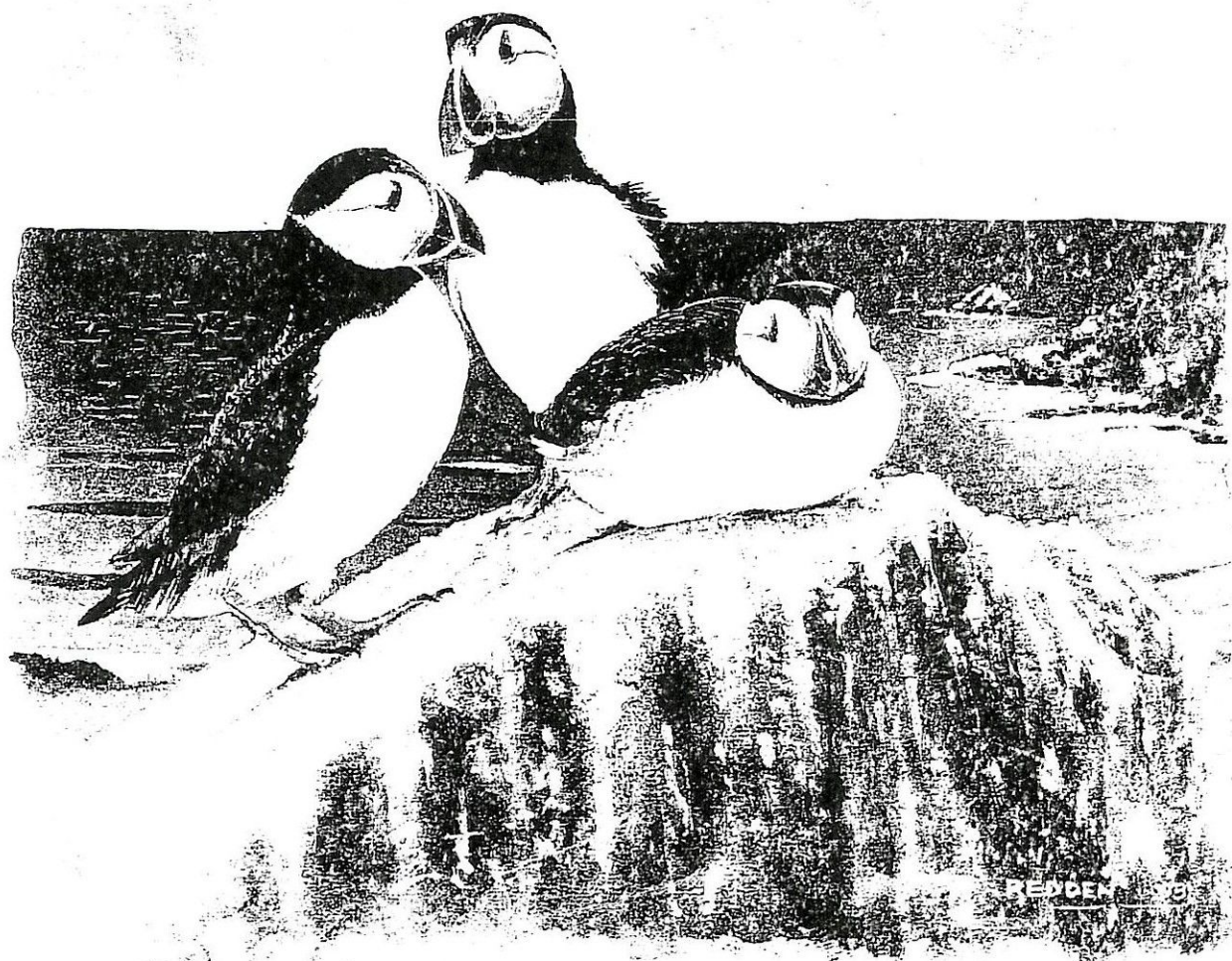


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The Birds of **THE ISLES OF SCILLY**

Peter Robinson 2003



SCILLY AT A GLANCE

Drive west the six or so hours from London to the western tip of Cornwall's Land's End peninsula and stand on the clifftop looking west past the Longships Lighthouse in the direction of North America. If the weather is kind, and that is not always so in this part of Britain, you may perhaps see a cluster of tiny islands hugging the horizon away to the southwest. These are the Isles of Scilly, a low-lying archipelago, with nowhere more than 50 metres high, comprising two hundred or so small islands and lesser rocks situated 45 kilometres (28 miles) out into the North Atlantic.

Only the five largest islands are inhabited and although one, Tresco, is managed privately by the Dorrien-Smith family, all are in the ownership of the Duchy of Cornwall. The total resident human population is in the region of 2,000 souls, although this can and often does double during the summer holiday season. St Mary's, with a landmass of 629 hectares and a population of 1,200, is the largest of the five inhabited islands, the others being Tresco, St Martin's and Bryher, plus St Agnes and the partly attached Gugh. The Scillonian climate is significantly influenced year-round by the proximity of the Gulf Stream, with resultant mild winters and largely dry summers, the islands experiencing little seasonal variation in temperature. Winter months are marked by the near absence of frost, plus frequent strong winds and rain from off the North Atlantic. Most workable farmland is under individual tenancy agreement, with most untenanted land and the uninhabited islands managed under lease by the Isles of Scilly Environmental Trust.

The late 19th and early 20th century witnessed the growth of a thriving winter flower industry supplying eager mainland markets, with an associated decline in the extent of grazing land. Although *Narcissi*, in particular, thrive in Scilly's mild climate, frequent strong winds cause costly crop damage. To resolve this problem, high hedgerows of evergreen shrubs, e.g. *Pittosporum crassifolium*, *Escallonia macrantha*, *Olearia traversii*, *Euonymus japonicus*, Hedge Veronica *Hebe franciscana* or Tamarisk *Tamarix gallica*, now provide protection for numerous small fields, typically of about half a hectare. Tourism, flower farming and fishing (mostly shellfish) now form the basis of Scilly's economy. Tourism underwent a period of sustained growth during the mid-20th century but may now have stabilised and is in any event limited by several factors, including local housing demands, increasing transport costs and, at least until recently, a shortage of fresh water. Flower farming too may currently be experiencing a downturn, in part owing to improvements in mainland production capabilities but also owing to increased competition from world markets, the richly scented bunches of Soleil D'ors and similar flowers now competing on the florist's shelves with exotic blooms flown in daily from as far away as South America.

The islands were largely treeless until the start of the 20th century, with just a few wind-pruned elms *Ulmus* (probably Cornish Elm *U. stricta* (Coleman, M. 2002. British Elms. *British Wildlife* 13: 390–395)) and stunted willows *Salix* (probably Goat Willow *S. caprea*) thriving in low, mainly damp areas and with walled fields maintained mostly as grazing. A period of intensive tree planting during the early 1920s heralded the appearance of numerous shelterbelts on inhabited islands, primarily of introduced Monterey Pine *Pinus radiata*. Nowadays, substantial areas of Common Reed *Phragmites communis* occur around Tresco's Great Pool and around Porth Hellick and Lower Moors pools on St Mary's, having apparently been introduced during the mid- to late 19th century. These reedbeds are now perhaps the most significant west of Cornwall's River Tamar after those fringing the Marazion pools to the east of Penzance.

About 35 islands are suitable for breeding seabirds in addition to four of the five already mentioned. Largest of these are Samson, which until quite recently was inhabited, and the only slightly smaller Annet, which is the undoubted main seabird breeding site in Scilly.

Evidence of Scilly's historical past abounds, among the most obvious being stone-lined burial chambers on the summit of Samson's north and south hills, or above Gugh's eastern slopes. Most of these probably date from between 500 and 1,000 BC, whereas well-preserved remains of prehistoric buildings exist at Halangy Down on St Mary's and on Nornour in the Eastern Isles. Fly over the shallow waters linking the islands, at low tide and in fine weather Bronze Age field walls become readily apparent still, five of the six largest islands having been joined until some time during the first millennium AD; the exceptions are St Agnes and the associated Western Isles, all of which seem always to have been separated by a deep-water channel. During exceptionally low tides it is still possible to walk (or wade) the several kilometres from Tresco east to St Martin's and then south across Crow Sound to Bar Point on the northern tip of St Mary's (pers. obs.), although not without proper preparation and not without ensuring others have been informed – spring tides may go out a long way, but they come in again rapidly!

THE CONSERVATION IMPORTANCE OF THE ISLANDS

The Isles of Scilly comprise the final decayed stage of a once significant mountain chain known as the Armorican Mountains and they are now the sole European example of a Lusitanian semi-oceanic archipelago (UK Biodiversity Steering Group 1995). They have also been identified as an Important Bird Area (IBA) under European legislation and are proposed as a Special Protection Area (SPA) and a RAMSAR site. In addition, they are a designated Area of Outstanding Natural Beauty and a Heritage Coast site. A voluntary Isles of Scilly Marine Park encompasses almost all islands and operates out as far as the 50-metre depth contour, this Park being jointly acknowledged by the Duchy of Cornwall, Isles of Scilly Environmental Trust, local Sea Fisheries Committee, Isles of Scilly Council and English Nature.

Some 23 sites totalling just over 800 hectares or 50% of the total landmass, on both inhabited and uninhabited islands, have been designated as Sites of Special Scientific Interest (SSSI) by the Government's statutory nature conservation advisers, English Nature, either for their botanical or ornithological importance. Similarly, many buildings, fortifications and archaeological sites are managed by English Heritage.

The islands are the only published English Storm Petrel breeding site and more species of seabirds annually breed in the islands than at any other site in England or Wales. In addition, some passerine breeding densities may be greater in Scilly than anywhere else in Britain. The islands also hold nationally or perhaps internationally important numbers of a few species. Wintering Sanderlings, for example, reach levels of national importance (Lock 1999) and perhaps up to 3% of British Shag and 4% of Great and Lesser Black-backed Gull populations breed. Wintering numbers of these last two species, and perhaps of Little Egret and Greenshank, are probably also nationally significant, as may be some wintering wildfowl populations.

In addition to all of this, of course, the geographical position of the islands makes them extremely important to tired, disorientated migrant birds from places far removed from western Europe, as becomes abundantly evident from the following pages.

ISLAND SIZE

Geographically the islands occupy an area about 18 by 10 kilometres, the actual area of landmass involved being far smaller. The following Table shows approximate island land areas as obtained from various sources. In the case of some smaller islands, areas shown are approximate but the landmass involved is small enough not to significantly affect overall figures.

Estimated Land Areas for Individual Islands

Inhabited Island	Hectares	Acres
Bryher	126.0	311.3
St Agnes	109.3	270.0
(Gugh)	38.6	95.3
St Martin's	221.7	547.8
(White Island, St Martin's)	15.4	38.0
St Mary's	628.7	1553.4
Tresco	297.4	734.8
Total	1437.1	3550.6
Central Isles		
Puffin Island	0.5	1.23
Samson	39.0	96.3
White Island, Samson	1.54	3.8
Total	41.04	101.33
Western Isles		
Annet	21.4	52.8
Gorregan	1.46	3.6
Melledgan	1.5	3.7
Rosevean	1.0	2.47
Rosevear	1.9	3.9
Total	27.26	66.47

Northern Isles		
Castle Bryher	0.5	1.23
Gweal	6.0	14.8
Illiswilgig	1.21	2.9
Maiden Bower	0.5	1.23
Men-a-Vaur	1.21	2.9
Mincarlo	1.82	4.4
Northwethel	4.86	12.0
Round Island	3.8	9.3
Scilly Rock	1.21	2.9
St Helen's	19.9	49.1
Tea	16.0	39.5
Total	57.01	140.26
Eastern Isles		
Great Arthur	3.64	8.9
Great Ganilly	2.64	6.5
Great Ganinick	1.8	4.4
Great Innisvouls	0.65	1.6
Guther's Island	0.2	0.5
Little Arthur	2.0	4.9
Little Ganilly	2.4	5.9
Little Ganinick	1.8	4.4
Little Innisvouls	1.54	3.8
Menewethan	2.4	5.9
Middle Arthur	1.6	3.9
Nournour	1.34	3.3
Ragged Island	0.6	1.4
Total	22.61	55.4
All-island Total	1585.02 ha	3914.06 acres

EARLY SCILLONIANS

Little is known for certain about the origin of early Scillonian populations and even less about how and when the first settlers arrived in the islands. However, given the archipelago's geographical position, nautical background and amenable climate, subsequent communities seem likely to have comprised a mix of nationalities, cultures and religions, as indeed rather remains the case to the present day. First authoritative evidence of an apparent presence originates from about 2,250 BC, though brief visits and perhaps longer stays probably occurred throughout the late Neolithic to early Bronze Age periods, i.e. from as early as 4,000 BC (Thomas 1985). Such evidence as there is for a Roman presence spans the period AD 100–400. Following the Roman departure, little again is known of Scilly, save that Viking raiders maintained a base in the islands until removed by King Athelstan around AD 928 (Vyvyan 1953). It was the latter who left in place the first of many garrison forces. In AD 938, Benedictine monks settled in the islands and are popularly thought to have built both Tresco Abbey and a convent in Holy Vale on St Mary's. From around AD 1040 the islands came under the control of Tavistock Abbey, this remaining very much the situation through until Scilly became Crown property upon Dissolution of the Monasteries in AD 1539.

From the point of view of what follows, the next most important milestone in Scillonian history was Augustus Smith's acquisition of the islands from the Duchy of Cornwall in 1835, under the impressive title of 'Lord Proprietor'. As a consequence, Augustus removed himself from his comfortable Hertfordshire country house and took up residence in Tresco Abbey, committing his considerable organisational skills towards improving the life on the islands for all, though such attentions were not universally welcomed. Following his death in 1872, Augustus was succeeded by his nephew Lieutenant Thomas Algernon (Algy) Dorrien-Smith. On Thomas's death in 1918, control of the islands in turn passed to his son, Major Arthur

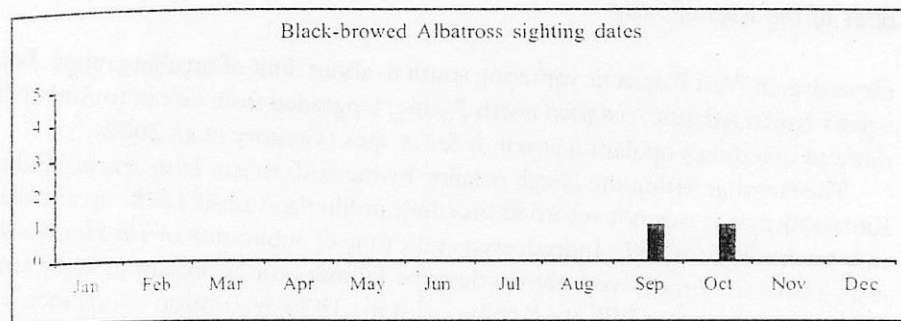
Algernon Dorrien-Smith. With the exception of Tresco, the lease of all inhabited islands reverted back to the Duchy of Cornwall in 1920.

