

Treshnish Isles Auk Ringing Group Report 2024



17th June – 29th June 2024

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Introduction

Since 1971, the Treshnish Isles Auk Ringing Group (TIARG) has monitored the breeding seabird populations of the Treshnish Isles, Argyll (Figure 1), through ringing and census work. A summary of the early expeditions is given in *Birds on the Treshnish Isles 1971–1995* (Walker & Cooper 1996). Annual reports have been produced since 1996 (<http://tiarg.org>). This report summarises the results of the group's 48th expedition to the Treshnish Isles, during 17th – 29th June 2024.

The Treshnish Isles are designated as Site of Special Scientific Interest (SSSI) for the colony of breeding seabirds; as a Special Protection Area (SPA) for internationally important populations of breeding Storm Petrel *Hydrobates pelagicus* and wintering Greenland Barnacle Geese *Branta leucopsis* and as a Special Area of Conservation (SAC) for breeding Atlantic Grey Seal *Halichoerus grypus* and reefs. The Treshnish Isles also lie within the Inner Hebrides and the Minches SAC, designated for Harbour Porpoise *Phocoena phocoena* and the Sea of the Hebrides Marine Protected Area (MPA), designated for oceanic fronts, Northern Minke Whale *Balaenoptera acutorostrata* and Basking Shark *Cetorhinus maximus*.

Survey methods

The 2024 expedition took place over an extended 13-day period, from 17th to 29th June. TIARG's usual fieldwork activities – the island census and general seabird ringing – were confined to the second week of this period (22nd–29th), consistent with the monitoring schedule in previous years. Five extra days, preceding the census expedition, were added in 2024 to facilitate the deployment and retrieval of seabird tracking devices for the Aukestra and SEATRACK projects, to assist with their wider studies into the movement and behaviour of seabirds (see section 'Seabird Tracking' on page 15).

As in previous years, the expedition was based around the village ruins at the northern end of Lunga. A seabird census was completed of Lunga, Sgeir a' Chaisteil, and most of the other islands and islets within the archipelago. On 25th June 2024, with the help of Turus Mara, three islands were landed on (in addition to Lunga and Sgeir a' Chaisteil; Sgeir an Eirionnaich, Fladda, and the larger Sgeirean na Giusaich) and boat-based counts were made of Sgeir na h-Iolaire, Sgeir an Fheòir, the Cairn na Burghs and the seaward sides of Harp Rock and Sgeir a' Chaisteil. All counts were conducted in accordance with standard survey methods outlined in Walsh et al. (1995). Given the limited time and accessibility to some islands, the counts are likely to under-estimate the population sizes of some species, but the three islands on which TIARG landed are expected to hold the majority of inland-nesting colonial seabird species (i.e., terns and gulls). Superficial counts were made for some of the seabirds breeding on Fladda. Bac Mòr and Bac Beag were not visited in 2024. All seabird species were censused apart from Manx Shearwater *Puffinus puffinus* and Storm Petrel, which are not surveyed annually.

All TIARG census and ringing data are submitted to two national monitoring programmes, the Seabird Monitoring Programme (BTO & JNCC; <https://app.bto.org/seabirds/public/about.jsp>) and the National Ringing Database (BTO), respectively. The data supplied are currently the sole means of monitoring the seabirds that breed on the Treshnish Isles and offer a long-term perspective of local population change dating back to 1994. Methods for the annual seabird census on Lunga and Sgeir a' Chaisteil followed the standard survey methods outlined in Walsh et al. (1995) to ensure compatibility with the Seabird Monitoring Programme (SMP) and three previous national seabird census e.g. Seabirds Count (Burnell et al. 2023). Counts were conducted for each of 15 count sectors of Lunga and Sgeir a' Chaisteil (Figure 2). It should be noted that the survey timings do not overlap with the preferred survey periods stated in Walsh et al. (1995) for all species, since TIARG usually only visit the islands for one week per year. Storm Petrels and Manx Shearwaters are not surveyed as part of TIARG's annual census.

TIARG have continued Retrapping Adults for Survival (RAS) studies on Shags *Gulosus aristotelis* and Storm Petrels. The Shag RAS study involves colour-ringing adults and has run since 2006. It is one of three active Shag RAS studies in the UK that provide valuable data on Shag survival and demography by generating a long-term resighting dataset. TIARG's two Storm Petrel RAS studies involve metal-ringing only and take place on Lunga: one around the village ruins, the other on the boulder beach at the northern end of Lunga (Figure 2). Unlike other recent expeditions, conditions allowed an adequate number of mist-netting sessions to be conducted at both sites in 2024.

Other sightings of birds, mammals and invertebrates were recorded incidentally and are reported from page 18.



Expedition participants (left to right): Andrew Carter, Bob Lakin, Helen Stace, Robin Ward, Elayna Daniels, Tim Dixon, Katharine Keogan, Luke Nelson, Bob Tridgett, Tim Frayling, Lila Buckingham, Chris Heward (Ellie Owen not pictured) (Andrew Carter)

Acknowledgements

Thank you to TIARG members, past and present, for the time and effort they have spent collecting data over the last 50+ years. TIARG is grateful to the National Trust for Scotland (www.nts.org.uk) for their support and assistance, to the BTO for the financial support provided by their Seabird Ringing Grant, and to the UK Centre for Ecology and Hydrology for funding to support the additional time spent on the islands for logger deployment.

The expedition is made possible by the support and cooperation of Iain Morrison, Colin Morrison, Fergus Reade, and everyone else at Turus Mara (<http://www.turusmara.com/>), who TIARG thank for providing their time, advice and assistance, as well as transportation to and around the islands.

