
February 2022	232	159	305	37	15.91	232	162	309	38	15.99	-	-	-	-	-
March 2022	263	174	355	49	18.40	250	159	349	50	19.63	11	0	30	10	96.24
April 2022	645	407	921	134	20.64	644	414	915	131	20.30	-	-	-	-	-
May 2022	560	377	750	96	17.07	560	393	740	91	16.24	-	-	-	-	-
June 2022	112	50	186	35	31.41	111	49	180	35	31.10	-	-	-	-	-
July 2022	460	348	577	56	12.07	451	337	566	59	13.01	10	0	30	10	94.56
August 2022	1,620	741	2,667	491	30.27	1673	780	2,726	499	29.81	-	-	-	-	-
September 2022	573	426	737	83	14.38	569	409	743	86	15.08	-	-	-	-	-
October 2022	129	50	232	46	35.69	132	58	233	46	34.46	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	50	10	101	25	49.76	51	10	100	25	48.6	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	101	30	201	45	44.08	98	30	193	43	43.09	-	-	-	-	-

Table 1.23: Puffin Design Based Abundance Estimates for Array Plus 4 km Buffer (Array Offshore Ornithology Study Area)

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	902	638	1,164	131	14.45	898	665	1,162	127	14.13	-	-	-	-	-
April 2021	459	301	642	87	18.75	436	268	627	92	20.95	21	0	50	15	70.39
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	1,954	1,398	2,599	309	15.79	1,979	1415	2,619	313	15.79	-	-	-	-	-
July 2021	1,024	707	1,433	190	18.53	1,020	686	1,427	190	18.63	-	-	-	-	-
August 2021	181	69	328	66	36.46	178	69	319	66	37.11	-	-	-	-	-

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
September 2021	50	10	96	21	40.46	51	19	90	20	38.98	-	-	-	-	-
October 2021	269	130	418	76	28.2	269	138	441	77	28.47	-	-	-	-	-
November 2021	88	20	169	38	43	90	29	169	38	42.28	-	-	-	-	-
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	30	0	60	15	51.02	30	0	68	16	53.33	-	-	-	-	-
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	338	236	448	56	16.41	336	241	448	54	15.86	10	0	30	10	98.25
May 2022	361	229	504	69	19.11	348	219	487	68	19.53	-	-	-	-	-
June 2022	823	530	1,181	165	20.01	833	538	1,181	162	19.43	-	-	-	-	-
July 2022	631	458	820	98	15.43	630	443	845	102	16.12	-	-	-	-	-
August 2022	148	69	238	43	29.07	150	69	245	46	30.30	-	-	-	-	-
September 2022	617	427	839	104	16.79	608	416	829	108	17.62	10	0	30	10	96.30
October 2022	2,210	1,040	3,424	622	28.12	2,133	1,105	3,369	583	27.33	-	-	-	-	-
November 2022	712	507	936	110	15.34	708	518	935	107	15.07	-	-	-	-	-
December 2022	211	116	310	51	23.94	212	117	315	52	24.53	-	-	-	-	-
January 2023	31	0	79	22	71.15	30	0	79	22	74.53	-	-	-	-	-
February 2023	50	10	98	24	47.75	52	10	107	25	48.67	-	-	-	-	-

Table 1.24: Puffin Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
March 2021	143	1,425	1,114	1,795	175	12.25	143	1,420	1,086	1,798	180	12.64	0	-	-	-	-	-
April 2021	79	791	574	1,015	114	14.36	77	773	553	1,003	115	14.86	2	19	0	50	14	71.61
May 2021	303	3,035	2,327	3,810	376	12.38	303	3,024	2,378	3,784	366	12.09	0	-	-	-	-	-
June 2021	148	1,481	1,058	1,908	227	15.29	148	1,481	1,064	1,966	238	16.06	0	-	-	-	-	-
July 2021	45	451	208	802	152	33.57	44	438	202	800	147	33.51	0	-	-	-	-	-
August 2021	7	70	20	129	29	40.23	7	70	20	128	28	39.65	0	-	-	-	-	-
September 2021	50	500	279	772	126	25.09	50	498	276	768	127	25.52	0	-	-	-	-	-
October 2021	17	170	78	275	52	30.2	17	172	89	279	50	28.96	0	-	-	-	-	-
November 2021	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-
December 2021	1	10	0	31	10	104	1	11	0	31	11	101.80	0	-	-	-	-	-
January 2022	3	30	0	60	16	51.78	3	30	0	60	16	51.43	0	-	-	-	-	-