The geographical position of Scilly, within the Western Approaches, makes them strategically important to Britain's defence, a point not lost on successive monarchs and governments. Evidence of this prevails, for example in the form of extensive fortifications surrounding the St Mary's Garrison, in Cromwell's Castle on Tresco, and in that part of Hugh Town known as The Parade. However, since its conversion to a communal park the previous use of the last named has become rather less obvious, but early photographs exist showing this former military parade ground in its apparently original state. With a military presence of one kind or another in the islands throughout most of the last millennium, it would be truly surprising if that had not also left its mark in the genetic make-up of the community, to say nothing of the plethora of passing shipping, from lowly merchantmen to mighty man-of-war, many of which would have been forced to take shelter within the islands during bad weather. Today, the troops have gone and the only naval presence involves the occasional passing warship, crews of which seldom now enjoy the pleasures of shore leave in the islands.

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the annual *IOSBR*, Black-browed Albatross having to compete that year with Black Duck *Anas rubripes*, Semipalmated Plover *Charadrius semipalmatus*, Pallid Swift *Apus pallidus* and Red-eyed Vireo *Vireo olivaceus*, so regrettably we have only very brief information. No age is given in the *IOSBR* for the unreported individual, which was claimed for Crow Sound, to the north of St Mary's, on 22nd October.

Albatross

Diomedea/Thalassarche/Phoebetria

Extremely rare vagrants, full written description required by the BBRC in all cases.

[1921 One off Golden Bar, St Mary's] Penhallurick 1969
1986 One off St Mary's 19th October *British Birds* 82: 508

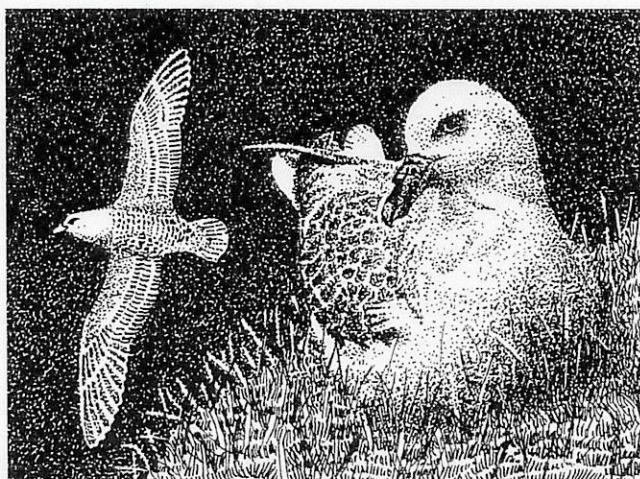
Large oceanic seabirds breeding in the Southern Hemisphere and occasionally reaching northern oceans. Most likely to reach the North Atlantic are Black-browed *T. melanophris*, Yellow-nosed *T. chlororhynchos*, Black-footed *P. nigripes*, Wandering *D. exulans* and Royal *D. epomophora*. Generic status of albatrosses reclassified November 2002 (Sangster *et al.* 2002).

An albatross seen initially off Jackie's Point and then off Giant's Castle, both St Mary's, on 19th October 1986 was thought probably to have been Black-browed, but owing to uncertainties over bill colour it was not assigned to a particular species by the BBRC (*IOSBR* 1986; *British Birds* 82: 508). This was preceded on the Cornish mainland by a similar record of an unidentified albatross near Marazion, just east of Penzance, on 23rd August 1964 (*CBWPSAR* 37). However, Penhallurick (1969) drew attention to a far earlier, 1921 sighting shown in the Tresco Abbey records as having involved an unidentified albatross off 'Golden Bar', probably what is now known as Golden Ball, between Tresco's northern end and nearby Men-a-Vaur.

Fulmar (Northern Fulmar)

Fulmarus glacialis A

Resident and possible migrant, breeds in noticeably increasing numbers.



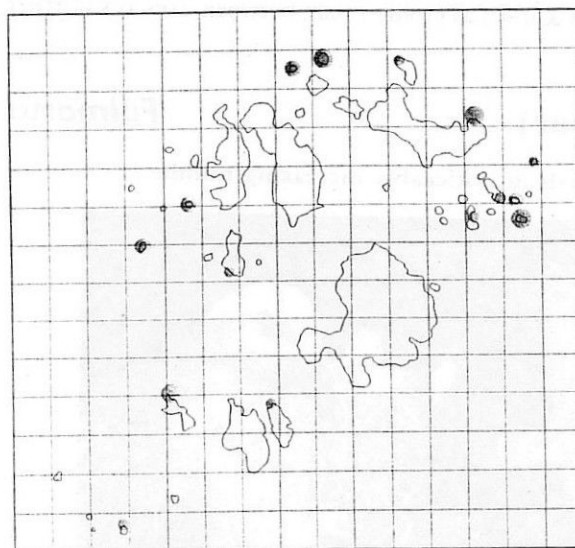
Fragmentary breeding distribution, in North Atlantic from northwest France, Great Britain and Newfoundland northwards; in Pacific from Sea of Okhotsk north and east to southwest Alaska. Migratory and

dispersive, in West Palearctic wintering south to about limit of breeding range. Polytypic: nominate *glacialis* occurs North Atlantic; *rodgersii* north Pacific. Upgraded from Green to Amber-listed in UK 2002: 50% or more of breeding population at ten or fewer sites (Gregory *et al.* 2002).

The fact that within the North Atlantic by the mid- to late 19th century Fulmar was still confined to St Kilda and that it was not recorded breeding in Shetland until 1878, means that it played no part in the early ornithology of Scilly. Indeed, even at the time of publication of *The Handbook of British Birds* (Witherby *et al.* 1940) its authors were able to describe Fulmar only as present in Scilly and not yet shown to breed. First mention of it in *CBWPSAR* comes with the 1936 description of one seen 20 miles west-northwest of the islands on 11th June that year, with a second off the Western Rocks on 20th June the following year, local fishermen commenting on not having seen the species previously. In nearby Ireland, first recorded breeding, in Co. Mayo, occurred around 1907 (Witherby 1911), with the timing of similar events down the western coasts from St Kilda being well documented: Orkney 1891, Cape Wrath 1897, Barra Island 1899–1902, Handa Island 1900–01 and Flannan Isles 1902.

Certainly from the early 1940s onwards, Fulmars were seen about the islands annually, with birds observed going ashore, but breeding, or attempted breeding, not recorded until an egg was found on Bryher's Shipman Head on 24th June 1951 (*CBWPSAR* 21). In 1952, three to four 'pairs' were said to be 'sitting tight' on rugged Men-a-Vaur, plus three 'pairs' on Shipman Head, though breeding was not confirmed. Things clearly progressed at a pace, however, for by 1954 three eggs were located on Shipman Head and four pairs were site-sitting on Men-a-Vaur, with even a lone bird on remote Hanjague. The first recorded hatching on Scilly involved a pair on Shipman Head in 1955, whereas the first possible fledging was not until 1960, when a ready-to-fledge youngster was seen on Men-a-Vaur (*CBWPSAR* 30).

By 1974, there were some 14 breeding pairs at six sites incorporating the Northern, Western and Eastern Isles, i.e. Men-a-Vaur, Round Island, Hanjague, Castle Bryher, Great Innisvouls and Gorregan (Allen 1974). But as a measure of the continuing spread of Fulmars within the islands, by 1999 a total of 183 incubating birds were recorded on 15 islands, an increase of nearly 600% in 25 years, the greatest number at any one site being 32 on Round Island (Seabird 2000 data). The pattern of spread within the islands has been recognisably one of occupation by one to two pairs, with egg-laying perhaps by year two, but without productivity for several years. A few sites, e.g. Gugh's eastern side, were deserted after two to three years of trial occupation.



Island	Nests
Annet	21
Gugh	2
Round Island	32
St Martin's Daymark	32
Menawethan	27
Men-a-Vaur	16
Mincarlo	15
Castle Bryher	13
Great Innisvouls	7
St Martin's White Island	5
Great Ganilly	4
Great & Little Arthur	3
Samson South	2
Gorregan	2
Hanjague	2

Distribution of 183 Incubating Fulmars – 1999 (Seabird 2000 data)

Interestingly, the well-documented pattern of southward spread by breeding birds already referred to is further supported by a small number of birds ringed as nestlings in southern Ireland and found breeding in Scilly, the only known source of Scillonian birds so far. And whilst not surprising, the degree of site faithfulness among breeding birds revealed by retrap data is also worthy of note. For reasons already outlined, no Fulmars were ringed in Scilly up to 1970, although since then a total of 259 have been ringed,

the majority as pulli (Scillonian Seabird Group – unpublished data). In France, Fulmars now breed as close to Scilly as Brittany (at least four sites) and Normandy (Guermer & Monnat 1980; Hagemeyer & Blair 1997) but it still remains to be established whether birds involved there were ringed originally in Scilly. In Britain, Fulmars breed as close to Scilly as west Cornwall, whilst in Ireland, Little Saltee, the origin already of three Scillonian breeding birds, remains the nearest site to the islands. On Scilly, good numbers of birds appear back at the breeding sites by the year's end.

FV46967	Pul	Little Saltee, Ireland	26th July 1980	BR	Gorregan	2nd July 1993
				BR	Gorregan	20th July 1994
FS95116	Pul	Little Saltee, Ireland	8th August 1981	BR	Annet	7th July 1994
FR18177	Pul	Little Saltee, Ireland	10th June 1990	BR	Menawethan	4th June 1998
FA79563	Ad	St Martin's	9th July 1996	FD	Chale, Isle of Wight	16th February 2000

Fulmar Selected Ringing Recaptures

[Bulwer's Petrel

Bulweria bulwerii] A

One now rejected record involving an old skin specimen. Full written description required by the BBRC.

[1897 One 'near Scilly' 2nd October] *Journal of Biological Curation* 1: 53–70; *Ibis* 134: 213

Oceanic species with limited, widely dispersed breeding distribution. Monotypic. Occurs equatorial and northern Atlantic, e.g. Cape Verde and Canary Islands, with other known populations in northern and central Pacific. Migratory, vacating North Atlantic in winter and moving south into tropical waters.

Bulwer's Petrel has a somewhat chequered history as a British species, with the circumstances of old records varying, dependent on the authority consulted. Palmer (2000) credited the earliest record to a bird found dead in County Durham in 1837, the skin of which was misplaced for some 50 years before being rediscovered and placed in the Yorkshire Museum. However, Morrison (1998) gave the finding location for this specimen as West Tanfield, Yorkshire. He credited the second British record to an undated bird from Scarborough, North Yorkshire, in 1849 but most authorities attribute the second record to a bird washed up dead near Scarborough on 28th February 1908, the skin of which is also in the Yorkshire Museum (Palmer 2000).

Neither Naylor (1996) nor Evans (1994) mentioned the specimen in Oldham Museum, marked 'Near Scilly, England 2 October 1897' (*J. Biol. Curation* 1: 53–70). This record was recently considered by the BOURC, who felt that although identification was not an issue there were 'elements of doubt surrounding the claimed circumstances of collection and the provenance of the specimen' (BOURC 1992a). The BBRC/IRBC accepted records involve an Irish sighting off Cape Clear Island in 1975 and one off Walney Island, Cumbria, in 1990. However, Morrison gives details of 13 'at sea' records from England, Scotland, Wales or Ireland, plus six inshore records presumably rejected by the two national committees and 11 at sea off France, Spain, Norway or Italy. As at January 2002, the BOURC were reviewing all past records of this species (BOURC 2002).

[Matsudaira's Storm-petrel/Bulwer's Petrel

Oceanodroma matsudairae/Bulweria bulwerii]

No accepted Scillonian record of either species.

[1988 One at sea (49.2°N 4.5°W) 48 km southwest of Scilly 3rd August] Gantlett 1988; Swash 1988; Hume *et al.* 1997

For details of Bulwer's Petrel distribution see that species. Matsudaira's Storm-petrel breeds Pacific islands off Japan, wintering off Southeast Asia and probably northern Indian Ocean.

A well-publicised bird seen from the MV *Chalice* 'the Chalice petrel', during a pelagic trip in sea area Sole, 45 km southwest of the islands, on 3rd August 1988 is thought to have been one or other of these two species (Gantlett 1988; Swash 1988; Hume *et al.* 1997). Although probably a moulting Bulwer's

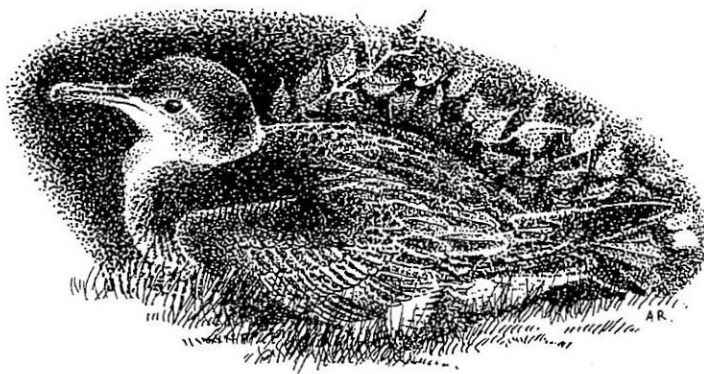
two other large shearwater species, there has been a marked increase recently in the number of records, doubtless in line with the recent increased interest in seawatching in Scilly.

Sooty Shearwater occurs in greater numbers off mainland Cornwall, e.g. monthly totals of 165 and 206 in August and September 1999 respectively and an annual total of just under 500 for the same year (CBWPSAR 69).

Manx Shearwater

Puffinus puffinus A

Summer visitor in decreasing numbers, currently known to breed on three uninhabited and three to four inhabited islands; all-island population may now be as low as 200 pairs (Heaney *et al.* 2002).