Turus Mara

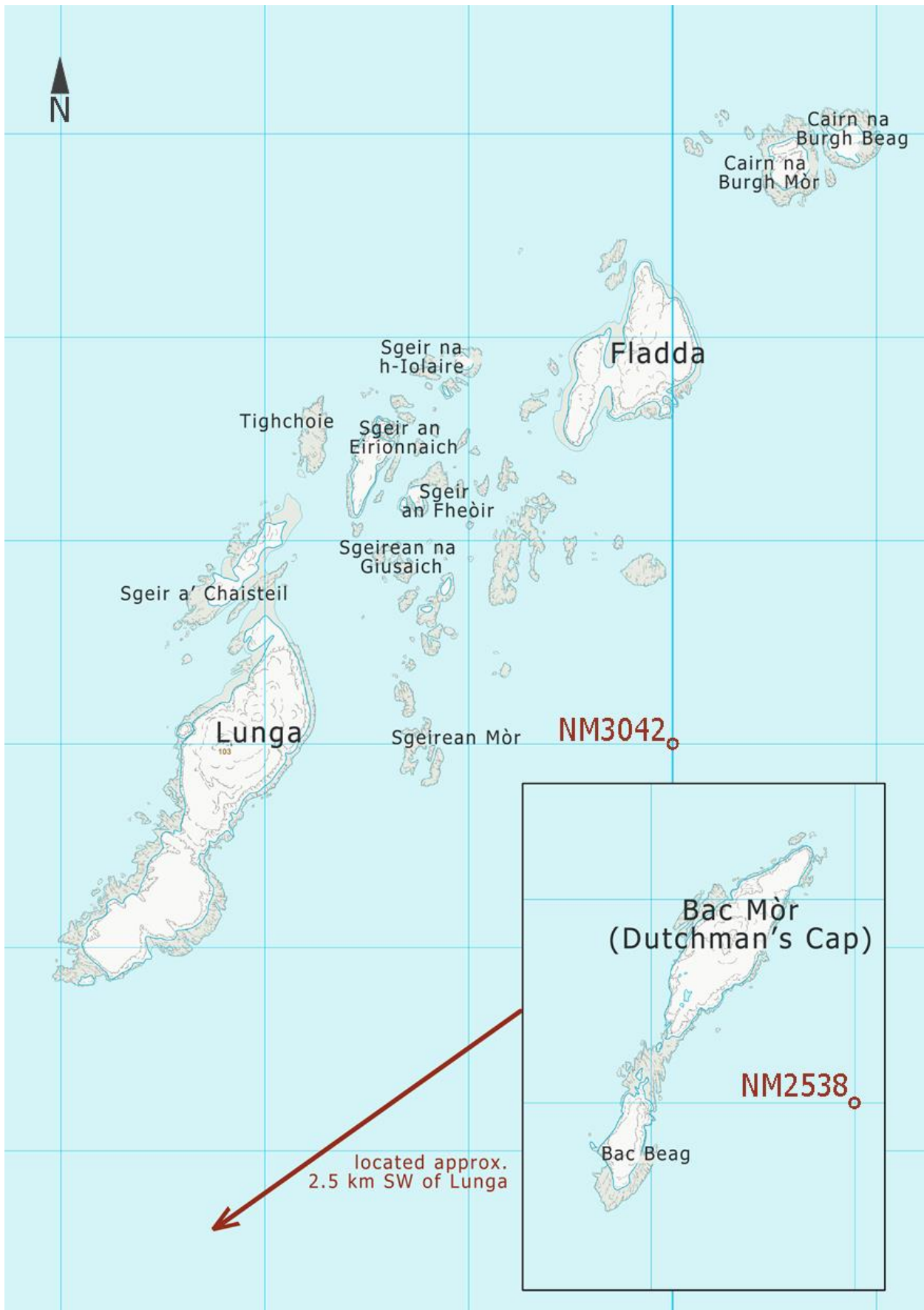


Figure 1. Map of the Treshnish Isles. (Grid squares = 1x1 km).

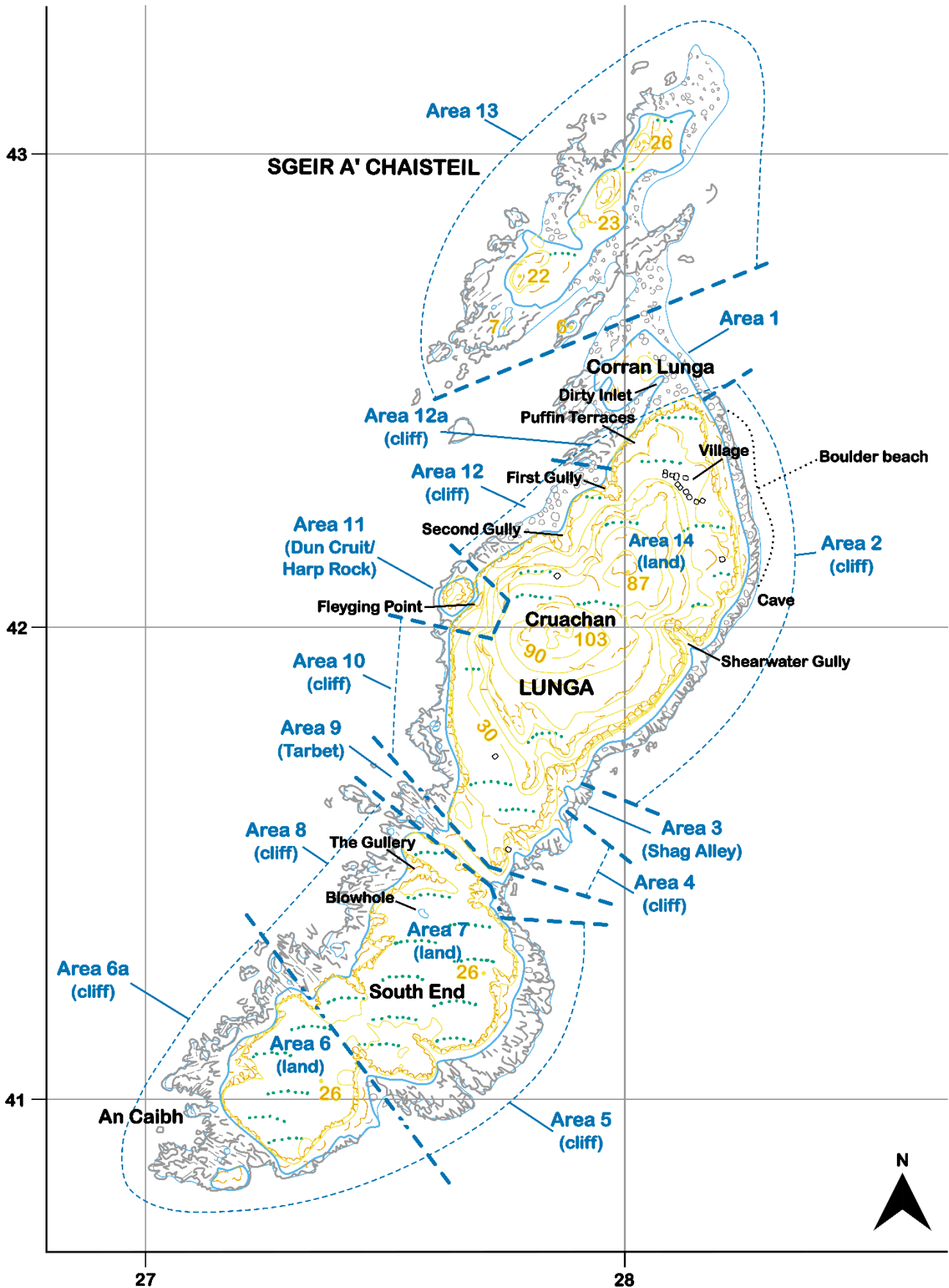


Figure 2. Map of census zones and locations referred to in the text on Lunga and Sgeir a' Chaisteil. Axes denote grid cells of 1 km according to the Ordnance Survey National Grid and are located within the NM grid cell (see Figure 1).

Annual breeding seabird census

This section presents the results of the annual breeding seabird census. Summarised census data are provided in Tables 1 and 2, with recent abundance trends for Lunga provided in Figure 3. Other seabirds, such as Storm Petrel and Manx Shearwater, which are not comprehensively surveyed as part of the annual census, feature in the systematic species list from page 18. It was noted that in 2024, the breeding season for seabirds was exceptionally late and this appeared to particularly be the case for Shag, Guillemot, and Razorbill. In addition, the number of Shag nests was considerably lower than in 2023 and other recent years.

Kittiwake *Rissa tridactyla*

A regular breeding species. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 0.4% of Britain's population.

During 2024, 724 apparently occupied nests were counted on Lunga, where the main colony is located at Harp Rock. Recent trends indicate that the number of Kittiwakes breeding on Lunga declined between 2000–2013 (Figure 3a). Between 2013–2022, numbers increased again to approximately the level counted in 2000 (Figure 3a). The number of nests then saw a sharp decrease between 2022–2023, but have now returned to 2021 levels. In addition to breeding birds, up to 300 adults were observed resting on Sgeirean na Guisaich on the 23rd June.

Common Gull *Larus canus*

Regularly breeding on Fladda in small numbers.