Survey	All Behaviours						Sitting Only						Flying Only					
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Raw Count	Estimated Abundance	LCL	UCL	SD	CV
February 2022	64	634	437	885	112	17.68	64	635	449	873	110	17.21	0	-	-	-	-	-
March 2022	63	623	409	864	120	19.14	61	609	382	862	125	20.44	2	20	0	50	14	70.68
April 2022	127	1,266	939	1,614	173	13.63	126	1,263	937	1,647	183	14.42	1	10	0	30	10	101.66
May 2022	93	928	661	1,217	142	15.29	92	914	641	1,193	141	15.42	1	11	0	30	11	95.94
June 2022	29	293	170	424	67	22.60	29	292	169	437	69	23.66	0	-	-	-	-	-
July 2022	82	821	563	1,122	143	17.36	81	812	559	1,098	140	17.25	1	10	0	30	10	95
August 2022	362	3,637	1,895	5,543	933	25.64	362	3,580	1,962	5,391	916	25.59	0	-	-	-	-	-
September 2022	118	1,180	883	1,486	154	13.04	118	1,189	904	1,512	156	13.11	0	-	-	-	-	-
October 2022	37	370	220	533	79	21.36	31	313	190	447	67	21.24	6	63	0	180	60	96.09
November 2022	3	31	0	80	23	71.99	3	31	0	80	23	72.63	0	-	-	-	-	-
December 2022	6	61	10	120	30	48.71	6	62	10	128	31	49.46	0	-	-	-	-	-
January 2023	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-
February 2023	26	266	150	394	63	23.59	26	261	149	392	63	23.87	0	-	-	-	-	-

GREAT BLACK-BACKED GULL

Table 1.25 Great Black-backed Gull Design Based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	30	0	60	16	52.06	31	0	60	16	51.32	-	-	-	-	-
December 2021	51	20	90	19	37.25	31	0	68	17	53.45	22	0	50	14	63.98
January 2022	21	0	60	19	91.07	-	-	-	-	-	22	0	60	19	89.28
February 2022	30	0	60	16	52.73	20	0	49	13	62.50	10	0	30	10	97.49
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	70	10	139	33	46.55	49	0	109	28	56.38	21	0	49	13	62.09
December 2022	202	109	312	52	25.76	111	39	215	47	42.03	91	40	157	31	33.36
January 2023	50	0	115	30	59.66	30	0	80	23	76.10	20	0	77	21	104.03
February 2023	11	0	31	11	101.03	-	-	-	-	-	11	0	38	11	96.23

Table 1.26: Great Black-backed Gull Design Based Abundance Estimates for Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	39	0	89	23	58.74	41	0	98	25	60.68	62	20	121	27	43.51
December 2021	122	69	183	31	25.20	61	20	118	26	41.57	20	0	60	20	100.72
January 2022	20	0	60	19	95.35	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	30	0	60	16	52.59	20	0	49	13	64.23	10	0	30	10	93.19
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	70	10	130	32	45.58	50	0	109	28	55.52	21	0	50	14	65.45
December 2022	280	174	397	57	20.35	150	70	249	49	32.31	131	70	196	33	25.16
January 2023	52	0	117	31	59.06	30	0	70	21	69.42	22	0	61	21	97.19
February 2023	10	0	30	10	100.03	-	-	-	-	-	11	0	30	10	96.57

Table 1.27: Great Black-backed Gull Design Based Abundance Estimates for Array Plus 4 km Buffer (Array Offshore Ornithology Study Area)

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	41	0	96	23	56.22	41	0	90	24	57.18	41	0	96	23	56.22
December 2021	144	71	220	38	26.39	73	30	128	27	36.68	144	71	220	38	26.39
January 2022	20	0	60	19	93.48	-	-	-	-	-	20	0	60	19	93.48
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	30	0	60	16	52.80	19	0	49	13	65.73	30	0	60	16	52.80
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	10	0	30	10	98.73	11	0	30	10	97.31	10	0	30	10	98.73
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	110	39	192	40	36.23	89	30	170	38	42.13	110	39	192	40	36.23
December 2022	358	249	465	57	15.79	200	108	306	52	25.67	358	249	465	57	15.79
January 2023	58	10	120	30	50.89	41	0	90	23	55.84	58	10	120	30	50.89
February 2023	11	0	30	10	96.00	-	-	-	-	-	11	0	30	10	96.00