Within West Palearctic, breeds Britain and Ireland, Iceland, Faeroes, France (Brittany), Madeira and Azores, also New Zealand and northwest North America, small presence northeast North America. Migratory or dispersive. Polytypic: nominate *puffinus* occurs eastern temperate North Atlantic; five additional forms sometimes considered separate species. Amber-listed in UK: 20% or more of European breeding population in UK, 50% or more at ten or fewer sites; unfavourable European conservation status (Gregory *et al.* 2002).

This species and Storm Petrel *Hydrobates pelagicus* are the two least known of Scilly's breeding seabirds, for perhaps obvious reasons, i.e. nocturnal and subterranean breeding biology, and pelagic lifestyle. According to Couch (in Rodd 1880), the provincial name for this species was 'Skidden' though it is not used now, or apparently not in Scilly. Earliest evidence of Manx Shearwater in Scilly comes from the skeletal remains of more than one individual unearthed from the prehistoric site on Nornour in the Eastern Isles (Turk 1971, 1984b). This species is seldom found at prehistoric sites in western European and its presence in Scilly doubtless reflects its earlier availability (Turk 1971). As early as the 2nd century it was common to make payment for land rental in the carcasses of young seabirds, generally referred to as 'puffins'. More recently, this has been interpreted as referring to the Atlantic Puffin *Fratercula arctica*, whereas the truth is rather different (Lockwood 1984). The term 'puffin', or 'puffling' was originally attached to cured carcasses of young Manx Shearwaters, an esteemed delicacy up until the 18th century, supplies of which came regularly from Scilly and the Calf of Man, in particular. As evidence of the origin of the word 'puffin', Lockwood cites the scientific shearwater name *Puffinus* used by early naturalists, the name Puffin only later being attached to *Fratercula arctica*, perhaps through the close association of these two species at breeding sites such as Annet. Several writers have commented over the years on the presence of both species often in the same burrow on Annet, e.g. Walpole Bond (1937).

To Scilly falls the distinction of being the first recorded site in Britain or Ireland involving payment in 'puffins'. Gurney (1921) suggested the earliest mention was 1337, when the islands were leased by Edward III (Earl of Cornwall) to Abbot Ranulphus of Blanchminster, for the costly sum of 6 shillings and 8 pence, or 300 'Puffins' annually. However, Suffern (1939) drew attention to another document of 1337 or thereabouts, *Descriptive Catalogue of Ancient Deeds* (10 Edward III), contained in the Public Records Offices. This witnesses the subletting, by Ranulph de Blaunhminster (presumably the same Abbot Ranulphus), of all or most of Scilly to John de Allet by way of 'knight-service and by service of keeping Ranulph's castle in the said Isles for a certain time'. Indeed, the agreement apparently went even further, for we see too that 'the said Ranulph has released and quitclaimed for self and heirs, to John and his heirs the service of keeping the said castle for ever'. For his part, John appears to have agreed a (presumably

annual) rent of 13 shillings and 4 pence, or 150 'pufforum' in the event of default, whereas John was granted the right to take 'poffonis' for his own use at a rate of one penny for three.

There are not too many 19th century estimates of numbers of breeding Manx Shearwaters on Annet, though Gurney thought there were no more than 200 pairs. He dismissed an apparent roosting two-mile-long (3.2 km) flock seen by a Captain White of St Mary's in August 1885, and thought to contain 'many thousands', as probably comprising birds from 'further north' (Gurney 1889).

Nevertheless, Manx Shearwater was clearly abundant enough in Scilly at the beginning of the 20th century for James Clark and Francis Rodd to remark that during the breeding season the sea was thick with them for half a mile (0.8 km) off northeastern Annet (Clark & Rodd 1906). And although there is disagreement now over likely numbers involved, Yarrell, in his *A History of British Birds*, described how Mitchell of Penzance regularly encountered flocks of at least 300 around Annet's northern end during June (Yarrell 1837-43; Rodd 1880). In addition, Gilbert White estimated a July flock of at least 100,000 (in Jesse 1887) and H W Robinson (1911a) recorded local estimates of breeding numbers on Annet in the range 100,000 to 150,000: a far cry from Gurney's estimated 200 pairs.

Presumably Robinson was referring to individuals rather than pairs, but provides no additional information, other than confirming that the northern end of Annet was the species' stronghold in Scilly – although most now nest on the southern end (pers. obs.). Earlier, in 1904, Frohawk stayed overnight on Annet during early June, and based his estimate of 100,000 individuals on numbers observed (Frohawk 1908, 1915-16). The same author noted how the calls of so many shearwaters in one place obscured the noise of the sea washing onto the rocks just 30 metres away. Conversely, Walpole Bond (1937) visited the same island during daylight and so based his estimate of 'thousands' on the number of burrows seen, noting that of those they dug out, from an area of approximately two hectares, nearly all contained Manx Shearwaters, rather than Puffins. However, the most vivid account of being amongst Annet's shearwaters comes from C J King (1924), who described thousands of birds, such that 'one's face is constantly fanned by the wind from their wings, and one finds it wiser to sit down to avoid collision with them as they wheel about'. He also described the accumulated noise of thousands of wings and calls as 'perfectly deafening'. Indirect support for this number of birds in Scilly comes from reports from early day seawatchers in west Cornwall, some of whom counted up to 20,000 Manx Shearwaters passing during a single day in spring, on a northwesterly course in the direction of Scilly (Thorpe 1935; Trahair Hartley 1935). As an indication of numbers present on Annet even by the mid-20th century, on the night of 17th-18th April 1958 more than 400 were ringed, the session only ending when the supply of rings ran out (SABOAR 1958). By 1961, up to 500 were being recorded offshore (SABOR 1961-62) and again in 1971 (IOSBR 1971). Parslow thought the 1970's Annet population in the region of 2000 breeding pairs, pointing out, though, that lack of previous data made it impossible to say whether this represented an increase or decrease since the beginning of the 20th century (Parslow 1970), though a decrease was more in keeping with 'other evidence'.

Clearly, regular evening gatherings off northern Annet were well known even during the 19th century. North described how, in 1826, Millett, of Penzance, attempted a shot at the flock, having heard they were present nightly (North 1850). However, North omitted the outcome of Millett's efforts, unlike Mitchell, who described in detail how needing 'a few specimens more than I had dug out of the burrows, I ran my boat well up to them, and when they rose, got as many as I wished, besides a few unfortunate cripples who were only winged, and proved, by their agility, in swimming and diving, a good deal too much for my boatman' (in Yarrell 1937-43). Interestingly, Frohawk (in Trahair Hartley 1935) noted that on Scilly in the evening most returning Manx Shearwaters arrived from the southeast.

Too little information is available for us to assess the effects of collecting pressures on the local Manx Shearwater population. However, Gurney (1871) felt sufficiently concerned over numbers killed commercially on Annet to write to the *Zoologist* concerning 100 seen on sale at Leadenhall Market during late March 1871, which he felt were probably killed on Annet. This view was doubtless confirmed when, during a visit to Annet in mid-May 1887, Gurney found extensive evidence of 'a terrible robbery' of breeding shearwaters or eggs a few days before, the south end of the island having been 'dug over in all directions' (Gurney 1889). Various writers (e.g. Joy 1912) noted how the Dorrien-Smiths maintained Annet as a sanctuary, so we must assume commercial collecting was either unauthorised, or at least controlled. And as Gurney's 1887 visit to Annet was in Dorrien-Smith's own yacht there seems little doubt that at least the incident mentioned above was unauthorised.

We know that breeding Manx Shearwaters on Annet still fall victim to large gulls *Larus*. H W Robinson (1911a) suggested that both Great *L. marinus* and Lesser Black-backed Gulls *L. fuscus* were involved, but the former seems more likely (pers. obs.). Predation by large gulls has been an often-suggested main cause of shearwater decline on Annet, but there is no acceptable evidence to that effect and the true causes doubtless lie elsewhere. Parslow (1967a) concluded that there was no evidence gull predation had caused a serious depletion in any shearwater population. Nevertheless, there have been occasional incidents of gull nests, or even gulls themselves, being destroyed on Annet, presumably in response to these reports of predation. However, incidents such as the wreck of the *SS Castleford* on the Crebewethens on 8th June 1887, when, according to reports, at least 250 out of 450 head of cattle were rescued and temporarily landed on Annet, have the potential for substantially greater harm. Allegedly, these animals remained on Annet for some ten days, though the need for fresh water would have demanded their urgent removal. As Gurney put it when summarising his visit to Annet, 'there appeared to be a fatality on the poor Shearwaters in 1887, for before they had time to recover (from digging out)... five hundred head of cattle were saved from the ship (*Castleford*), and landed there. They trampled everything to pieces, broke in all the Shearwaters' holes, probably destroying many birds, and made a ruin of everything' (Gurney 1889). Interestingly, Gurney suggests that all 500 or so cattle were landed on Annet from the *Castleford*.

Other writers commented more recently on the threat posed by grazing animals to shearwater and petrel colonies (e.g. Batten *et al.* 1990) and 250 head of cattle on Annet represents about eleven animals per hectare. However, excluding Annet's substantial area of Thrift *Armeria maritima*, which today covers one-third to a half of the island, temporary grazing density from the *Castleford* was likely to have been perhaps nearer about 25 per hectare. Doubtless, large numbers of Manx Shearwater and Puffin burrows were destroyed during those ten days and an unknown number of birds trampled underground. Rescuers of the *Castleford*'s cattle cargo reportedly received £2.00 per head, the recovered animals then being transported to Falmouth. However, welcome as the reward money undoubtedly was, it probably failed to repay the cost of rebuilding the pilot gig *O & M*, after a steer fell onto her bow from the deck of the stricken vessel. Drowned cattle from the incident washed ashore on the Cornish mainland as far east as St Ives and Mount's Bays.

Further pressures on Annet's Manx Shearwater colony came in the form of frequent egg-collecting expeditions from mainland Britain. Examination of Manx Shearwater eggs in the collection of the British Museum (Natural History) shows they include 45 eggs taken by 14 individuals and one group, from Holloway College, during the period 1880–1936. Names on data cards read like a who's who of oology and included such luminaries as the Reverend F C R Jourdain, Charles Rothschild, F W Frohawk, Edgar Chance and J Walpole Bond. And doubtless, many more shearwater eggs taken on Annet still reside in the numerous private collections that stand as a memorial to this aspect of Britain's shadowy past (Cole & Trobe 2000). Most collectors apparently adopted a 'no nonsense' approach towards obtaining Annet shearwater eggs and just dug out the burrows (e.g. Bidwell 1889). Mitchell (in Yarrell 1837–43) describes hearing a chick calling from an egg, whilst preparing a skin late at night, two days after taking the egg from an Annet burrow. He was instantly reminded, so he claimed, of Asmodeus in the bottle! Frohawk even described digging out one burrow to a length of 7 metres before finding the incubating shearwater, with an adult Rabbit *Oryctolagus cuniculus* located a further 3.5 metres into the same burrow (Frohawk 1915–16). The same author noted that whenever Manx Shearwaters and Puffins shared the same burrow, the former's egg was always furthest below ground.

Various writers, e.g. Roberts (1929), described their visit to Annet without necessarily explaining why they were there. In addition, we know from other publications, e.g. Cole and Trobe (2000) that Annet figured high on the egg-collector's list of required visiting. One particularly interesting feature arising from examination of the British Museum collection was the discovery that A A Dorrien-Smith was issuing day permits to visit uninhabited islands as long ago as 1931. One case involved the Souter brothers (see Table), who on 24th May that year were granted written permission to land on 'any island except tern islands for up to one hour'. The permit, marked No. 3 and in what appears to be Dorrien-Smith's own hand, is still attached to the data card for the three Manx Shearwaters eggs taken by the brothers on Annet that same day. The question is, of course, did Dorrien-Smith know they were intent on taking shearwater eggs – or that they also took Storm Petrel *Hydrobates pelagicus* eggs? Not that it was necessarily illegal at that time and it may have been generally accepted that people going ashore on islands in Scilly would take eggs. However, the action seems violently at odds with the concept of maintaining Annet as a sanctuary.

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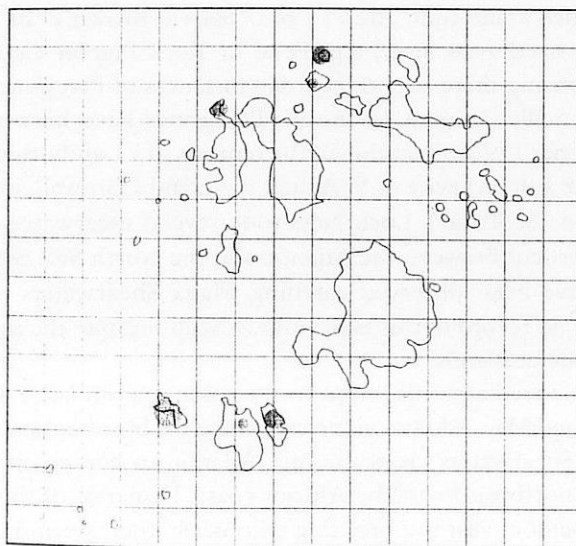
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Still on the subject of collecting, a Manx Shearwater skeleton in the British Museum, taken in Scilly on 1st July 1924, Reference 1924.7.4 is credited to H W Robinson, whereas one embryo and two adult spirit specimens taken in Scilly on 14th May 1928, Reference 28.5.9, and four skeletal specimens taken April 1926, Reference 26.4.30, are attributed to A A Dorrien-Smith.

Although Allen (1974) estimated the Scillonian Manx Shearwater population at 900+ pairs, he urged caution in using his figure, which was largely speculative. Allen's distribution was 800+ pairs on Annet, with 50 or more each on Round Island and St Agnes, and perhaps residual populations on Tresco and Bryher; breeding having only been proved on Round Island in 1961 (Beswetherick 1961). For Annet this represents a greater than 50% decrease on Parslow's 1967 figure, over a period of seven years. Between 1957 and 1964 the former St Agnes Bird Observatory ringed a total of 2,545 shearwaters, almost all on Annet, at an average of 318 annually. Certainly it would be difficult to ring even 100 in one year on the same island today, though there is a strong element of chance involved in ringing this species, much of which relates to weather conditions. There also appears to be between-year variation in numbers present within the islands, perhaps relating to local breeding conditions or to winter conditions at sea. In addition, SABO visits were apparently much earlier in the year and in greater numbers than in the 1990s.