As in previous years, there were no records of breeding on Lunga or Sgeir a' Chaisteil in 2024. Common Gulls were frequently seen foraging around Lunga, including maximum counts, made simultaneously, of four at Harp Rock and six in Shag Alley. Breeding was confirmed on Fladda, where a nest with three eggs and a separate large chick were found on the south coast on 25th June, along with three live and one dead adult Common Gulls. Unusually, a group of 20 Common Gulls were seen on the north end of Fladda.



Kittiwake colony in Area 11 (Andrew Carter)

Great Black-backed Gull *Larus marinus*

A regular breeding species. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 1.0% of Britain's population.

Twelve apparently occupied Great Black-backed Gull territories were counted on Lunga and Sgeir a' Chaisteil in 2024 (Table 1). The low numbers of Great Black-backed Gulls observed breeding on Lunga follows a marked decline in population since the early 2000s (Figure 3b). Elsewhere, breeding was confirmed by landing on Sgeir an Eirionnaich (60 adults and many chicks seen) and Fladda (eight adults), and when passing Sgeir an Fheòir by boat (two territories; Table 2).

Herring Gull *Larus argentatus*

A regular breeding species. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 0.01% of Britain's population.

Three apparently occupied Herring Gull territories were counted on Lunga and one on Sgeir a' Chaisteil (Table 1). The low numbers now breeding on Lunga follow a marked decline in population since the early 2000s (Figure 3c). Apparently breeding adult Herring Gulls were counted when the team landed on Sgeir an Eirionnaich (8 individuals) and Fladda (41 individuals) where chicks and nests were also seen (Table 2).

Lesser Black-backed Gull *Larus fuscus*

Previously a regular breeding species.

No breeding records on Lunga or Sgeir a' Chaisteil, but visiting individuals recorded throughout TIARG's visit. Four adults were seen on Fladda on 25th June (Table 2).

Common Tern *Sterna hirundo*

Irregular breeding species. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 0.3% of Britain's population.

See below.

Arctic Tern *Sterna paradisaea*

A regular breeding species, but intermittently absent. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 1.2% of Britain's population.

A visit to the larger Sgeirean na Guisaich in 2024, provided an opportunity to count tern nests, and for an observer on Lunga to conduct simultaneous counts of flushed adults. This exercise suggested around 750-800 terns were present comprising roughly even proportions of Arctic and Common Terns. A total of 264 nests were found. In addition, 50+ adult Arctic Terns were flushed from the northern end of Sgeir an Eirionnaich on 25th June.



A tern chick (Chris Heward)

Great Skua *Stercorarius skua*

Regularly breeding since 1998.

Only one apparently occupied territory was noted on Lunga during 2024 (Table 1), within Area 7 (Figure 2), and breeding was confirmed by a sighting of a Great Skua chick. One apparently occupied territory was recorded on Fladda.

Guillemot *Uria aalge*

Seabirds Count (2015–2021) estimated the Treshnish Isles supported 1.1% of Britain's population.

A total of 13,828 adult Guillemots were counted on Lunga and Sgeir a' Chaisteil in 2024 (Table 2). This figure is a slight decrease compared with in 2023, following a peak count of 15,266 in 2022; however, prior to that numbers had steadily increased since around 2015 (Figure 3d). It was noted that the breeding season was significantly later in 2024 than in previous years, with most adults incubating eggs or small chicks, rather than the large chicks and fledging events that have been seen in recent years.

Razorbill *Alca torda*

Common breeding species. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 0.4% of Britain's population.

A total of 1,208 adult Razorbills were counted on Lunga and Sgeir a' Chaisteil in 2024 (Table 1). Recent trends indicate that Razorbill numbers decreased suddenly between 2008 and 2009, but have been increasing relatively steadily since then (Figure 3e). It was noted that the breeding season was significantly later in 2024 than in previous years, with most adults incubating eggs or small chicks.

Black Guillemot *Cephus grylle*

Regular breeding species in small numbers. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 0.2% of Britain's population.

Four adults were observed on the water surrounding Lunga and Sgeir a' Chaisteil in 2024 (Table 1), and 28 individuals were observed off Sgeir an Eirionnaich on 25th June (Table 2).



A pair of Great Skua (Andrew Carter)

Puffin *Fratercula arctica*

Common breeding species. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 1.1% of Britain's population.

A total of 6,452 apparently occupied burrows and 5 individuals (where burrows could not be observed) were counted on Lunga and Sgeir a' Chaisteil in 2024 (Table 1). Recent trends indicate that this species has been increasing since the early 2000s, and is now around six times greater than the lowest count recorded in 2003 (Figure 3f).

Fulmar *Fulmarus glacialis*

A regular breeding species. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 0.1% of Britain's population.

A total of 193 apparently occupied sites were counted on Lunga and Sgeir a' Chaisteil. Recent trends indicate that the numbers of Fulmars breeding on the Treshnish Isles have been declining since the early 1990s (Figure 3g) in line with the UK trend.

Shag *Gulosus aristotelis*

A regular breeding species. Seabirds Count (2015–2021) estimated the Treshnish Isles supported 6.8% of Britain's population.

A total of 126 apparently occupied nests were counted on Lunga and Sgeir a' Chaisteil in 2024, which is a huge reduction compared to recent years (Figure 3h). Breeding was confirmed on Sgeir an Eirionnaich and Fladda, but the population on Fladda was not counted during 2024. In addition, 41 colour-ringed individuals were re-sighted, contributing to the long-term RAS dataset (Table 3). It was also noted that the breeding season was significantly later in 2024 than in previous years, with most nests containing eggs or small chicks.



A Puffin carrying Lesser Sand Eels *Ammodytes tobianus* (Andrew Carter)

Table 1. Breeding seabird numbers for each census area of Lunga and Sgeir a' Chaisteil in 2024. Key to count units: AON/AOT/AOB/AOS = apparently occupied nest/territory/burrow/site, ind. = individuals. For the locations of census areas refer to Figure 2.

Species	Count unit	Census area													Total	
		2	3	4	5	6	6a	7	8	10	11	12	12a	13		
Kittiwake	AON	-	-	-	-	-	-	-	-	-	8	662	54	-	-	724
Great Black-backed Gull	AOT	-	-	1	-	3	-	2	-	-	-	-	-	-	6	12
Herring Gull	AOT	-	-	-	-	-	-	-	3	-	-	-	-	-	1	4
	ind.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Great Skua	AOT	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Guillemot	ind.	-	-	45	66	-	-	-	-	602	12,720	265	39	91	13,828	
Black Guillemot	ind.	-	-	-	-	-	4	-	-	-	-	-	-	-	-	4
Razorbill	ind.	207	84	-	73	-	17	-	21	99	215	450	35	7	1,208	
Puffin	AOB	498	38	151	-	-	-	-	-	276	847	2,343	1,807	492	6,452	
	ind.	-	-	-	4	-	1	-	-	-	-	-	-	-	-	5
Fulmar	AOS	36	-	-	16	-	10	-	32	3	10	49	3	34	193	
Shag	AON	17	23	-	15	-	5	-	19	6	5	22	3	11	126	

Table 2. Breeding seabird census data for the Lunga, Sgeir a' Chaisteil and islets in 2024. Key to count units: AON/AOT/AOB/AOS = apparently occupied nest/territory/burrow/site, ind. = individuals. In 2024, Lunga, Sgeir a' Chaisteil, Sgeir an Eirionnaich, Sgeirean na Guisaich and Fladda were landed on, with counts for remaining islands conducted from sea or Lunga. The 'nc' abbreviation is used for species/locations where no count was completed.