Table 1.28: Great Black-backed Gull Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	1	11	0	30	10	96.85	11	0	30	10	96.02	-	-	-	-	-
July 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	6	60	20	117	26	42.88	40	0	90	23	57.65	20	0	50	14	70.87
December 2021	25	253	177	335	41	15.99	144	88	203	30	20.89	113	51	180	34	29.51
January 2022	2	22	0	60	21	94.91	-	-	-	-	-	21	0	60	20	97.24

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
February 2022	4	40	10	79	19	45.32	30	0	69	17	55.29	11	0	30	10	94.71
March 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	1	10	0	30	10	103.82	11	0	30	11	98.35	-	-	-	-	-
July 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	11	110	40	195	39	35.09	92	20	174	39	41.84	21	0	50	14	68.44
December 2022	47	476	352	601	64	13.37	252	149	371	57	22.53	221	148	302	42	18.93
January 2023	11	110	39	198	42	37.99	82	21	151	34	41.42	30	0	80	23	74.96
February 2023	4	42	10	80	20	46.46	21	0	50	14	66.61	20	0	50	15	72.08

HERRING GULL

Table 1.29: Herring Gull Design Based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	11	0	30	10	93.23	10	0	30	10	94.27	-	-	-	-	-
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	11	0	30	10	97.05	-	-	-	-	-	10	0	30	10	95.96
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	71	29	123	25	34.66	-	-	-	-	-	71	29	119	25	34.17
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1.30: Herring Gull Design Based Abundance Estimates for Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	10	0	30	10	96.92	10	0	30	10	96.83	-	-	-	-	-

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	11	0	30	10	96.41	-	-	-	-	-	11	0	30	10	93.64
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	20	0	49	14	67.15	-	-	-	-	-	20	0	50	15	74.32
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	101	49	167	31	29.95	11	0	31	11	99.24	91	40	148	27	28.95
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	10	0	31	11	106.03	-	-	-	-	-	11	0	31	11	98.36

Table 1.31: Herring Gull Design Based Abundance Estimates for Array Plus 4 km Buffer (Array Offshore Ornithology Study Area)

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	11	0	30	10	11	11	0	30	10	92.32	-	-	-	-	-
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	10	0	30	10	10	-	-	-	-	-	11	0	30	10	95.83

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	30	0	60	16	30	-	-	-	-	-	32	0	69	17	52.85
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	110	58	169	30	110	10	0	30	10	100.21	101	50	159	28	26.88
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	11	0	30	10	11	-	-	-	-	-	10	0	30	11	102.16

Table 1.32: Herring Gull Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	1	11	0	30	11	93.88	10	0	30	10	96.33	-	-	-	-	-
April 2021	1	11	0	30	11	97.57	-	-	-	-	-	10	0	30	10	96.99

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
May 2021	1	10	0	30	10	96.82	11	0	30	10	95.89	-	-	-	-	-
June 2021	2	20	0	50	13	65.92	-	-	-	-	-	20	0	50	14	67.22
July 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	1	10	0	30	10	98.94	-	-	-	-	-	11	0	30	11	100.11
September 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	5	49	10	100	25	49.84	-	-	-	-	-	52	10	99	24	45.18
December 2021	1	10	0	31	10	97.27	11	0	31	10	93.74	-	-	-	-	-
January 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	1	11	0	39	11	100.55	-	-	-	-	-	11	0	30	10	97.91
August 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	13	133	69	209	37	27.36	11	0	31	10	94.07	122	68	188	32	25.73
January 2023	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	2	21	0	50	14	67.2	-	-	-	-	-	20	0	50	14	68.8

LITTLE AUK

Table 1.33: Little Auk Design Based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	11	0	38	11	96.99	10	0	31	10	99.36	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	21	0	50	14	66.54	21	0	50	14	68.93	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	21	0	60	20	98.43	20	0	60	19	95.84	-	-	-	-	-

Table 1.34: Little Auk Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	1	11	0	31	11	98.73	11	0	31	10	97.89	-	-	-	-	-
January 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	2	20	0	50	13	65.02	20	0	50	14	68.20	-	-	-	-	-
March 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	2	21	0	50	14	64.60	21	0	50	14	64.82	-	-	-	-	-
January 2023	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	3	30	0	80	23	73.50	31	0	80	22	72.17	-	-	-	-	-