Gurney (1889) mentioned Annet's long-standing freedom from rats *Rattus* and his suggestion that this perhaps holds the secret to Annet's long and successful relationship with Manx Shearwaters (and Storm Petrels) could be at least partly true. Although why this island should have been consistently and naturally rat-free is difficult to understand, it being probably the only well-vegetated island within the archipelago not known to have held rats at some time. Most islands lacking more than just token vegetation, e.g. Melledgan, or Mincarlo, are frequently inundated by winter seas, presumably making them untenable to rats. Although Annet appears capable of retaining a viable rat population, that is evidently not so, presumably because winter seas wash over Annet sufficiently to affect its suitability to these animals. At those sites where shearwaters and rats meet, e.g. Gugh, or St Agnes, numbers of shearwaters have either remained low or may even have disappeared altogether (pers. obs.). Until Samson was cleared of Brown Rats *Rattus norvegicus* in the early 1990s, these animals moved down to the shoreline during winter, the suggestion being there was insufficient food 'inland' to ensure their survival (P J Robinson unpublished data). Round Island has been rat-free since at least the 1990s, the probability there being that, if the island ever was infested, it was cleared by Trinity House staff whilst the light was still permanently manned.



Island	Burrows
Annet	123
Round Island	34
Shipman Head, Bryher	12
St Agnes	5
Gugh	22
St Helen's	5

Distribution of 201 Occupied (Responding) Manx Shearwater Burrows – 2000 (Heaney *et al.* 2002)

More recently, an estimate of the Scillonian Manx Shearwater population was attempted using diurnal taped playback, as part of the Seabird 2000 national survey (Heaney *et al.* 2002). Results of the survey, corrected to take account of possible non-responding individuals, suggest something in the order of 200 apparently occupied burrows (see Table). For the islands as a whole, this represents a 90% decrease from Parslow's 1970's figure and a 78% decrease from Allen's 1974 assessment. For Annet, it represents an 85%

decrease on Allen's 1974 finding, though that island nonetheless remains the main breeding site for this species in Scilly. In recent years there have been attempts to assess the Annet shearwater population based on numbers involved in evening gatherings of the island's northern end. This may be an unreliable method, however, both because the number of non-breeders involved is unknown and because most evening observations are made in good weather, whereas numbers of shearwaters going ashore may be greater in bad weather.

There is little published information concerning the timing of Manx Shearwater breeding in Scilly, though birds seem to arrive offshore from late March and fledging young have been ringed on Annet in late August and September. This means that eggs would have been laid around late April (Cramp *et al.* 1977-94). Certainly as long ago as 1904, Frohawk noted that hatching occurred during the latter half of June, finding no young in any of the burrows examined in Scilly earlier in the month (Frohawk 1908). Apart from Puffins, Manx Shearwaters on Annet must often share nest burrows with Rabbits, which on this island are also largely nocturnal (pers. obs.) – presumably in response to probable predation by large gulls. Turk (in *CBWPSAR* 16, 1946) found there was variation in the amount of nest material used by Manx Shearwaters, plus a positive relationship between the amount of material and the number of nest parasites, which increased with the amount of material.

A minimum of 3,081 Manx Shearwaters have been ringed on Scilly, but only 152 of these since 1970. Undoubtedly the disparity in numbers between the two periods reflects the species' continued decline in Scilly, though there may also have been an imbalance of time spent on ringing. No shearwaters were ringed between 1970 and 1991, and since that time sessions have been restricted to one to two nights annually on both Annet and Round Island. The majority of shearwaters were ringed when full-grown and 25 were subsequently recovered elsewhere, all before 1970. Three (12%) moved south as far as Spain, though eleven (44%) reached south only as far as France (at least two of which were shot). A surprising number were subsequently recorded north of Scilly, four (16%) off the coasts of Wales or Ireland and one as far north as Cumbria. Five birds (20%) were recovered in Cornwall or Devon and two (8%) at sea 96 km and 152 km southwest of Scilly. Controls from elsewhere prior to 1970 involved birds from Lundy in Devon, Skokholm in Dyfed and one from Brittany. The only post-1970 control involved a bird ringed as an adult on Lundy Island, Devon, five years earlier.

There are two reports in the literature of Manx Shearwaters hitting the Bishop Rock Light. During August 1884 several struck the lantern between lighting up and 4 am but were not killed, whilst on 3rd September 1886 one struck and was killed some time after 11 pm (Harvie-Brown *et al.* 1885, 1887). Given the shortage in Scilly of suitably sized avian prey, e.g. Feral or Rock Pigeon *Columba livia*, or Jackdaws *Corvus monedula*, it seems surprising there are no recorded instances of Peregrine Falcons *Falco peregrinus* taking Manx Shearwaters in Scilly. In west Cornwall, Peregrines have been seen attacking shearwaters (B King 1965a) and Penhallurick (1969) mentioned the remains of a Lundy-ringed shearwater found in a falcon's (presumably Peregrine Falcon) eyrie at St Agnes, mainland Cornwall, in July 1948. In addition, at least one pair breeding beside Scotland's Loch Ness took several shearwaters (pers. obs.) – presumably birds using the Loch as a short cut between the Atlantic and the North Sea. Similarly, in west Wales Grey Seals *Halichoerus grypus* have been observed catching Manx Shearwaters on the surface (McCanch 1981) but there appears to be no record of this behaviour in Scilly, despite the regular presence of Grey Seals around several of the peripheral islands.

According to Cramp *et al.* (1977-94), breeding birds return to the colonies from late February to early May, with an influx of older immatures around May. Adults commence leaving the breeding areas from July and the young follow in September. Manx Shearwaters cross the mid-Atlantic to winter off coastal South America, probably returning to Europe northwards off the African coast. Dispersal of the young to the South Atlantic is rapid and young birds seldom visit the breeding colonies in their second calendar-year.

Year & Month	Island	Eggs	Collection
1880 May	'Scilly'	4	Prof. Wood-Jones
1880 May	'Scilly'	1	Prof. Wood-Jones
1890 May	'Scilly'	1	FCR Jourdain
1890 May	'Scilly'	2	Radcliffe-Saunders
1890	Annet	2	Holloway College
1890/91 May	'Scilly'	8	Charles Rothschild

1894 May	Annet	10	Edgar Chance
1894	Annet	1	W Borrer-Tracy
1897 May	Annet	5	FC Selous
1898	Annet	2	W Borrer-Tracy
			(obtained from Williams, Penzance)
1899 May	Annet	1	FW Proctor
1904 May	'Scilly'	2	FW Frohawk
1905 June	Annet	1	EW Hounsom
1913 June	Annet	2	J Walpole-Bond
1936 May	Bryher	3	JAF & RMT Souter

Annet Manx Shearwater Eggs in the British Museum Collection

Island	Responses	Adjusted Figure
Annet	73	123
Round Island	32	34
Gugh	20	22
Bryher (Shipman Head)	11	12
St Agnes (Wingletang Down)	5	5
St Helen's	5	5
	73 146	201

Apparently Occupied Manx Shearwater Burrows - Year 2000 (Heaney *et al.* 2002)

Controls

?	?	Scilly 18th June 1912	?	Finistere, France January 1914
?	Ad	Annet July 1949	SH	Cape Finistere, France July 1950
?	Ad	Annet July 1949	SH	Cape Finistere, France August 1950
?	?	Annet 12th July 1952	?	Pontervedrs, Spain 16th September 1952
AT60322	Ad	Annet 18th April 1958	AS	96 km southwest of Scilly 13th August 1958
AT60408	Ad	Annet 9th April 1958	CT	Annet 25th August 1958
			?	Bootle, Cumbria 22nd August 1962
AT60284	Ad	Annet 18th April 1958	AS	152 km west-southwest of Scilly 16th April 1959
AT43656	Ad	Annet 17th April 1958	?	Loire-Atlantique, France 31st May 1960
AT61204	Ad	Annet 16th August 1958	?	Criccieth, Caernarvon 5th July 1960
AT43636	Ad	Annet 4th May 1957	?	Fairbourne, Merioneth 28th July 1960
AT57755	Ad	Annet 27th April 1960	?	Fuenterrabia, Guipuzoca, Spain February 1962
AT58592	Pul	Annet 4th September 1958	FD	Garretstown, Co. Cork 5th August 1963
?	?	Annet 1st September 1960	?	Cabode Lastres, Spain 10th March 1966

Recoveries

?	Ad	Lundy Island, Devon 21st July 1949	CT	Annet 4th June 1950
AT40886	Ad	Skokholm, Pembrokeshire 9th July 1956	CT	Annet 9th April 1958
			CT	Annet 25th August 1958
FA2264	Ad	Ushant, Finistere, France 30th July 1957	CT	Annet 9th April 1958
AT24735	Pul	Skokholm, Pembrokeshire 23rd August 1954	CT	Annet 17th April 1958
AT49812	Ad	Skokholm, Pembrokeshire 26th July 1957	CT	Annet 17th April 1958
2024313	Ad	Skokholm, Pembrokeshire 6th July 1959	FD	Annet 22nd May 1961
?	Pul	Skokholm, Pembrokeshire 22nd August 1960	FD	Annet 30th June 1970
FC37618	Ad	Lundy Island, Devon 23rd July 1992	CT	Annet 30th June 1993
			CT	Annet 12th August 1997

Manx Shearwater Selected Ringing Recaptures

difficult-to-see pelagic species, e.g. large shearwaters *Puffinus*, *Colonyctris*, or Sabine's Gull *Larus sabini*, plus at least five sightings up to mid-2001 of Zino's/Fea's Petrels *Pterodroma madeira/feae*.

The Table lists only those records involving inshore sightings in Scillonian waters up to the year 2001, the five birds during the years 1958-99 representing just over 18% of all BBRC-accepted records for that period. More recently, i.e. by 2002, the species was known to be occurring sufficiently regularly for it to be reported in only general terms, e.g. 'two or more seen during pelagic trips from St Mary's on several dates between 4th and 30th (August), with at least six on 14th' (*Birding World* 15:311). On 14th and 15th, singles were also reported from the RMV *Scillonian III* during her routine crossing from mainland Cornwall.

Wilson's Petrels migrate north into all oceans, but the North Atlantic and Indian Oceans hold particular importance (Cramp *et al.* 1977-94). Breeders and non-breeders commence moving north from late February or March, mainly along the coast of South America, with some off Africa, most reaching the North Atlantic by June. By far the majority 'winter' in the Gulf Stream off North America but it is fairly numerous off Iberia and in the Bay of Biscay, with fewer north of 45°N (Bordeaux). Return to the South Atlantic commences in September, birds lingering longer on the eastern side of the Atlantic, with stragglers into November or even December. Both Gantlett (1998) and Cramp *et al.* (1977-94) draw attention to the possibility of the slightly smaller subantarctic nominate *oceanicus* occurring in the West Palearctic alongside the more likely *exasperatus*, in which case future observers should perhaps concentrate on trying to establish the presence of both forms in waters off Scilly.

Storm Petrel (European Storm-petrel) *Hydrobates pelagicus* A

Summer visitor in large numbers, known to breed on eleven uninhabited islands, with prospecting recently on several more, including at least three that are inhabited. The all-island breeding population is currently estimated in region of 1,500 pairs (Heaney *et al.* 2002). Main concentration is, and may always have been, on Annet, and Scilly is the only published English breeding site for this species.

Breeds northeast North Atlantic, from Iceland, Faeroes, Britain and Ireland, Norway, France, Spain into western and central Mediterranean. Migratory and dispersive, wintering off South Africa. Monotypic, though some authorities treat Mediterranean birds as a separate form, *melitensis*, or 'Mediterranean Storm Petrel'. Included on Annex I of 1979 EEC 'Birds Directive'. Amber-listed in UK: 50% or more of breeding population at ten or fewer sites; unfavourable European conservation status (Gregory *et al.* 2002).

Probable first mention of Storm Petrel in Scilly comes in an early account of the archipelago (Heath 1750), where we read that among the birds 'in all the islands' were 'Pinnicks'. This is a Cornish name which, apart from pertaining to the Storm Petrel, was applied to a puny child or person of small appetite (Penhallurick 1969). More suitable perhaps is the old fisherman's name of 'storm-finch'. Storm Petrel was well known to 19th century writers, E H Rodd noting it as common in the summer months five or six miles (eight or nine kilometres) offshore in Mount's Bay, west Cornwall, though Rodd and doubtless others were probably wrong in thinking petrels flitting about above the waves were 'in pursuit of small insects' (Rodd 1880). Gilbert White recorded it as reaching Scilly in April and leaving in July (in Jesse 1887), but it is difficult to see how anyone might have arrived at such a conclusion at that time, given the apparent lack of information on local breeding behaviour.

Rodd quoted Penzance resident Mitchell's (the same who shot the 1840 Pectoral Sandpiper on Annet) pre-1880 correspondence with Yarrell recording that breeding Storm Petrels were confined to one unnamed island in the extreme southwest of the archipelago - 'where the steamer *Thames* ran ashore', pointing out too that in Scilly it is among the last seabird species to lay, an egg he took being freshly laid in mid-June. The difficulty with Mitchell's statement is that the *Thames* struck the Bishop Rock, a site clearly incapable of holding breeding petrels. However, part of the wreckage fetched up on nearby Rosevear, where Storm Petrels have been recorded breeding since at least 1863 (fairly common) and 1870 (tolerably common) (Allen 1974). There is a probable relationship between this mid-19th century awareness of breeding petrels on Rosevear and erection of the Bishop Rock Lighthouse, as construction crews lived on tiny Rosevear and could hardly have missed Storm Petrels calling from below ground. In fact, the remains of their stone houses still stand and are a regular nest site for two to three pairs of Storm Petrels even today (pers. obs.).

1958/59.

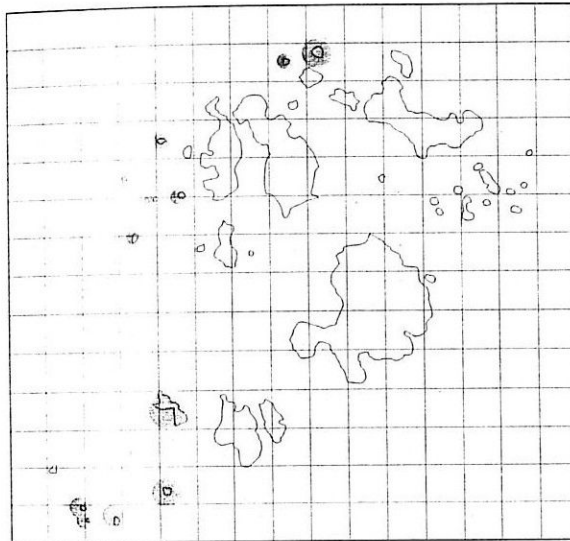
In their admirable early 20th century review of Scillonian bird life, James Clark and E H Rodd's nephew Francis thought Storm Petrels still bred on Scilly by the turn of the century, though 'in greatly diminished numbers' (Clark & Rodd 1906). The species bred, so they said, 'in chinks and under boulders in the Western Isles' and was 'fairly common' prior to 1863, though they thought only a few pairs bred by 1906. Clark and Rodd blamed increasing public knowledge of the main breeding colony (Rosevear) for this alleged decline, with 'one or two eggs' taken almost annually, concluding with the comment that birds had bred on Annet only since 1903.