Species	Count unit	Island									Total
		Lunga	Sgeir a' Chaisteil	Sgeirean na Guisaich	Sgeir an Fheòir	Sgeir an Eirionnaich	Sgeir na h-Iolaire	Cairn na Burgh Mòr	Cairn na Burgh Beag	Fladda	
Kittiwake	AON	724	-	-	-	-	-	-	-	-	724
Great Black-backed Gull	AOT	6	6	-	2	-	-	-	-	-	14
	ind.	-	-	-	-	60	-	-	-	8	68
Herring Gull	AOT	3	1	-	-	-	-	-	-	-	4
	ind.	-	-	-	-	8	-	-	-	41	49
Lesser Black-backed Gull	ind.	-	-	-	-	-	-	-	-	4	4
Common/Arctic Tern	AON	-	-	264	-	-	-	-	-	-	264
Arctic Tern	ind.	-	-	-	-	50	-	-	-	-	50
Great Skua	AOT	1	-	-	-	-	-	-	-	1	2
Guillemot	ind.	13,737	91	-	-	-	-	-	-	nc	13,828
Razorbill	ind.	1,201	7	-	-	-	-	-	-	nc	1,208
Black Guillemot	ind.	4	-	2	-	28	-	-	-	nc	34
Puffin	AOB	5,960	492	-	-	-	-	-	-	nc	6,452
Fulmar	AOS	159	34	-	-	-	-	-	-	nc	193
Shag	AON	115	11	-	-	nc	nc	nc	nc	nc	491

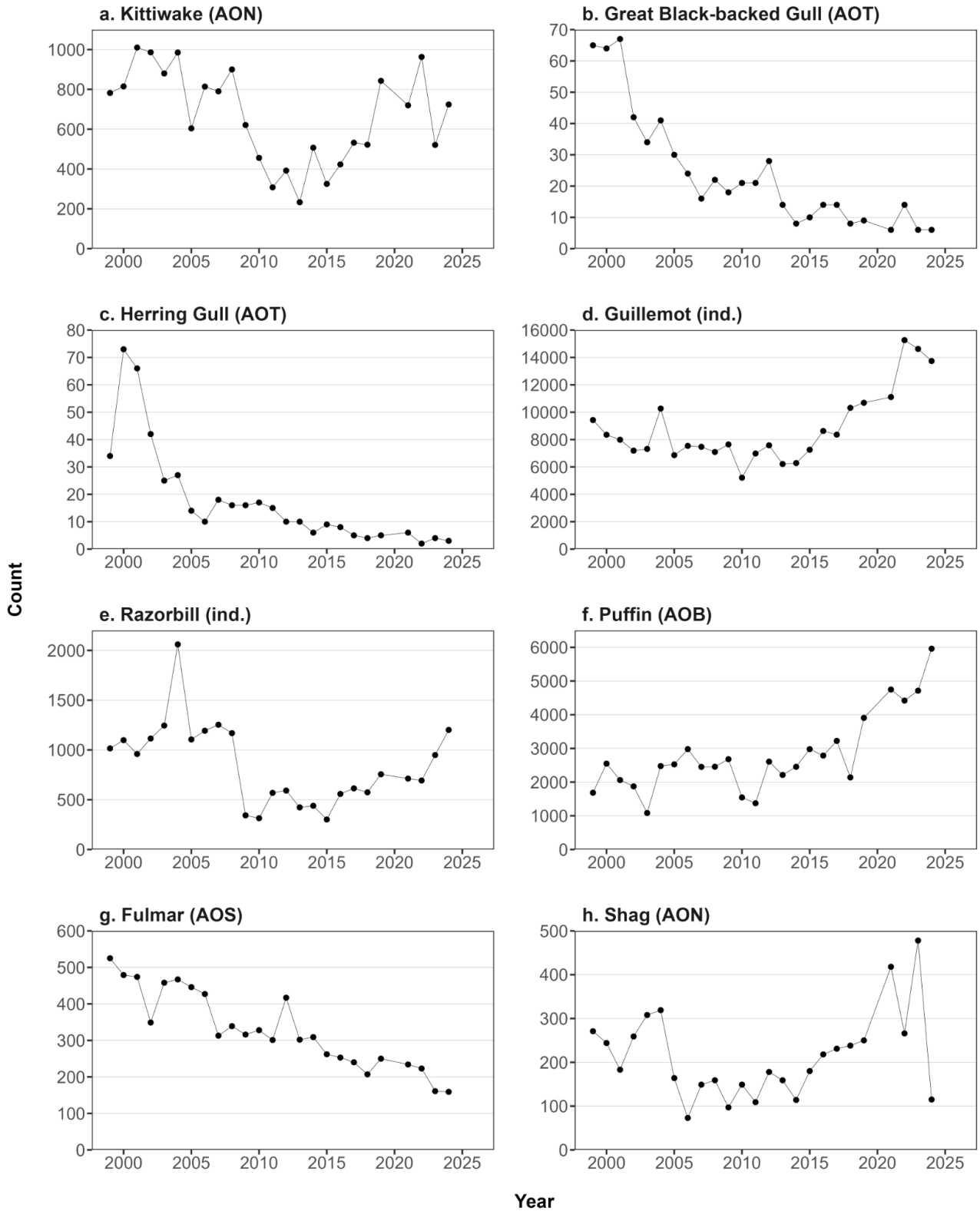


Figure 3. Counts for seabird species breeding on Lunga 1999–2024. Key to count units: AON/AOT/AOB/AOS = apparently occupied nest/territory/burrow/site; ind. = individual.

Table 3. Annual total number of Shag re-sightings/retraps since the start of the RAS study in 2006.

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
No. of re-encounters		32	12	80	14	56	54	81	59	62

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024
No. of re-encounters	92	103	80	85	32	84	26	46	41

Table 4. Treshnish ringing totals for 17th–29th June 2024.

Site	Species	New birds			Recaptures	Total
		adult	Juv.	Pulli.		
Lunga	Kittiwake	15			10	25
	Razorbill	50			13	63
	Guillemot	149			26	175
	Puffin	147			12	159
	Storm Petrel*	366			74	440
	Manx Shearwater	10			3	13
	Shag	24			45	69
	Wren	1	5		1	7
	Meadow Pipit		2			2
	Twite		2			2
Sgeir a' Chaisteil	Great Black-backed Gull			4		4
Sgeir an Eirionnaich	Great Black-backed Gull			6		6
Fladda	Great Black-backed Gull			2		2
	Herring Gull			5		5
Sgeirean na Guisaich	Arctic Tern			11		11
		762	9	28	184	983

*An additional 6 adult Storm Petrel were ringed and 12 retrapped by RSPB on Lunga between 29th July and 19th August as part of tracking studies carried out on behalf of the Scottish Government's Marine Directorate. All rings used in 2024 were registered to the Treshnish Isles Auk Ringing Group.



Members of the TIARG team count tern nests on Sgeirean na Guisaich (Andrew Carter)

Table 5. The total number of new birds ringed by TIARG, by species. Annual totals for expeditions prior to 2000 are given in TIARG's 2019 report. Totals are not provided for 2020 or 2022 as no ringing was conducted. Species names follow the convention of five-letter BTO codes.