Table 1.35: Manx Shearwater Design Based Abundance Estimates for Array Only

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	11	0	30	10	95.64	-	-	-	-	-	11	0	39	11	100.67
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	11	0	38	11	98.41	10	0	30	10	97.40	-	-	-	-	-
June 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	10	0	30	10	93.67	-	-	-	-	-	11	0	30	10	98.49
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1.36: Manx Shearwater Design Based Abundance Estimates For Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	21	0	50	14	67.9	-	-	-	-	-	20	0	50	14	69.02
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	10	0	39	11	108.04	11	0	39	11	100.44	-	-	-	-	-
June 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	11	0	30	10	90.06	-	-	-	-	-	11	0	30	10	90.67
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1.37: Manx Shearwater Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	1	10	0	30	10	96.47	11	0	30	11	97.33	-	-	-	-	-

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
July 2021	2	21	0	50	14	65.01	-	-	-	-	-	20	0	50	14	71.59
August 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	1	10	0	30	10	101.85	11	0	30	10	95.80	-	-	-	-	-
June 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	2	21	0	50	14	68.78	11	0	30	10	95.71	11	0	30	10	96.32
September 2022	1	10	0	30	10	97.52	-	-	-	-	-	11	0	31	11	102.04
October 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

COMMON GULL

Table 1.38: Common Gull Design Based Abundance Estimates for Array Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	10	0	30	10	99.51	-	-	-	-	-	10	0	30	10	95.82
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	20	0	50	14	66.90	-	-	-	-	-	20	0	50	14	66.88
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	21	0	60	20	92.89	-	-	-	-	-	21	0	60	20	96.20
June 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	30	0	78	22	73.10	-	-	-	-	-	30	0	79	22	73.65
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	30	0	71	20	66.98	-	-	-	-	-	30	0	78	21	69.06
December 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1.39: Common Gull Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	2	21	0	50	14	66.33	-	-	-	-	-	21	0	50	14	67.15
July 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	1	10	0	30	10	100.70	-	-	-	-	-	10	0	30	10	97.52
September 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	4	41	10	79	19	46.61	-	-	-	-	-	40	10	80	19	47.34
December 2021	1	11	0	31	10	96.18	-	-	-	-	-	10	0	31	10	99.88
January 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	1	10	0	30	10	93.44	-	-	-	-	-	10	0	30	10	98.40
May 2022	2	21	0	60	20	96.77	-	-	-	-	-	21	0	60	20	97.91
June 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	3	31	0	80	22	71.54	-	-	-	-	-	32	0	79	22	68.56
September 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	5	52	10	100	25	47.26	-	-	-	-	-	51	10	101	25	48.14
December 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ARCTIC TERN

Table 1.40: Arctic Tern Design Based Abundance Estimates for Array Area Plus 2 km Buffer

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2021	50	10	100	25	49.73	-	-	-	-	-	50	10	108	26	51.52
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2022	128	10	293	73	56.79	-	-	-	-	-	129	10	288	72	55.15
July 2022	11	0	30	10	91.74	-	-	-	-	-	11	0	39	10	96.42
August 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1.41: Arctic Tern Design Based Abundance Estimates for Array Plus 4 km Buffer (Array Offshore Ornithology Study Area)

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Survey	All Behaviours					Sitting Only					Flying Only				
	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
April 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	90	30	157	33	35.96	-	-	-	-	-	90	30	157	32	35.22
September 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	167	29	352	82	48.69	-	-	-	-	-	169	39	354	81	47.76
June 2022	10	0	30	10	99.63	-	-	-	-	-	10	0	30	10	98.71
July 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1.42: Arctic Tern Design Based Abundance Estimates for Array Plus 8 km Buffer

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
March 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2021	96	915	100	2,323	607	66.36	303	0	833	230	76.04	668	109	1,552	402	60.20

Survey	All Behaviours						Sitting Only					Flying Only				
	Raw Count	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV	Estimated Abundance	LCL	UCL	SD	CV
September 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2021	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May 2022	18	180	49	353	82	45.30	-	-	-	-	-	181	40	344	79	43.63
June 2022	1	11	0	30	11	101.71	-	-	-	-	-	11	0	39	10	97.25
July 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
September 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December 2022	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
January 2023	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February 2023	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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