The truth is, though, that probably no one during the 19th and early 20th centuries knew for certain where all the Scillonian Storm Petrel breeding sites were. The earliest reliable authority seems to be C J King (1924), who, between 1890 and the last-mentioned date, proved petrels bred in large numbers and on islands other than Rosevear. King also described how the Round Island Lighthouse keepers were mystified by the nightly appearance of black feathers in their living quarters, eventually discovering that among the Round Island residents, only the lighthouse cat *Felis catus* had been aware of the presence of Storm Petrels. Clearly, though, these were men of considerable environmental awareness, opting as they did to destroy the unfortunate feline in favour of the petrels. But as King pointed out, men had been resident on Round Island for many years without being aware of the petrels, until the lighthouse cat rashly disclosed the secret. In addition, it is worth noting that despite detailed annual reports on the breeding and migrant birds of Round Island, over several years, lighthouse keeper A T Beswetherick failed to mention Storm Petrel (e.g. Beswetherick 1961, 1968). King also mentioned having been ridiculed for suggesting that petrels bred on a particular island where those concerned had been 'walking over the birds all their lives without being aware of their presence'. Although this last description sounds suspiciously like Annet (but could have been St Agnes), unfortunately King was at pains to protect colonies from egg- and skin-collectors and therefore omitted site names – as indeed he also did for Peregrine Falcon *Falco peregrinus*. King concluded by saying he had little doubt there were 'many thousands' of Storm Petrels around the western coasts of Scilly. As with Manx Shearwater *Puffinus puffinus*, proof that King's fears about collectors were justified is contained in the collection of the British Museum (Natural History), where eggs taken by Mitchell and others are to be found (see Table), with doubtless many more Annet eggs in numerous private collections (Cole & Trobe 2000). Still on the subject of collecting, two skeletal specimens in the British Museum (Natural History), Reference No. 1924.7.4 and dated 1st July 1924 are credited to H W Robinson.

There were early 20th century concerns that predation by large gulls *Larus*, but particularly Great Black-backed Gull *L. marinus*, might be adversely affecting Scillonian Storm Petrel and Manx Shearwater populations (e.g. H W Robinson 1911a, Wallis 1923). These concerns were based, in the case of shearwaters, on numbers of corpses regularly found on Annet, in particular, and in the case of Storm Petrel, on numbers of gull pellets containing petrel remains – normally one petrel per pellet (pers. obs.). Parslow (1965c) felt there was a need for research aimed at determining whether gulls could reduce populations of these two species in Scilly, whilst at the same time seeing no alternative explanation for the 'extinction' of petrels from Rosevear, which coincided with an increase in Great Black-backed Gulls on that island. However, although some 95 pairs of Great Black-backs breed on Rosevear today, 57 pairs of petrels were estimated to be present in 2000 (Heaney *et al.* 2002). Realistically, however, the fact that construction workers and their families lived on tiny Rosevear for several years during the building of the Bishop Rock Lighthouse, in the mid-1800s, seems far more likely to have caused the Storm Petrel's desertion of that island. Besides which, there seems never to have been an early count of the Rosevear petrel population and estimates of its importance within the islands may have been arrived at prior to discovery of the far larger Annet colonies. Particularly interesting, however, is Parslow's estimate of at least 1,500 pairs of breeding petrels on Annet by the mid-1960s. Although there has been much discussion in recent years on likely number of pairs of Storm Petrels breeding throughout the islands, almost all estimates have been largely based on speculation. In fact, despite all the survey and productivity monitoring effort expended on seabird populations in Scilly over the past 25 years, Storm Petrel and Manx Shearwater remain the two least understood breeding species within the islands. Storm Petrel totals for Scilly suggested by various workers are shown in the Table, though it is not possible to draw many conclusions, primarily owing to uncertainties over the most effective means of surveying breeding petrels, or even to ascertain whether a survey's findings involve pairs or individuals.

Nothing is known about the origin of King's early estimate of breeding pairs, though Parslow's figure for Annet was arrived at using counts of 'singing' birds below ground over several years, combined with data from retrapped marked individuals (Parslow 1965c). In contrast, Allen's figure was based on sample counts of singing birds over three successive nights, extrapolated to incorporate all suitable breeding habitat, at an observed density of 0.33 singing birds per square metre. Robinson and Haw's findings utilised the diurnal taped playback census method (Ratcliffe *et al.* 1998) at two differently 'constructed' boulder beaches, producing density findings of 0.4 and 0.8 apparently occupied sites (AOS) per square metre, extrapolated to incorporate all suitable occupied habitat (Robinson & Haw – unpublished data). There is a measure of similarity between these three findings.

More recently, the author estimated the extent of suitable breeding habitat at all sites with a known history of Storm Petrel occupation, extrapolating possible total densities based on the 1998 Annet mean density of 0.6 AOS per m² (P J Robinson 1999b). However, although the estimated total of between 9,800 and 17,000 pairs for Scilly as a whole was clearly excessive, diurnal playback remains untested as far as numbers of non-responding birds are concerned – or at least in boulder beaches, with a possible significant underestimate resulting. There is also significant between-colony variation in the probability of occupied nest sites being detected using diurnal playback (Ratcliffe *et al.* 1998). In addition, the Seabird 2000 finding of nearly 1,500 pairs for all islands (Heaney *et al.* 2002) seems at variance with numbers of birds present within colonies – with up to 600 trapped at individual sites in one night (IOSSBG – unpublished ringing data) – as it does with all recent independent assessments of apparent numbers on Annet.



Island	Occupied Nests
Annet	938
Round Island	183
Melledgan	140
Rosevear	57
Gorregan	49
Rosevean	37
Men-a-Vaur	20
Mincarlo	17
Castle Bryher	17
Scilly Rock	14
Illiswilgig	3

Locations of 1475 Occupied (Responding) Storm Petrel Nests – 2000 (Heaney *et al.* 2002)

The Table and Map show the eleven islands currently known to hold Storm Petrels below ground, all of which are thought to be active breeding colonies. In addition, birds have been recorded coming ashore at night in recent years on at least five further islands, i.e. Gugh (Kittern Rock), St Martin's (Daymark), St Agnes (Burnt Island), Bryher (Gweal Hill) and St Mary's (Giant's Castle), all of which are inhabited islands and none of which have been shown to have active breeding sites, though birds are known to come ashore of their own volition. In some cases, e.g. Bryher, these involve extremely small and apparently unsuitable rocky outcrops. One habitat not yet explored on Scilly for the presence of breeding Storm Petrels is buildings; in the Channel Islands, Dobson (1952) recorded birds breeding in close proximity within the roofs of buildings. Although we might expect their nocturnal calling to give them away in any occupied structure, they could be present and remain undetected in barns or outlying farm sheds, particularly on the four smaller inhabited islands. There is an old record of a bird calling from a wall in Hugh Town, St Mary's (C J King 1924), the same author also mentioning birds 'among the ribs of an old ship'. Penhallurick (1969) refers to suspected breeding on The Garrison, St Mary's, in 1947 and on Peninnis, also St Mary's, in 1952. As the author gives no references in either case, it must be assumed that these were in boulder beaches or similar.

Regrettably, Scilly's history of Storm Petrel predation by cats is not confined to Round Island. On Gugh, St Agnes and Bryher the presence of cat-predated Storm Petrel remains (wings, legs, tails) are a main means of proving petrels come ashore at these sites (plus an additional source of ring recoveries, including one French-ringed individual). In addition, cats have been seen in the immediate vicinity of the St Martin's Daymark and St Mary's Giant's Castle sites during overnight petrel trapping sessions. Feral cats are believed to be mostly involved, although 'domesticated' individuals cannot be ruled out. Animals engaged in nightly petrel predation may later be identified by smell, with the possibility, even, of new breeding colonies being discovered by this novel means. Nevertheless, 'cat sniffing' has the potential for substantial public misunderstanding (pers. obs.) and must necessarily be carried with considerable circumspection.

The majority of Scillonian Storm Petrels breed beneath boulder beaches, most of which comprise small to medium-sized boulders (up to one metre diameter). Some, though, are in beaches comprising boulders of substantially greater volume, as on Gorregan, where some birds call from beneath many tonnes of granite. A smaller number of birds occupy isolated patches of boulder scree and, particularly on Annet, an even smaller number are in earth burrows, or fissures in isolated rocky outcrops. Although drystone walls are plentiful in Scilly they are, by tradition, loose affairs of limited depth and are apparently uninhabited by Storm Petrels. Boulder beaches used comprise both long-established, 'stable' and compacted structures above the reach of normal winter tides, or less stable storm beaches, as on Annet's western coast. Sampled diurnal playback from one each of these two beach types on Annet produced a 2:1 imbalance in favour of responses from the stable beach (Robinson & Haw – unpublished data). Reasons for this are unclear, but could involve the ability for breeding petrels to penetrate deeper into more substantial unstable storm beaches, thereby making any responses less easy for the human ear to detect.

Examination of inter-colony breeding phenology (Ratcliffe *et al.* 1998) showed significant national variation. On Annet, laying occurs around 25th June and hatching around the first week of August, young fledging from that island from September to mid-October (Cramp *et al.* 1977–94; Ratcliffe *et al.* 1998). However, the presence of fresh eggs on Annet as late as July suggests perhaps some unfledged young well into November. During the mid- to late 1990s, the biometry of a small number of young were examined annually on Annet (Robinson & Haw – unpublished data; Ratcliffe *et al.* 1998) and although young involved were ringed, none have yet been detected within the adult population.

A total of 7,869 Storm Petrels were ringed on Scilly up to and including 1999, 4,985 (63%) of those since 1970 and closure of the SABO (IOSSBG – unpublished data), making Storm Petrel the most ringed species in Scilly. This imbalance between the two periods is the reverse of Manx Shearwater *Puffinus puffinus*, where 95% of birds were ringed prior to 1970. Reasons for this recent increase in numbers of petrels available for ringing are unclear, but may perhaps be partly associated with an increased use of tape lures. Listed below are a selection of controls and recoveries, other than recaptures of locally ringed birds, within the islands, or those in either category within Cornwall (28, or 3.7% of all controls and recoveries), up to and including year 2000. Surprisingly there appear to be no recorded recoveries or controls for the period before 1970.

Thirty-five petrels ringed in Scilly were recovered beyond Cornwall, 22 (62.8%) qualifying as international recoveries (providing 12 in Ireland are included); nine (25.7%) were recovered in France or the Channel Islands. The most distant recovery involved a bird trapped on Fair Isle, Shetland, just over a year after having been ringed on St Martin's. At 24, rather fewer Storm Petrels were controlled on Scilly after ringing elsewhere, 20 (83.3%) qualifying as foreign; 12 of these (60%) from France and the Channel Islands, six (30%) from Ireland and two (10%) from Portugal. The most distant controls originated from Portugal (2) to the south and Tyne and Wear and Calf of Man to the north. Several features of these movements are noteworthy. Firstly, no Scillonian-ringed petrels were recovered further east in the English Channel than the Isle of Wight and the Channel Islands, though this may also reflect a lack of trapping effort in the eastern Channel and southern North Sea. The lack of a positive connection (other than the single Fair Isle recovery) with any of the northern colonies, e.g. Shetland Isles, Norway, Faeroes, is particularly noteworthy, especially considering the numbers of northern-ringed petrels controlled in Portugal (Harris *et al.* 1993; Fowler & Hounscome 1998).

One possible explanation for this lack of northern birds among Scillonian captures is that more northerly populations migrate further out into the Atlantic. Yet, even if the timing of migration for northern birds

differed from the current Scillonian trapping timetable, this ought not to inhibit captures of wandering northern pre-breeders. Equally interesting is the single control of a bird ringed in the North Sea (Tyne and Wear) three years previously. However, especially obvious, and perhaps more easily explained, is the high proportion of controls and recoveries from the small number of colonies in Brittany, suggesting a regular mixing of birds from north and south of the Western Approaches. Eleven French controls were divided between Annet (6) and Round Island (5), the mean age of eight between-year controls being 3.3 years and of three same-year controls just 12.6 days. In comparison, disregarding the 'wrecked' inland individual (below), the mean age of four between-year recoveries in France was 7.5 years and three same-year recoveries 13 days. As noted by McKee (1982), there was a noticeable tendency for the percentage of controls to increase away from known breeding sites, as at St Martin's Daymark, where two Cape Clear birds were captured on the same night – out of eight controls and no local recaptures, or on Samson, where the only two captures of the night were controls. However, the most unusual record goes to the bird found on 7th January 2000 at Lussac les Chateaux, 150 km inland from the French west coast, having been ringed on Annet five-and-a-half years earlier.

Several writers have commented on Storm Petrels with missing toes, feet or tarsi (e.g. Bowey 1995; Stonehouse 1996) and something in the order of 1%–2% of birds trapped on Scilly fall within this category (pers. obs.). One possibility is that their manner of paddling across the sea's surface makes them vulnerable to predatory fish, particularly in tropical waters. However, Zonfrillo (1996) considers it more probably due to translucent gelatinous trematode worm larvae wrapping themselves around the leg of small petrels whilst at sea; when out of the water the larvae dry and shrink, forming a constriction above the toes.

In his review of changes of status among Britain's breeding birds, Parslow (1967a) thought too little was known about this species to make a constructive comment. Nevertheless, he considered that some measure of overall decline occurred towards the end of the 19th century, when it disappeared from several Scottish islands and 'decreased markedly at its main colony in the Isles of Scilly', though he also thought it possible that a degree of redistribution may have been involved. Cramp *et al.* (1977–94) confirm the presence of birds, possibly late migrants, in lower northern latitudes only very rarely in early winter, with winter individuals north to Mauritania more the norm. Uncertainty remains over whether Mediterranean birds (which some authorities consider a separate form, *H. p. melitensis*, or 'Mediterranean Storm Petrel', e.g. Amengual *et al.* 1999) leave the Mediterranean in winter, though apparently there are few winter records. Most birds have left British and Irish waters by November, returning to the area of the colonies from April onwards.