	1971-79	1980-89	1990-99	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EIDER								1					
ROCDO													
CORNC									1				
OYSTE	1	7	2		1						4		
RINPL									1		1		
COMSA			1							1	1	1	
KITTI		7	135	13	11	3	2	21	15	14	16	3	4
COMGU			4	5	11	11	6		16	8			
LBBGU												1	
HERGU	21	145	215	15	11	11	8	11	8	1	11	7	20
GBBGU	25	93	145	2	27	5	21	18	12	3	4	13	12
COMTE										1			
ARCTE													
GRESK			1			1	1		1			2	4
GUILI	132	1433	2744	892	312	425	261	800	141	172	123	1	51
RAZOR	342	974	663	133	31	110	56	147	37	33	34	5	6
BLAGU			1		1								
PUFFI	742	924	1948	389	214	351	244	226	151	272	195	327	32
STOPE	277	1697	4934	414	1030	15	360	83	491	962	21	118	403
FULMA	35	81	138	12	25	22	25	47	14	15	8		
MANSH	19	13	17	4			2		1	1	2		4
SHAG	201	330	524	59	37	97	99	200	77	35	141	124	53
BUZZA		3											
HOOCR											1		
WILWA			1										
WHITE													
SEDWA													
WREN			3		1			2	4	2		2	1
STARL											3		
SONTH													
STONE										2		1	
WHEAT	12	4	88	50	24	2	2	2	7	1	2	4	2
DUNNO													
PIEWA			6								4		
MEAPI			5	12	1	4	1	3	5	1		4	
ROCPI		6	14	1	2	2	2	2		3	21	10	1
TWITE			2			1					1	1	1
TOTAL	1807	5717	11591	2001	1739	1060	1090	1563	982	1527	593	624	594

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2021	2023	2024	Total
EIDER														1
ROCDO									3					3
CORNC		2												3
OYSTE		2	2	1	2	1	4		1		2			30
RINPL									1			1		3
COMSA								1						5
KITTI	3	8			16	12	14	22	13	25	22	11	15	405
COMGU					4	1	1							67
LBBGU	2	2				4	1							10
HERGU	11	8	7	3	4	3	8	4	2		12		5	5451
GBBGU	15	10	4	1	2	15	11	16	2	17	8		12	493
COMTE														1
ARCTE					44	104	16		11				11	186
GRESK		2			2			2	1		1			18
GUILL	53	169	46	8	145	154	161	230	329	375	395	60	149	9761
RAZOR	7	8	2	2	32	23	17	40	76	40	40	19	50	28927
BLAGU														2
PUFFI	38	68	301	71	128	239	260	214	337	96	69	57	147	8040
STOPE	293	202	212	191	448	978	258	289	476	486	614	114	372	15738
FULMA				1		1		1	9	1				435
MANSH	9	3	18	3	13	13	5	8	2	6	9	9	10	171
SHAG	116	67	120	115	90	148	165	200	236	99	199	135	24	3556
BUZZA														3
HOOCR														1
WILWA		1							1					3
WHITE		1									1			2
SEDWA		2												2
WREN	1	2	6		2	1	3		16		3	7	6	62
STARL						1								4
SONTH											4			4
STONE														3
WHEAT	4	5	10	4	7	11	3	3	5					252
DUNNO		1		1	1		2							5
PIEWA		3	1			4								18
MEAPI	1	2	15	3	1	5		1	3		4	3		74
ROCPI	2	4	3	1	2	11	1	4	7		1			100
TWITE		3	1						16		3	2	2	31
TOTAL	555	575	748	405	943	1729	930	1035	1547	1145	1387	418	805	42972

Seabird tracking

Since 2018, TIARG have deployed tracking devices on various seabird species, to assist with various research projects and under licence from the BTO. The tracking devices TIARG have deployed have all been leg-mounted on coloured plastic rings, and have been designed to gather data throughout the annual cycle, with some models having the potential to last 5 years following deployment. The tracking devices are ‘archival’, meaning they need to be retrieved in order to access the stored data, so in subsequent breeding seasons, TIARG make a concerted effort to resight and retrieve the devices.

The devices that TIARG have deployed most frequently have been geolocation-immersion loggers (‘geolocators’), which record light, salt-water immersion and immersed temperature. From these data, relatively low-resolution locations and activity budgets can be estimated. TIARG have also deployed time-depth recorders (TDRs), which measure temperature and pressure and thus provide more detailed information of foraging behaviour for species of seabird that dive for their food, such as auks. More recently, TIARG have deployed integrated geocator-TDRs, which are a single device measuring light, salt-water immersion, temperature, and pressure. Finally, TIARG have also been involved in a trial of leg-mounted GPS devices that can last a full year, with the aim to provide a single high-resolution location per day.



Devices deployed in 2018-19. From left to right: a geocator on a Razorbill, a geocator and TDR on a Guillemot in the hand, and a geocator and TDR on a Guillemot in the field (all Andrew Carter)



From left to right: GPS logger on a Shag in the field (left, 2023) and in the hand (right, 2024) (Andrew Carter, Lila Buckingham)

During 2018 and 2019, as part of Lila Buckingham’s PhD studies (Furness 2023), TIARG deployed geolocators on Guillemots and Razorbills, and geolocators and TDRs in tandem on Guillemots (2019

only). During 2019, geolocators were also deployed on Puffins, which were provided by SEATRACK (<https://seapop.no/en/>). During 2023, further SEATRACK geolocators were deployed on Guillemots and Razorbills, and GPS devices were deployed on Shags. These data have already been extremely useful in improving the understanding of non-breeding season movements, behaviour and energetics of Guillemots and Razorbills that breed at the Treshnish Isles (Buckingham et al. 2022; Buckingham 2022; Buckingham et al. 2023). Full details of logger deployments by year and of those the number that have been retrieved thus far are in Table 6.

During 2024, devices were deployed for the Aukestra project (managed by UKCEH and funded by the Scottish Government's Marine Directorate) and SEATRACK. A total of 25 integrated geolocator-TDRs were deployed on Guillemots and 29 on Razorbills (Aukestra). During deployments, feathers were also sampled for DNA and stable isotope analyses. In addition, 13 GPS devices were deployed on Shags and 10 geolocators were deployed on Puffins (SEATRACK). Unfortunately, no devices that were deployed on Shags or Guillemots in 2023 were sighted or retrieved in 2024; this was unusual as in previous years there have been good retrieval rates for tagged Guillemots (Table 6), and the team is accustomed to resighting Shag colour rings for the RAS study. Resighting and retrieving deployed devices will be a priority in 2025.



From left to right: integrated geolocator-TDR on a Razorbill in the hand (Lila Buckingham) and in the field (Elayna Daniels)

Table 6. Deployments by species, logger type and year, and of those the number retrieved to date.

Species	Device	Model	Number of loggers of each model deployed by year and, of those, the number retrieved (R) to date									
			'18	R	'19	R	'21	R	'23	R	'24	
Guillemot	GLS	Lotek MK3006	20	17	15	9	-	-	10	0	-	
	GLS + TDR	Lotek MK3006 + Cefas G5	-	-	15	10	-	-	-	-	-	
	Integrated GLS-TDR	Lotek LAT2800S	-	-	-	-	-	-	-	-	25	
Razorbill		Migrate C65	15	12	-	-	-	-	-	-	-	
	GLS	Lotek MK3006	5	3	-	-	-	-	-	-	-	
		Lotek MK4083	-	-	-	-	-	-	1	1	-	
	Integrated GLS-TDR	Lotek ARC2GEO	-	-	-	-	-	-	-	-	29	
Puffin	GLS	Lotek MK4083	-	-	8	4	2	0	-	-	10	
Shag	GPS	Pathtrack nanoFix mini	GEO	-	-	-	-	-	-	10	-	12

Systematic species lists

Birds

The following systematic list describes all other bird species not counted as part of the annual seabird census, incidental sightings of which were recorded throughout the period 17th–29th June 2024. Species' statuses are based on the number of breeding records/sightings recorded in the last 25 years. Based on the Rare Birds Breeding Panel definitions, regularly breeding species are those for which breeding was confirmed or strongly suspected in any five consecutive years since 1999. For non-breeders, species are considered a regular visitor if recorded in 15 or more years since 1999, and an occasional visitor if recorded in five or more. If fewer than five records, a species is considered a rare visitor and the years of previous records are stated.