Year	Scilly	Individual Islands	Reference
1924	Many thousands		C J King 1924
1965		1,500 (Annet)	Parslow 1965
1974		1,800 (Annet)	Allen 1974
1983		1,500 (Annet)	Harvey 1983
1992	1,000		Pritchard <i>et al.</i> 1992
1996		1,640 (Annet)	Robinson & Haw – unpublished data
1999	9,811–17,390		P J Robinson 1999b
2000	1,475		Heaney <i>et al.</i> 2002

Recorded Storm Petrel Totals (pairs)

Year & Month	Island	Eggs	Collection
Pre-1842	'Scilly'	1	DW Mitchell
1904 June	Annet	6	Maj. FW Proctor
1906 June	Annet	2	EW Hounsom
1936 May	Annet	5	JAF & RMT Souter

Annet Storm Petrel Eggs in the British Museum Collection

Controls

SA830120 Ad Banneg Island, Brittany 8th August 1991	CT Round Island 23rd July 1992
2301511 Ad Focarrig, Cape Clear Island 27th July 1983	CT Annet 4th August 1993
SA776921 Ad Banneg Island, Brittany 13th July 1989	CT Annet 4th August 1993
2229232 Ad Calf of Man 28th July 1982	GP Round Island 28th June 1993
2255149 Ad Great Saltee, Wexford 27th June 1983	CT Round Island 6th July 1993
SA779659 Ad Banneg Island, Brittany 7th August 1989	CT Round Island 26th June 1994
DO12722 Ad Algarve, Portugal 14th June 1994	CT Annet 28th June 1994
C38753 Ad Alderney, Channel Islands 6th July 1985	CT Annet 7th July 1994
2196184 Ad Isle of Wight 2nd July 1995	CT Burnt Island, St Agnes 5th August 1995
DO16496 Ad Algarve, Portugal 21st June 1995	CT Annet 8th August 1995
SA549953 Ad Beniguet Island, Brittany 20th July 1997	CT Annet 24th July 1997
2316836 Ad Cape Clear Island 27th July 1998	CT Daymark, St Martin's 15th July 1999
2513302 Ad Abersoch, Gwynedd 24th July 1999	CT Calf of Man 25th July 1999
	CT Menawethan 31st July 1999
2434811 Ad Tynemouth, Tyne & Wear 20th July 1996	CT Round Island 29th July 1999

Recoveries

651008 Ad Annet 25th May 1963	CT Skokholm, Pembrokeshire 10th May 1965
652236 Ad Annet 1st July 1965	CT Burhou, Alderney, Channel Isles 2nd July 1966
2427048 Ad Annet 29th June 1993	CT Ballybranagan, Co. Cork 7th August 1993
2440391 Ad Annet 7th July 1994	CT Carnsore Point, Wexford 9th July 1994
2427275 Ad Annet 7th July 1993	CT Fair Isle, Shetland 29th July 1994
2427871 Ad Round Island 26th June 1994	CT Great Skellig, Co. Kerry 3rd July 1995
2440603 Ad Annet 13th July 1994	CT Sanda Island, Kintyre, Strathclyde 27th July 1996
2441284 Ad Annet 8th August 1995	CT Portland Bill, Dorset 1st July 1998
2441703 Ad Annet 23rd July 1997	CT Cape Clear Island, Co. Cork 7th July 1998
2473220 Ad Round Island 29th July 1999	CT Banneg Island, Brittany 21st August 1999
2427080 Ad Kittern Rock, Gugh 4th July 1993	BR Banneg Island, Brittany 7th June 2000
2473035 Ad Daymark, St Martin's 15th July 1999	CT Bridges of Ross, Loop Head, Co. Clare 28th June 2000
2473237 Ad Menawethan 31st July 1999	CT Plemont, Jersey, Channel Islands 1st July 2000
2427964 Ad Annet 28th June 1994	CT Eilaen nan Ron, Highland Region 16th July 2000

Storm Petrel Selected Ringing Recaptures

Leach's Petrel (Leach's Storm-petrel) *Oceanodroma leucorhoa* A

Scarce migrant, full written description required by SRP.

Breeds headlands or islands North Atlantic, from British Isles to northeast USA, also north Pacific, from Russia to Japan and southwest USA (Morrison 1998). Migratory, North Atlantic population winters South Atlantic. Polytypic, with complex racial structure: nominate *leucorhoa* occurs North Atlantic and North Pacific from Japan to Alaska; at least three additional forms, perhaps more. Included on Annex I of 1979 EEC 'Birds Directive'. Amber-listed in UK: 20% or more of European breeding population in UK, 50% or more at ten or fewer sites; unfavourable world conservation status (Gregory *et al.* 2002).

The only 19th century mention of this species in Scilly was James Clark and Francis Rodd's observation that a 'specimen in poor condition' was picked up on St Agnes in late autumn 1869 and that it had not

(mostly adults) past St Agnes on 28th November 1999, but this may also partly reflect a fall off in observer coverage once October is past.

Feeding congregations can sometimes be impressive, as in the case of 500+ feeding in association with dolphins *Delphinus*, *Tursiops*, *Lagenorhynchus* to the south of St Mary's in early September 1990, with 98 similarly employed on 9th October the same autumn. There were two late 19th century observations from the Bishop Rock Lighthouse, the first of which referred to large numbers of Gannets fishing on 5th October 1884 (Harvie-Brown *et al.* 1885). The other concerned autumn of the following year and records that birds were observed passing on 'passage' from the beginning of September until 2nd November, with 'scores' going west all day on 1st October (Harvie-Brown *et al.* 1886). There are also a few shore-based early counts of Gannets and other seabirds, though mostly it seems from mainland Cornwall. Thorpe (1935) observed a huge movement of Manx Shearwaters *Puffinus puffinus*, auks *Uria*, *Alca* and Gannets off Land's End in early April 1935, all of which headed steadily away southwest, in the direction of Scilly. Thorpe's estimate of 300 birds per minute for three hours included 5% Gannets and gives a total for this species alone of around 2,700. Trahair Hartley (1935) looked at autumn movements of the same species off Land's End for the years 1932–35, finding numbers involved and the direction of travel not dissimilar to Thorpe's results.

One Gannet was ringed in Scilly during the period before 1970, presumably involving an injured or oiled bird that was later released, although in fact very few injured or oiled Gannets are found around the islands. Recently, the question of whether or not Cape Gannet *M. capensis* occurs in European waters has been raised (Paterson & Riddiford 1990) and certainly the possibility should be borne in mind when dealing with the present species, in Scilly as elsewhere. In Gannet, migration is not clearly separable from dispersal or feeding activity, and in partial confirmation of Thorpe's and Trahair Hartley's earlier observation, conspicuous and large-scale offshore foraging and migratory movements are a feature around British and Irish coasts and off the Atlantic seaboard of western Europe and Africa (Nelson 1978). The same author drew attention to the regular heavy southwest passage off Cornwall, which 'seems totally unexceptional', whilst also confirming that first-years migrate south to African waters but then seldom go far south in subsequent years (Wernham *et al.* 2002). Birds moving south or north off Cornwall and Scilly could breed in Iceland, Faeroes, Norway, northern Britain, Wales or Ireland.

Cormorant (Great Cormorant)

Phalacrocorax carbo A

Resident, breeds in small numbers, substantially less numerous than Shag *P. aristotelis*.

Wide breeding range, including Greenland, Iceland, Great Britain, western Europe, central Asia, Africa, Indian subcontinent, Southeast Asia, Australia and New Zealand. Migratory or dispersive. Polytypic: nominate *carbo* occurs coastal North Atlantic; *sineusis* or 'Continental Cormorant' central and southern Europe east to Japan and Southeast Asia; *maroccanus* coastal northwest Africa; *lucidus* coastal west and southern Africa plus inland east Africa; *novae-hollandiae* Australasia. National 5% decline 1994–99 (Bashford & Noble 2000). Upgraded from Green- to Amber-listed in UK 2002: 50% or more of breeding population at ten or fewer sites; 20% or more of European non-breeding population in UK (Gregory *et al.* 2002).

The small breeding population of around 50–60 pairs appears to have remained remarkably stable throughout at least the latter half of the 20th century (Harvey 1983; P J Robinson 1993), and is almost equally distributed between a small number of established sites in the Western, Northern and Eastern Isles. Earliest evidence of Cormorant on Scilly involves bone remains extracted from various levels of the prehistoric site on the island of Nornour, Eastern Isles (Turk 1971). However, the next earliest reference is probably Camden's comment that 'all the islands abound with ... Cranes' (Camden 1610); this species apparently often formerly referred to as 'Crane' (Rodd 1880). In fact, Rodd had little to say on the Cormorant, describing it merely as breeding in the cliffs in Scilly, whereas Gilbert White considered it resident (in Jesse 1887). However, James Clark, and E H Rodd's nephew Francis were far more forthcoming, such that it would be remiss not to quote in full their excellent account for the three years 1901–03.

Considerable numbers nest on the outer rocky islets, shifting their breeding stations more or less completely from year to year. In 1901 there was a large colony, for example, on

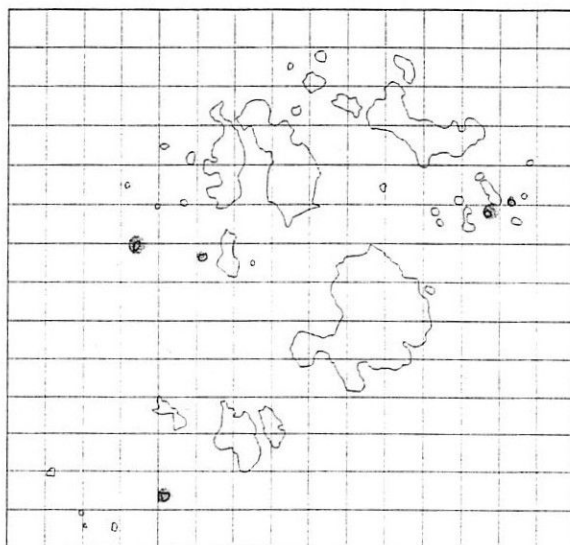
Inner Innisvoul, another on Mincarlo, a third on Melledgan and a fourth on Rosevean. In 1902 only three nests were found on Inner Innisvoul, but there was a big colony on Outer Innisvoul, another on Menawethan, and several nests on Hanjague. Mincarlo was deserted, but there was a group on Castle Bryher, a little cluster on Rosevean, and a new colony on Melledgan. In 1903 there was not a single nest on Menawethan, and none were noticed on Outer Innisvoul or Castle Bryher, and only five on Rosevean. Inner Innisvoul, however, was again thickly populated, and there was a large colony on Melledgan, and one of twenty-nine nests on Rosevean (Clark & Rodd 1906).

All that is missing from this otherwise informative description is a definition of what Clark and Rodd thought were 'considerable numbers', otherwise, it qualifies as a reasonable outline of the situation still today. Regrettably there is little in mid- to late 19th century published reports to help answer this question of overall population size, though even by 1937 Castle Bryher was still talked of in terms of 'large numbers' (CBWPSAR 7). The possibility remains, of course, that some early writers confused this species with Shag, though there is no evidence to that effect and certainly James Clark was above such an error. Nevertheless, by 1951 there were reportedly just two colonies, only one of which, on Great Crebawethan, was of apparent permanency, with the Illiswilgig colony down to half strength at just five nests (CBWPSAR 21), none of which suggests particularly large numbers of birds. Without explanation, Allen (1974) interpreted the early Clark and Rodd description as suggestive of at least 100 pairs, further suggesting that a decline clearly occurred during the first half of the 20th century, down to c. 60 pairs by 1945, though again he gives no reference. Allen speculated on likely causes of this decline, suggesting shooting by fishermen and dwindling flatfish availability. Several local boatmen have commented on the days, not too long past, when many Scillonian boats carried a loaded shotgun in case a Cormorant or Shag flew past, the carcasses often then used to bait fish traps (pers. comm.). In addition, comments in the 1960s (CBWPSAR 38; Parslow 1967b) refer to the destruction of Cormorant nests on Melledgan and Castle Bryher during 1967 – notices issued to local boatmen highlighting relevant provisions of bird protection legislation. Vyvyan (1953) also mentions 'Christmas cormorant-shooting parties' (possibly involving this species and/or Shag), which were later limited by the rising cost of cartridges.

Again, Allen's description of Cormorant breeding distribution and numbers for 1974 almost exactly describes the situation today, with an expected two occupied sites in both the Eastern and Northern Isles and one in the Western Isles, plus a marked between-year tendency to alternate between two or more preferred sites. However, occupation of White Island, Samson by two to three pairs since 2000 seems a totally new feature, perhaps resulting from removal of Brown Rats *Rattus norvegicus* from Samson and its satellite islands during the early 1990s.

Blair (in CBWPSAR 21) attributed low Scillonian Cormorant numbers to their apparent inability to adapt to Great Black-backed Gull *Larus marinus* predation, i.e. to utilise protected sites in the manner of Shags. However, there appears to be no apparent evidence of Cormorant nest predation by large gulls *Larus* in Scilly, other than when colonies are inexpertly disturbed. Allen found no evidence that Cormorant nest-site selection is affected by Great Black-backed Gull density or distribution, unlike Shag, which seems to be markedly influenced by the potential for Great Black-backed predation (P J Robinson 1992a). That said, breeding Cormorants in Scilly can suffer from predation of eggs and small young by large gulls whilst subject to human disturbance, particularly uninformed disturbance (CBWPSAR 21; Harvey 1983; pers. obs.), adults being quick to leave the colony and slow to return (pers. obs.).

A marked feature of this species in Scilly is the consistently early laying date, normally around the end of February but seldom confirmed first hand owing to weather and sea conditions at that time of year. Thus the timing of laying is usually extrapolated based on the age of young present in the colonies later (pers. obs.). This early laying is compatible with findings on Great Saltee in Co. Wexford, Ireland, some four degrees north of Scilly, where well-grown young at the end of April were estimated to have hatched from eggs laid at the beginning of March (Goodbody 1947). In Ireland generally, however, 4th April was considered an exceptionally early first laying date (Kennedy *et al.* 1954), whereas on the Channel Islands, at roughly the same latitude as Scilly, eggs are unlikely before the latter half of May (Dobson 1952). Even as long ago as 1911, H W Robinson (1913) reported finding nearly full-grown young on 22nd May, from eggs that would apparently have been laid about the first week of March.