Canada Goose *Branta canadensis*

An occasional visitor with previous breeding records in 2018 and 2023. No sightings between 1999–2016.

Canada Geese were confirmed to have bred on the Treshnish Isles in 2024. A pair with a single gosling was seen on Sgeir an Eirionnaich on 23rd June, and a pair with six goslings was seen on Fladda on 25th June. On the 25th June, maximum adult counts reached 11 on Fladda, 5 on Cairn na Burgh Beag and 6 on Sgeir an Eirionnaich.

Greylag Goose *Anser anser*

A regularly occurring species, with occasional breeding records. Confirmed breeding records in 12 years between 1999–2023.

A pair with three juveniles was recorded on Corran Lunga on the 21st June. A maximum count of 57 moulting individuals was recorded on 24th June, on Sgeir a Chaisteil. Usually, Greylag Geese are moulting, and therefore flightless, during the period covered by the annual expedition, but a flighted bird was seen passing over Sgeir a' Chaisteil on the 24th June. Tabulated below (Table 7) are the annual peak counts of the moult flock occurring on the Treshnish Isles.



Twelve Greylag Geese on the shoreline of Cairn na Burgh Mòr (Andrew Carter)

Table 7. Greylag Goose counts on the Treshnish Isles 1998–2024.

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Peak count	25	160	240	268	79	101	316	90	164	77	80	225	160

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2021	2022	2023	2024
Peak count	140	50	140	196	272	70	98	198	200+	202	50	135	57

Shelduck *Tadorna tadorna*

An occasional breeding species.

A pair were seen on Corran Lunga on the 18th June and two females on the 21st June.

Eider *Somateria mollissima*

A regularly breeding species.

Six breeding females with ducklings were seen simultaneously in Dirty Inlet and Corran Lunga (Figure 2; Table 8), with brood sizes ranging from 1-4 ducklings. In addition, females with ducklings were seen on the east coast (Area 2), Tarbet (Area 9) and at South End (Area 6a). Moulting drakes and non-breeding females were seen regularly during the trip, including on Sgeir a' Chaisteil, Sgeir an Eirionnaich, Fladda and Sgeirean na Giusaich on the 25th June.

Table 8. Adult eider counts on the Treshnish Isles 1998–2024 .

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Peak count	23	11	112	26	54	42	80	8	52	13	80	35	14

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak count	7	11	9	6	2	21	6	na	17	16	19	7

Swift *Apus apus*

An occasional visitor.

Swifts were seen on 20th June (one foraging over north coast), 24th June (two at Tarbet), 26th June (four over Cruachan) and 28th June (one along north-east coast).

Rock Dove *Columba livia*

A regular breeding species.

Breeding was confirmed by nine occupied nests in the Blow Hole and an occupied nest in Shag Alley. Regular counts of four to eight individuals made regularly through both weeks, at Shag Alley, Harp Rock and in Area 8. Rock Doves were also seen on Fladda (two) and Cairn na Burgh Mòr (six) on the 25th June.

Water Rail *Rallus aquaticus*

Regularly occurring since 2014, no records before this.

At least two females and a male were heard calling around the village most days. A female was heard calling over Second Gully on the 28th June. Male Water Rails were heard in the reedbed on South End and at Shearwater Gully on the 23rd.

Corncrake *Crex crex*

A regularly occurring species (absent in only two of the last 25 years). Probably a regular breeder but difficult to confirm.

Corncrakes were heard most days in and around the village, or between First and Second Gully (Area 12). This included three males heard simultaneously on the 23rd June: One at the village, one over Second Gully, and one beyond Second Gully towards Harp Rock. Breeding was confirmed by sight when a female and chick were observed close to the village on the 20th June.

Oystercatcher *Haematopus ostralegus**A regular breeding species.*

Pairs of Oystercatcher were seen on Corran Lunga, Shag Alley (Area 3), South End (Area 6a, Area 8) and Tarbet (Area 9), totalling a minimum of six apparently breeding pairs on Lunga, all exhibiting behaviour (e.g., alarm calling) indicative of chicks. Nearly fledged chicks were observed on Corran Lunga. Additionally, there were four pairs, apparently on breeding territories, on Sgeir a' Chaisteil. Oystercatchers were also present on Sgeir na h-Iolaire (pair), Fladda (five pairs), Sgeirean na Giusaich (pair with chick), Cairn na Burgh Beag (pair) and Cairn na Burgh Mòr (pair with chick). A non-breeding flock of 18 individuals was seen on the boulder beach/Corran Lunga on 25th June.

Ringed Plover *Charadrius hiaticula**A regular breeding species.*

Two pairs of Ringed Plovers were seen on Sgeir a' Chaisteil, both likely to be breeding based on the adults' alarm call. Another adult was seen alarming on Corran Lunga on 20th June, and a pair on Corran Lunga on the 21st June may suggest an additional territory, although this bird may have originated from Sgeir a' Chaisteil. Elsewhere, a pair of Ringed Plovers were recorded alarming on Sgeir an Eirionnaich, and single birds were seen on Fladda and Cairn na Burgh Beag.

Curlew *Numenius arquatus**A regular visitor, records in 20 of the last 25 years.*

A Curlew was seen on Fladda on 22nd June, at South End (Area 6a) and on Sgeir an Eirionnaich on the 23rd June, on Cairn na Burgh Mòr on 25th June, and Corran Lunga on the 26th June.

Snipe *Gallinago gallinago**A regular breeding species.*

Although usually encountered regularly throughout the expedition week, definitive evidence of breeding is usually limited to the display behaviour of adult Snipe in suitable habitat. In 2024, however, a recently fledged juvenile was found on the path through Area 11, and another south of Tarbet. Otherwise, drumming, chipping and occasional flushed birds suggests Snipe are widespread, at least across the northern half of Lunga. Presence on Fladda was confirmed by a flushed adult along the south coast of Lunga.

Common Sandpiper *Actitis hypoleucos**A regular breeding species.*

At least three pairs were encountered across Lunga. Alarm calling behaviour indicative of adults with chicks was observed in Tarbet, on Corran Lunga and on Sgeir a' Chaisteil. An alarm calling adult was also seen on the beach on the south coast of Fladda.

Greenshank *Tringa nebularia**An occasional visitor, with five past records since 1999. The most recent of these was in 2021.*

Three Greenshanks landed briefly beside the strait separating Sgeir a' Chaisteil and Corran Lunga on the 24th June.

Arctic Skua *Stercorarius parasiticus**Regularly occurring, offshore individuals likely originating from breeding grounds on Coll.*

At least three separate individuals, two dark and one pale, were seen over the sea to the west and north of Lunga (18th, 19th, 20th, 22nd, 23rd and 26th June).

Storm Petrel *Hydrobates pelagicus**A regularly breeding species. The Treshnish Isles supported 27% of Britain's population and between 1.9–2.3% of the Atlantic (north-eastern) H. p. pelagicus population as estimated by Seabirds Count (2015–2021).*

As usual, Storm Petrels were present as a breeding species on Lunga, but were not censused during the 2024 expedition. For the most recent assessments of Storm Petrel abundance on the Treshnish Isles, see the results of species-specific storm petrel survey completed in 2018–2019 (Ward 2019),

available at: <http://www.tiarg.org/reports.htm>. For Storm Petrel ringing totals, see Table 4. In 2024 five nights of mist-netting were completed across the two RAS sites, but the proportion of retraps were unsurprisingly low given that this follows a 4-year period in which ringing effort was markedly reduced (owing to coronavirus, HPAI and poor weather).

Manx Shearwater *Puffinus puffinus*

A regularly breeding species. The Treshnish Isles supported 0.3% of Britain's population as estimated by Seabirds Count (2015–2021).

Manx Shearwaters were heard returning to their breeding burrows most nights, and 10 individuals were incidentally caught during Storm Petrel mist-netting sessions.

Gannet *Morus bassanus*

A regularly occurring species, offshore.

Both adult and juvenile Gannets were seen offshore throughout the trip, but only ever in small numbers.

Cormorant *Phalacrocorax carbo*

An occasional visitor.

On 20th June, an adult Cormorant flew south past the village on Lunga's east coast. On 25th June, an adult Cormorant was seen perched on the rocks at the foot of Shag Alley (Area 3).

White-tailed Eagle *Haliaeetus albicilla*

A rare visitor, three previous records since 1998 (2016, 2021, 2022). Reintroduced to Rum in 1975 and breeding on Mull since 1985.

A fourth-year White-tailed Eagle landed on the boulders in Fladda's South Haven on the 25th June.



A White-tailed Eagle (lower left) sits beneath the ivy covered cliffs of Fladda's South Haven (Andrew Carter)

Buzzard *Buteo buteo*

An occasionally breeding and regularly occurring species.

There was no indication of breeding on the Treshnish Isles in 2024, and only two sightings were recorded over the course of the expedition: one over Lunga on the 22nd June, and another passing over Sgeir a' Chaisteil on the 23rd June.

Peregrine *Falco peregrinus*

A regularly occurring species, with three previous records of breeding associated with Bac Mòr and one on Lunga (2022).

There were three Peregrine sightings in 2024: one (male) on the 17th June, and birds seen passing over the village on the 22nd June and over Harp Rock on the 23rd June. There was no evidence of breeding on Lunga.

Hooded Crow *Corvus cornix*

A regular breeding species.

A pair of adult Hooded Crows were seen throughout the two-week expedition at various locations around Lunga and Sgeir a' Chaisteil. On the 18th June, a single adult was observed with two juveniles.

Raven *Corvus corax*

A regular breeding species

A family party of Raven were seen regularly around Lunga, consisting of an adult pair and four juveniles. A pair without young were recorded on Fladda and Cairn na Burgh Beag on 25th June.

Skylark *Alauda arvensis*

A regular breeding species.

Up to three Skylarks were heard singing simultaneously between the southern slope of Cruachan and South End.

Swallow *Hirundo rustica*

An occasional visitor.

A single Swallow was over the village on the 20th June and 22nd June.

House Martin *Delichon urbicum*

An occasional visitor.

Two House Martins were seen over the village on 22nd June, and a single bird was seen in the same location on the 23rd.

Sedge Warbler *Acrocephalus schoenobaenus*

An occasionally occurring species, with breeding confirmed/highly likely in 2006, 2010, 2018.

No records in 2024.

Whitethroat *Sylvia communis*

An occasionally occurring species.

No records in 2024.

Wren *Troglodytes troglodytes*

A regular breeding species.

Wrens were seen and heard across the northern half of Lunga throughout the trip, and recently fledged young were recorded on the east coast, near Harp Rock, and on the Boulder Beach. A single Wren was seen during the brief visit to Sgeir an Eirionnaich on the 25th June.

Starling *Sturnus vulgaris*

A regular breeding species.

Starlings were seen across Lunga, with flock sizes ranging from four to a maximum count of 30 individuals on Corran Lunga on the 24th June. Starlings were also recorded on Sgeir na Eirionniach (8 individuals) and Fladda (5 individuals) on the 25th June.

Song Thrush *Turdus philomelos*

An occasionally occurring species, with breeding recorded in 2021.

A singing male Song Thrush was heard at the village on the 19th June, and a pair with a freshly-fledged juvenile were seen in the same location on the 21st.

Blackbird *Turdus merula*

An occasionally occurring species, with breeding previously recorded in 2008, 2021, 2022.

Two males were heard singing simultaneously along the north-west coast of Lunga (26th June), and a single male was heard on Fladda on 25th June.

Wheatear *Oenanthe oenanthe*

A regular breeding species.

Wheatears were recorded across Lunga in small numbers, with sightings of juvenile birds at Tarbet, the Puffin Terraces, Second Gully, on Corran Lunga, on Sgeir a' Chaisteil and at the base of First Gully, demonstrating breeding. A male Wheatear was seen on Sgeir an Eirionnaich on 25th June. Generally, numbers were felt to be lower than in previous years.



Two Wheatear fledglings (Andrew Carter)

Dunnock *Prunella modularis*

An occasionally breeding species (previous breeding records in seven of the last 25 years).
No records in 2024.

Pied Wagtail *Motacilla alba yarrelli*

A regular breeding species.

Individual adult birds were seen around the village, the Puffin Terraces (Area 12) and along the west coast to Harp Rock, but definitive signs of breeding (fledglings or feeding adults) were not seen in 2024. One adult was seen on Sgeir an Eirionnaich on the 25th June. As reported for Wheatear, Pied Wagtail numbers appeared to be lower than in previous years.

Meadow Pipit *Anthus pratensis*

A regular breeding species.

Widespread evidence of Meadow Pipits breeding including a nest with four eggs on the side of Cruachan (Area 14), adults carrying food, and recently fledged young caught in mist-nets in the village.

Rock Pipit *Anthus petrosus*

A regular breeding species.

Rock Pipits were commonly encountered. Adults carrying food and recently fledged young confirmed breeding on Lunga.

Twite *Linaria flavirostris*

A regular breeding species.

Twites were seen across Lunga throughout the TIARG expedition, including in the village, around Tarbet and Shag Alley (Area 3). A flock of seven was seen on Corran Lunga on the 24th June, and of six at Tarbet, including recently fledged young being fed by parents. A single bird was recorded on Sgeir an Eirionnaich on 25th June.



Early morning, looking north from Lunga (Andrew Carter)

Mammals

Otter *Lutra lutra*

Evidence of presence regularly noted.

No records in 2024.

American Mink *Neovison vison*

No known occurrences.

No records in 2024.

House Mouse *Mus musculus*

Resident, population size unknown.

Sightings of House Mouse in and around the village buildings confirm their continued presence on Lunga, but no formal monitoring using wax 'chewsticks' was conducted in 2024.

Brown Rat *Rattus norvegicus*

No known occurrences.

No records in 2024.

Rabbit *Oryctolagus cuniculus*

Resident, population size unknown.

A small number of sightings of single individuals reported from the Puffin Terraces.

Grey Seal *Halichoerus grypus*

A regular breeding species, contributing just under 3% of the annual UK pup production. Numbers are regularly monitored by the Sea Mammal Research Unit (NERC, St Andrews). The conservation importance of these islands as a breeding colony is recognised by their designation by the UK Government as a Special Area of Conservation.