Island	Nests
Melledgan	16
Mincarlo	25
White Island, Samson	1
Ragged Island	12
Great Innisvoul	2

Location of 56 Cormorant Nests – 1999 (Seabird 2000)

More than one writer has commented on the number of late clutches found on visits to colonies during May or June, though reasons for this remain unclear. One possible explanation is replacement clutches for failed nests, but late-breeding subadults could also be involved. On Scilly, Cormorant nest losses are likely to occur as a consequence of gale force winds early in the year, particularly in view of the species' fondness for nesting on the upper extremities of bare rocky outcrops. As on Great Innisvoul and Ragged Island in the Eastern Isles, or on the summit of Mincarlo, Northern Isles (IOSBR 1994). A comment by A A Dorrien-Smith helps on several counts, pointing out that 21-metre high waves washed out Cormorant nests on the top of Mincarlo in early May 1943, by which date ten or twelve young were 'sufficiently feathered' to survive the tragedy (in *CBWPSAR* 13). Humphrey Wakefield is reported as later seeing repeat nests on Mincarlo, though they could have been late nests of other pairs. In addition, Dorrien-Smith commented that he had found Cormorants 'well advanced' in March and with unfledged young in September.

Stone *et al.* (1997) suggested a British population of 7,000 breeding pairs, in which case the Scillonian population may represent less than 1% nationally.

As with Shag, early Cormorant sample specimens from Scilly exist in the collection of the British Museum (Natural History), in the form of two spirit pulli collected by H W Robinson on 23rd and 25th June 1924, Reference 1924.6.25; plus skins of a juvenile and adult male taken by the same person on 4th December 1933, Reference 33.11.21 and 34.1.1; and two adult spirit specimens from 21st August 1933, Reference 33.8.17 and 4th December 1933, Reference 33.11.21.

Few modern accounts of Cormorants in Scillonian waters mention subspecific identification, it being normally assumed all are nominate *carbo*. However, the possibility of the central and southern European form *sinensis* occurring are real, particularly as it already breeds in southern England. Occasional individuals showing varying amounts of white about the head and neck have been seen over the years but it has not been considered safe to attribute any to *sinensis*.

A great deal of correspondence accompanied the discovery in Scilly, around 1905, of Cormorants with substantially white undersides, culminating in the acquisition of specimens on 30th June 1909 and 16th March 1910 (Frohawk 1910b). Several extremely experienced BOC members felt unable to accept that these were immature birds, C B Ticehurst even suggesting it was a previously unknown adult colour-phase (Frohawk 1910). Interestingly, only Ogilvie-Grant among those at the meeting felt certain it was a bird of the year, pointing out that there were already a number of similar specimens in the collection of the British Museum (Natural History). Publication of *The Handbook* (Witherby *et al.* 1940) clarified the issue, the authors emphasising the existence of young Cormorants with white underparts among the British population as a whole, the white sometimes even intensifying following the onset of post-juvenile moult (Cramp *et al.* 1977-94). Cramp *et al.* also noted that the amount of white on the undersides of young birds is variable

between populations, averaging greatest in southern birds, though they apparently mean within the southern West Palearctic, rather than Britain. The existence of a small percentage of young Cormorants with white underparts, some substantially so, remains a feature of Scilly today.

Up to and including the year 2000, at least 161 Cormorants had been ringed in Scilly, 90 of these in the period since 1970 and presumably the majority as pulli, but certainly all those since 1970. Earliest recorded overseas recovery of a Scillonian-ringed Cormorant probably involved a nestling ringed on Melledgan in May 1911 and found in the mouth of the river Alberwack in Finistère, France, in December the same year. It now seems obvious that first-winter Cormorant dispersal very much mirrors that for Shag, though a far greater percentage routinely go south as far as Atlantic coastal Portugal and Spain, some (at least) apparently remaining there during their second, or perhaps third calendar-year. Some clearly disperse very soon after leaving the nest, one youngster being recovered off the coast of France by mid-July. Compared with Shag, a higher proportion cross to coastal France and few seem inclined to wander north, Glamorgan being the furthest on record for Scilly. Five Cormorants ringed elsewhere have been recovered in Scilly, four from Ireland and one from southwest Wales. Of these, one was a rapidly moving first-year, three were in their second summer and the fifth had been ringed in Co. Antrim fifteen years before. Coulson and Brazendale (1968) found that British Cormorants do not migrate, though there is an extensive dispersal – finding too that dispersal rate in relation to distance travelled is constant for a particular colony. The comparatively few national recoveries or controls recorded between Britain and continental Europe east of the Netherlands mostly involved eastern England (Wernham *et al.* 2002). There appears to be a significant difference in the destinations of dispersing birds from the three Scillonian breeding groups (see Table), with 55% and 75% respectively from the Western and Eastern Isles reaching France, compared with only 25% from the Northern Isles. Only the Western Isles provided birds reaching Spain (28%), and Cornwall was the main destination for birds from the Northern Isles (37%). Only one bird moved north, to Glamorgan, and one moved east as far as Suffolk. There is a suggestion in all this that the three breeding groups may have become genetically isolated, though the question has not been addressed so far.

Western Isles		Northern Isles		Eastern Isles	
France	10 (55.5%)	France	2 (25%)	France	3 (75%)
Cornwall	1 (5.5%)	Cornwall	3 (37.5%)	Cornwall	1 (25%)
Devon	1 (5.5%)	Devon	2 (25%)		
Glamorgan	1 (5.5%)	Suffolk	1 (12.5%)		
Spain	5 (27.7%)				

Source and Recapture Areas of Scillonian-Ringed Cormorants (excluding those recaptured in Scilly)

Controls

?	Pul	Sheep Is, Co. Antrim 17th June 1977	FN	'Scilly' 7th August 1978
5139709	Pul	Tenby, Pembrokeshire 20th June 1987	FD	Porth Hellick, St Mary's 5th May 1988
5084450	Pul	Sheep Is, Co. Antrim 17th June 1977	FD	St Mary's 31st May 1992
5195816	Pul	Ardboline Is, Co. Sligo 12th June 1997	FD	Hugh Town, St Mary's 25th August 1997
5191012	Pul	Capel Is. Co. Cork 17th June 1997	FD	Old Town, St Mary's 7th April 1998

Recoveries

?	?	Melledgan 22nd May 1911	?	Finistere, France 12th December 1911
?	?	Melledgan 20th April 1914	?	Cotes du Nord, France 19th July 1914
?	?	Melledgan 19th May 1914	?	Galicia, Spain 6th October 1914
5003150	Pul	Melledgan 27th June 1962	?	Rhossili, Glamorgan 25th June 1963
5003138	Pul	Melledgan 8th June 1962	?	Coruna, Spain 20th February 1964
5000499	Pul	Mincarlo 31st May 1963	?	Ipswich, Suffolk 15th March 1964
?	?	Melledgan 22nd June 1964	?	Colunga, Oviedo, Spain December 1964
5162905	Pul	Ragged Island 12th May 1992	SH	Guilers, Finistere, France 3rd March 1997
5170327	Pul	Melledgan 25th May 1999	FN	Pontevedra, Spain 8th March 2000

Cormorant Selected Ringing Recaptures

[Double-crested Cormorant

Phalacrocorax auritus A

Full written description required by the BBRC. No acceptable Scillonian record, one claimed by Will Wagstaff at Porth Hellick Pool, St Mary's, during November 1990 having been rejected by the BBRC (IOSBR 1990, 1992).

[1990 One Porth Hellick Pool, St Mary's 1st, 2nd & 4th November] *British Birds* 86: 539

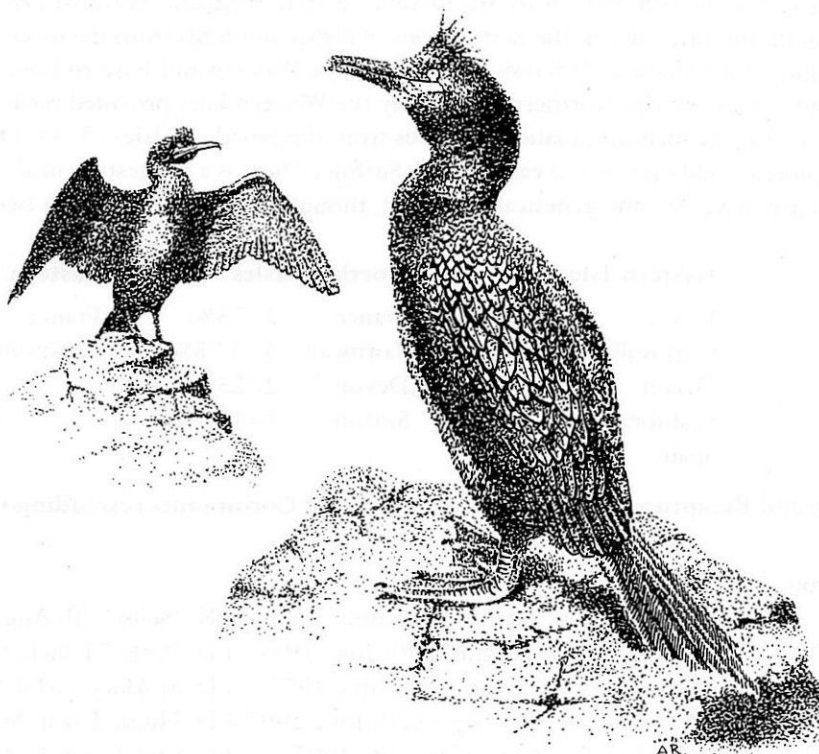
Breeds North America, from Alaska east to Newfoundland and south to Gulf of California and Cuba. Migratory in north of range, particularly in east, wintering mainly within breeding range.

The possibility of this highly migratory species reaching Scilly from North America should be borne in mind. The only British record so far of this distinctive Nearctic species involved a bird in Cleveland, Tyne and Wear, from December 1988 to late April 1989, followed by one in Galway Harbour, Ireland, in 1995 (Palmer 2000). A bird also appeared in the Azores during October 1991 (Snow & Perrins 1998). For assistance on the identification of Double-crested Cormorant see Alstrom (1991).

Shag (European Shag)

Phalacrocorax aristotelis A

Resident and breeds, young Shags disperse away from the islands during their first winter.



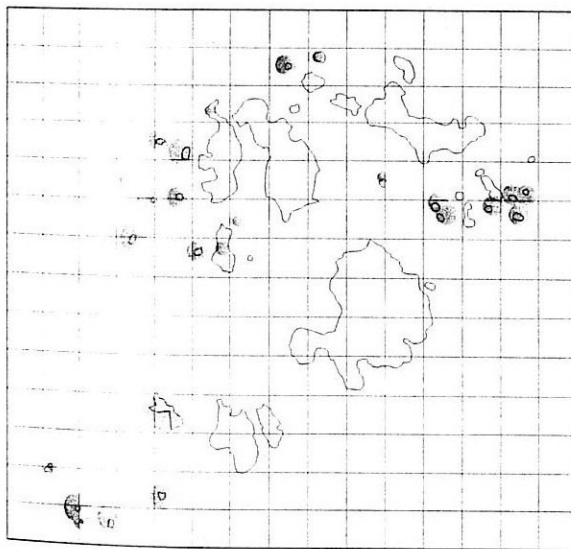
Confined to West Palearctic, breeds Iceland, Faeroes, Britain and Ireland, northern Norway, Sweden, Finland, northwest Russia, France, Iberia, Mediterranean and Black Sea. Dispersive. Polytypic: nominate *aristotelis* occurs north and west Europe; *riggenbachi* northwest Africa; *desmarestii*, or 'Mediterranean Shag' Mediterranean and Black Sea. Amber-listed in UK: 20% or more of European breeding population in UK, 50% or more at ten or fewer sites (Gregory *et al.* 2002).

One of the more obvious of the archipelago's breeding seabirds, although, unlike many other UK sites, Shags on Scilly breed almost exclusively beneath boulder beaches, or in holes in low cliffs, perhaps in response to unusually high densities of breeding Great Black-backed Gull *Larus marinus* (P J Robinson 1992). During the most recent count, for Seabird 2000, a total of 1,109 apparently occupied nests were recorded on 24 islands; including 209 on Annet, 117 on Rosevear and 105 each on Gweal and Melledgan (Seabird 2000 – unpublished data). Present Cornish breeding numbers are unclear, though in 1999 it was described as breeding in small colonies on all coasts (CBWPSAR 69). However, Penhallurick (1969)

thought the then estimated Scillonian population of around 1,000 pairs was several hundred pairs more than in Cornwall. Taking the most recent UK estimate of 37,500 pairs (Stone *et al.* 1997), Scilly now holds some 2.9% of the national breeding total, though this figure may change once the national results of Seabird 2000 become known.

E H Rodd had little to say on the subject of the Shag in Cornwall and even less regarding Scilly, merely commenting that it bred in the cliffs (Rodd 1880). Fortunately, however, a number of other writers reported in more detail on its status around the end of the 19th and early 20th centuries. Gilbert White recorded it as a resident in the islands (in Jesse 1887) and those dependable observers of late 19th century Scillonian ornithology, James Clark and Francis Rodd, noted it as much more abundant than Cormorant *P. carbo*, breeding in 'great numbers on all outer rocks not washed by the sea, and also in small numbers on Annet'. The last comment is of particular interest in view of Annet's prominence now as the main Shag breeding site in Scilly. Of considerable surprise too is that people spent time ringing Shags and other seabirds on Scilly as early as 1910, the same people also taking time to record breeding details. From this information we know that by the end of May 1911, Shag nests were extremely numerous 'on all the islands' and that none had hatched eggs by that time, large numbers having one egg still (H W Robinson 1913). The same author also confirmed low numbers on Annet (H W Robinson 1911a). We also know from comments in various CBWPSAR that there was no apparent early 20th century period of decline, Mincarlo being described in 1937 as having every available 'crack and crevice' occupied by breeding Shags (CBWPSAR 7). Nonetheless some islanders still recall the time, not too long ago, when local boats kept a loaded shotgun beneath the foredeck in case a Shag or Cormorant flew past, the carcasses then being used to bait fish traps. Evidence of early scientific interest in this species in Scilly is evident today in the collection of the British Museum (Natural History), in the form of a nestling spirit specimen Reference 1924.6.25, collected 23rd June 1924 by H W Robinson, and the skin of an adult male, Reference 26.4.28, collected 24th April 1926 by A A Dorrien-Smith.