More than 50 Grey Seals were regularly hauled out on the skerries east of Lunga (Sgeirean Mòr) at low tide, reaching a maximum count of 134 on the 25th June.

Common Dolphin *Delphinus delphis*

On the morning of the 26th June, calm seas provided clear views of foraging cetaceans between Lunga and Tìree. At least five groups were foraging in separate locations, each numbering between 20 and 30 individuals. These foraging groups consisted mainly of Common Dolphins, but also included Harbour Porpoises and Bottlenose Dolphins. The 26th June was the only day on which cetaceans were seen.

Bottlenose Dolphin *Tursiops truncatus*

See above.

Harbour Porpoise *Phocoena phocoena*

See above.

Other notable records

Azure Hawker *Aeshna caerulea*

A female Azure Hawker was caught and photographed close to the village on Lunga. Its identity was confirmed by the British Dragonfly Society's Argyll, Sunart and Morven Area Coordinator, Pat Batty. This is the first record for the Treshnish Isles of this Red-listed species. There is a single breeding site on the Isle of Mull 21 km to the north-east, otherwise the nearest breeding sites are some 40 km to the north-east in Ardnamurchan.



Azure Hawker (Andrew Carter)

Oyster Plant *Mertensia maritima*
Localised species on Lunga.

This red-listed and declining plant continues to be well established at Tarbet (west) with no marked difference in extent to that of recent years.

Butterflies and moths

Table 9. Butterflies and moths recorded on the Treshnish Isles during the 2024 expedition

Common name	Scientific name	Decimal code (Agassiz <i>et al.</i> 2013)
Orange Swift	<i>Triodia sylvina</i>	3.001
Common Swift	<i>Korscheltellus lupulina</i>	3.002
Map-winged Swift	<i>Korscheltellus vellea</i>	3.003
Six-spot Burnet	<i>Zygaena filipendulae</i>	54.008
Green-veined White	<i>Pieris napi</i>	58.008
Small Heath	<i>Coenonympha pamphilus</i>	59.005
Meadow Brown	<i>Maniola jurtina</i>	59.01
Peacock	<i>Aglais io</i>	59.026
Common Blue	<i>Polyommatus icarus</i>	61.018
White Ermine	<i>Spilosoma lubricipeda</i>	72.02
Cinnabar	<i>Tyria jacobaeae</i>	72.031
Magpie	<i>Abraxas grossulariata</i>	70.205
Brown Silver-line	<i>Petrophora chlorosata</i>	70.222

Bees

Table 10. Bees recorded on the Treshnish Isles during the 2024 expedition

Common name	Scientific name
Red-tailed Bumblebee	<i>Bombus lapidarius</i>
White-tailed Bumblebee agg.	<i>Bombus lucorum</i> agg.
Common Carder Bee	<i>Bombus pascuorum</i>
Moss Carder Bee	<i>Bombus muscorum</i>

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Appendix 1. Ring recoveries, controls and resightings since the previous TIARG report

Table A1. Recoveries, controls and resightings, made between July 2023–June 2024, of birds that were ringed by TIARG on the Treshnish Isles. Ages are coded according to EURING age codes (Redfern & Clark 2001).

Species	Ring number	Ringing date	Age at ringing	Finding date	Finding location	Distance (km)	Finding circumstance
Common Tern	ST97106	29/06/2018	1	02/08/2023	Blackness Castle, Falkirk, Scotland	186.9	Re-caught by a ringer
Guillemot	R24190	26/06/2001	6	24/07/2023	Gott Bay, Isle of Tiree, Argyll and Bute, Scotland	21.3	Found freshly dead
Guillemot	R19823	27/06/2000	6	05/11/2023	Ballyheigue, Buncurrig, Kerry, Eire	507.4	Found freshly dead
Guillemot	R73819	24/06/2018	6	13/01/2024	Narin Beach, Donegal, Eire	222.6	Found freshly dead
Guillemot	R65936	28/06/2011	6	31/03/2024	Isle of Canna, Highland, Scotland	61.8	Found freshly dead
Guillemot	X67536	28/06/1997	6	22/04/2024	Strontian, Highland, Scotland	59.9	Found dead
Guillemot	R65955	27/06/2009	6	26/04/2024	Ardtoe, Highland, Scotland	47.3	Found freshly dead
Razorbill	M85678	16/06/1999	6	18/09/2023	Newtonhill, Aberdeenshire, Scotland	268.1	Found freshly dead
Razorbill	M92655	29/06/2016	6	01/05/2024	Lunga, Treshnish Isles, Argyll and Bute, Scotland	0	Field sighting (ring read)
Razorbill	K13037	27/06/2023	6	12/05/2024	Lunga, Argyll and Bute, Scotland	2.6	Found dead
Razorbill	K10977	26/06/2018	6	29/05/2024	Lunga, Treshnish Isles, Argyll and Bute, Scotland	2.6	Field sighting (ring read)
Puffin	EG23985	24/06/2001	6	03/03/2024	Praia do Magoito, Lisboa, Portugal	1972.2	Found dead
Puffin	EN22210	27/06/1995	6	07/06/2024	Lunga, Treshnish Isles, Argyll and Bute, Scotland	2.6	Found dead
Storm Petrel	2777491	27/06/2023	6	19/07/2023	Nan Ron, Highland, Scotland	259.9	Re-caught by a ringer
Shag	1483634	29/06/2016	1	02/02/2024	Isle of Canna, Highland, Scotland	64	Found long dead
Shag	1421773	25/06/2008	6	17/03/2024	Cleat, Barra, Western Isles, Scotland	86	Found freshly dead

Appendix 2. Ring series used on the Treshnish Isles since 1927

Table A2. Rings known to have been used on the Treshnish Isles, irrespective of ring ownership.

A2	E	G	K	GUILLEMOT
2010581 – 583	EF75001 – 500	GF10471 – 489	1078761 – 800	R07001 – 100
2101991 – 2000	EG23501 – 700	GH21301 – 350	1080101 – 110	R19401 – 20200
2121401 – 500	EG23721 – 780	GN85301 – 400	1087111 – 120	R24001 – 26350
2167051 – 068	EG23801 – 999	GJ35401 – 500	1105561 – 570	R31601 – 900
2170201 – 203	EG61000 – 500	GJ76001 – 800	1123531 – 540	R51501 – 2000
2238501 – 600	EG88501 – 9000	GJ99081 – 082	1123541 – 550	R65501 – 6000
2261001 – 2350	EH33377 – 380	GK34351 – 354	1123671 – 690	R72501 – 4000
2284001 – 5000	EH54501 – 55000	GK50214 – 220	1123961 – 970	T14001 – 5000
2309901 – 10000	EH89256	GK50551 – 570	1130701 – 800	R73001 – 4000
2311301 – 400	EH89260	GK62985 – 990	1159651 – 700	T82001 – 300
2311501 – 2000	EH98001 – 300	GK90821 – 840	1163701 – 740	X39501 – 40000
2348001 – 500	EK29501 – 900	GK91471 – 490	1168001 – 100	X56501 – 57000
2236801 – 7000	EK72657 – 660	GM78756	1170601 – 700	X63001 – 500
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	FV10611 – 620			
	FV10646 – 650			
	FV54446 – 460			
	FV62410			
	FV62416 – 226			
	FV96681 – 684			
	SS96101 – 300			