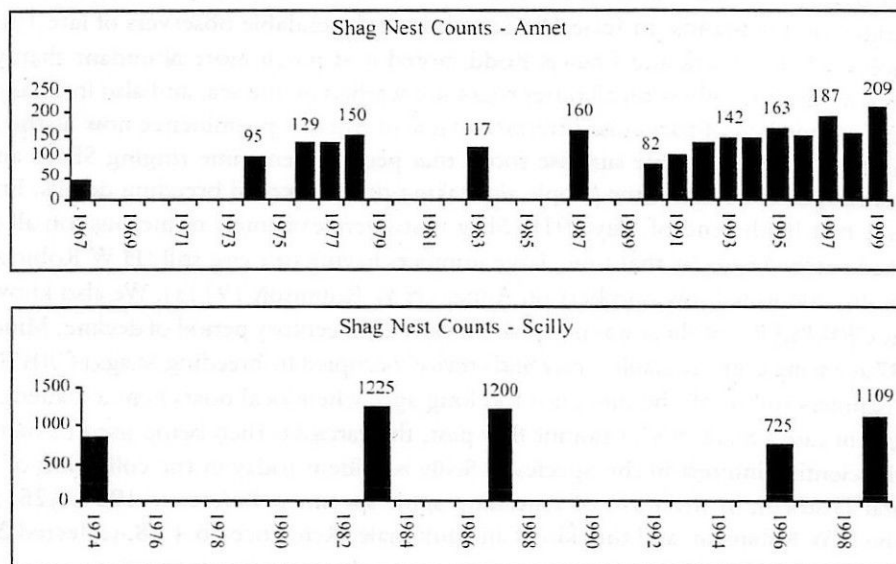
Parslow (1967a) found evidence of a, at times, marked increase in the British Shag population from the mid-20th century up until 1967. However, the earliest recorded modern count of Shags in Scilly is Allen's all-island 1974 survey for the then NCC, in which he recorded an estimated 850 breeding pairs on some 22 islands and lesser rocks (Allen 1974), two islands, Annet and Rosevear, vying for the highest total, with 95 on the former and 80–100 on Rosevear. Further NCC or EN all-island counts continued on an approximate five-yearly basis, with annual counts mainly confined to Annet (see Charts). For Shag, these surveys show a pattern of little overall change, though with some obvious redistribution between islands. Annet totals, for example, demonstrate the dangers inherent in assessing a species' overall status based on selective site surveys, although, at least on Scilly, Shags show no obvious periodic annual breeding failure, unlike large gulls *Larus* and Kittiwake *Rissa tridactyla*, for example. Thus, whatever the factors controlling population size, they apparently operate outside the breeding season – unless they involve predation of pre-fledged young, which is often quite marked at some main breeding concentrations, e.g. Annet.



Island	Nests
Annet	209
Melledgan	105
Gorregan	74
Rosevean	30
Rosevear	117
Great Crebawethan	5
Mincarlo	82
Illiswilgig	25
Scilly Rock	39
Castle Bryher	22
Gweal	105
Samson	7
White Island, Samson	32
Shipman Head, Bryher	4
Puffin Island	4
Men-a-Vaur	24

Round Island	2	Ragged Island	39
Guthrie's Island	1	Great Innisvoul	69
Great Ganinick	23	Little Innisvoul	28
Little Ganinick	25	Menawethan	37

Location of 1108 Shag Nests – 1999 (Seabird 2000 data)



Laying normally commences late April or early May (P J Robinson 1992b) and though late clutches of newly laid eggs are not uncommon, in the absence of colour-ringing it is difficult to know whether replacement clutches or late breeders are involved. Early nests are more limited, with the occasional clutch from mid- to late March. On Annet, mean clutch size for the years 1993–95 was in the range 2.46 – 2.92 eggs per active nest (P J Robinson 1998). There is a very pronounced likelihood of open nests in Scilly being predated (presumably by Great Black-backs), if not at the incubation stage then certainly once young are left unattended, giving rise to the possibility that availability of appropriate nest-site type may be the main controlling factor on Shag breeding numbers at some colonies, e.g. Annet. Since 1991 at least, there has been no apparent colonisation of new breeding sites, the one obvious exception being Samson, which was occupied immediately following the removal of Brown Rats *Rattus norvegicus* during the early 1990s (P J Robinson 1998) and which by 2000 held ten to eleven pairs (pers. obs.).

By the end of 1999, a total of 3,174 Shags had been ringed on Scilly, 1,739 (54%) of these prior to 1970; only Storm Petrel has a larger Scillonian ringing total. Most Shags are ringed as pulli, though in recent years adults have been increasingly ringed – in an effort to ascertain levels of local breeding recruitment using retrap data. Inevitably, much has been learned about the movement of Scillonian-reared Shags away from the islands, and not just during the mid- to late 20th century; a Shag ringed in Scilly in 1914 was recovered in Brest, France, in November 1928. It seems well understood now that many (at least) first-year birds leave the islands by late summer, spending their first winter in the English Channel and Western Approaches, as far south as northwest France and east to the Channel Islands and Isle of Wight (Wernham *et al.* 2002), with little or no regular northward movement (Parslow 1965a; IOSSBG – unpublished data). Parslow calculated a recovery rate of between 5% and 19% for first-year Scillonian Shags for six of the seven years 1957–63 (none in 1959) at an average of 10.5%.

Of 48 known first-year Shag recoveries during the period 1995–99, 21 (43.7%) came from the English south coast, between west Cornwall and Hampshire, 19 (39.5%) from coastal northwest France and one (2%) from the Channel Islands. A further seven birds were recovered north as far as Grampian Region, Scotland, including two in landlocked Warwickshire and one in Northamptonshire. A lesser number of older birds recovered away from Scilly during the same period involved five in their second calendar-year (Devon two, France two and Lothian Region one), one third calendar-year (Channel Islands), three fourth calendar-year (all France) and two fifth calendar-year (both Cornwall). Four second-calendar-year individuals

were recovered April–May and could conceivably have returned to Scilly within the subsequent breeding season, though the fifth was recovered in Lothian in July. Less easy to explain, however, is the presence of three fourth-calendar-year birds in France (though all were outside the breeding season), unless of course they were breeding at one of about 20 Brittany colonies (Guermeur & Monnat 1980). In general, these findings were much in keeping with those of Parslow earlier (1965a), though the incidence of birds shot in France appear to have almost ceased. Nevertheless, a substantial proportion of all Shag recoveries still involve birds accidentally caught in fishing nets ('trap set for other species'). One obvious difference between Parslow's 1960s findings and the 1990s, however, are the two September 1962 Netherlands' recoveries. The most southerly Shag recovery involved a bird from Rosevear found in Spain in late 1965. Finally, there is a noticeable absence of recoveries in Scilly of Shags ringed elsewhere and almost nothing is known about the make-up of the wintering population within the islands.

The oldest known recovery of a Scillonian-ringed Shag appears to involve a ring found on a Kingsbridge estuary in south Devon in August 1994, from a bird ringed on Annet 27 years earlier. The ring number was still easily readable and had therefore not been detached from the bird for too long. The oldest provable recovery, however, may be the bird ringed in 1914 and recovered in northwest France in November 1928.

A notable feature of the Scillonian Shag population, at all times of year, are the mass gatherings of feeding birds, often involving up to five hundred, or even 1,000 (pers. obs.) individuals. Such flocks feed in a 'rolling' manner, with birds surfacing at the rear overflying the flock and plunge-diving at the head of the advancing mass (B King 1974). Very little information is available on food sources exploited by Shags in Scilly, though handled birds may disgorge partly digested remains of what appear to be Sandeels *Ammodontidae*, which would equate with the feeding method described above. Penhallurick (1969) refers to an early, 1930s, government examination of Cornish Shag food intake, concluding that only five individuals out of 188 tested had taken fish species 'of economic importance'. Whatever their true diet, however, local fishermen on Scilly have been known to make up their own minds on fish species involved and to take action to reduce numbers taken, as in 1967 when a post-Torrey Canyon breeding survey of Castle Bryher and Melledgan was adversely affected by a visit by fishermen to kill Shags and Cormorants (Parslow 1967b). As with Cormorant, little thought appears to have been given to assessing the subspecific status of Shags in Scillonian waters. However, the likelihood of individuals of *desmarestii*, or 'Mediterranean Shag', reaching Scilly has been raised by both Flumm (1993) and Gantlett (1998), the first of these two authors drawing attention to at least seven records of birds in southwest England showing features of this distinctive form, five of which were unsuccessfully submitted to BBRC. Although a few subadult Shags showing some features of *desmarestii*, but with notable white underparts, occur regularly in the Scillonian population, so far none have shown the distinctive pale upperwing-coverts to any degree; and no adults have been recorded in Scilly showing features of this distinctive form. It may be worth noting that extremely pale or even totally white (IOSBR 1992) juvenile or older Shags are not uncommon in Scilly and need keeping in mind when examining likely *desmarestii* contenders.

Bittern (Great Bittern)

Botaurus stellaris A

Very rare migrant or cold-weather vagrant, possibly occurs more frequently than records suggest. Full written description required by the SRP.

- 1864 One (shot) St Mary's 24th December Rodd 1880
- 1867 At least one (shot) Scilly Rodd 1868; 1880
- 1900 One (shot) Porth Hellick, St Mary's Clark & Rodd 1906
- 1945 One St Mary's 25th January
- 1959 One Tresco 5th September Tresco Abbey records
- 1962 One St Agnes 11th January (dead several days)
- 1979 One St Mary's 5th to 12th January
- 1996 One Porth Hellick, St Mary's 17th and 20th January, presumably same 3rd March
- 1998 One Hugh Town, St Mary's 9th February

Breeds Europe and central Asia, from the Atlantic to the Pacific, plus Africa; west European population extremely fragmentary. Unclear if species migratory or merely dispersive, the latter mainly in response to cold weather. Polytypic: nominate *stellaris* throughout Palearctic; *capensis* southern Africa. Included on

attention for a substantial breast wound of unknown origin. By January 2002, the bird was ready for release, but not before lengthy discussions regarding its likely identity and not before feather samples were obtained for molecular analysis (M Scott 2002; Votier *et al.* 2002); the latter process eventually confirmed the bird as one of the Brown Skua forms: *lomnbergi*, *antarctica* or *hamiltoni* (Newell *et al.* 2002). The record remained under consideration by the BOURC during preparation of this text but hopefully seemed likely to gain acceptance as the first confirmed southern *Catharacta* skua for Britain and the North Atlantic. Quite amazingly, a further southern *Catharacta* claim, from Aberavon, Glamorgan, South Wales, during February 2002, also involved a bird taken into care and was also awaiting consideration (Moon & Carrington 2002), molecular tests suggesting a similar outcome to the St Agnes individual, but with biometric data further suggesting 'Falkland Skua' *C. a. antarctica* (no biometric data were obtained from the St Agnes bird). Meanwhile, processes leading up to identification of these two individuals threw doubt on some past British records, e.g. the bird at West Bexington, Dorset, during January 1996, and others; the Dorset individual was believed at the time to be a contender for Britain's first South Polar Skua (Millington 2000). Meanwhile, a bird at Dungeness, Kent, in mid-February 2002 may yet prove to be another southern large skua.

The presence of large dark skuas which are not Great Skuas in waters off coastal West Africa has been known for some years, but until recently these were thought to probably involve mainly South Polar Skua. However, there is growing awareness of the possible presence of other lookalike species and several Brown Skua claims have been rejected or remain under consideration for North America's eastern seaboard (Jiguet 1997). The appearance of the above two individuals in UK waters during winter 2001–02 is yet further evidence that more attention directed towards large skuas in the North Atlantic seems likely to bring rewards.

Mediterranean Gull

Larus melanocephalus A

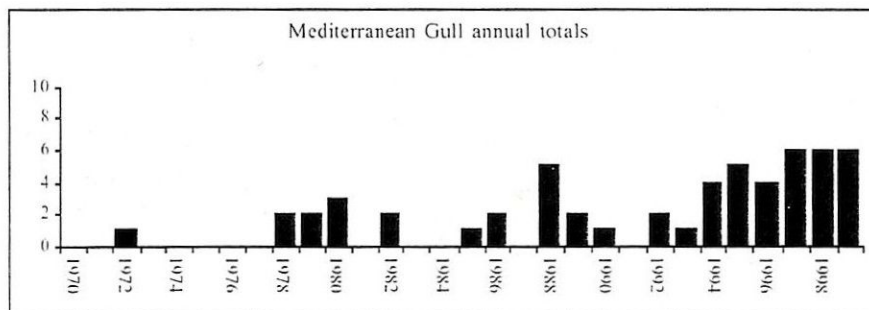
Scarce but now annual migrant, mainly in autumn but with the occasional spring sighting, though extremely rare in winter. Full written description required by the SRP.

Disjunct breeding distribution limited to West Palearctic, through central and southern Europe from southern England to Caspian Sea. Migratory, wintering North Sea and Atlantic coast from Denmark and Britain south to North Africa and throughout Mediterranean and Black Seas. Monotypic. Removed from BBRC Rarities List January 1963 (Harber & Swaine 1963). Included on Annex I of 1979 EEC 'Birds Directive'. Amber-listed in UK: three-year maximum of 89.0 breeding pairs (Gregory *et al.* 2002).

The first British or Irish record involved an immature allegedly shot at Barking, in what is now East London in 1866, but not identified until examined in the British Museum collection in 1871 (Palmer 2000). In contrast, the second was obtained during a Boxing Day shoot on Norfolk's Breydon Water in 1886, being identified by J H Gurney in combination with two others within hours of it being killed. According to Penhallurick (1969) the earliest on mainland Cornwall involved a first-summer individual at St Ives for about a month from 7th March 1960, followed by two more at the same locality before the year's end. However, the only Scillonian record Penhallurick could quote up until that time concerned one on Treco on 21st June 1964 (*CBWPSAR* 34). This was one of only two June records for either Cornwall or Scilly that Penhallurick knew of, with none at all during May. However, the same author made the point, surely with justification, that the presence of this species must doubtless have been previously overlooked.

Since 1964, both the annual number and frequency of records have increased on Scilly, the three years 1997–99 producing the greatest annual totals with six in each year. The Chart incorporates all records up until 1999 except for the first and second in 1964 and 1969 respectively. Disregarding the June 1964 individual, only three birds occurred in the first half of the year, one on 3rd January 1993 and the others in April 1989 and 1997. First autumn dates advanced over time, progressing from late September or October during the 1970s to July or August by the 1990s, though it remains clear most if not all records involved migrant individuals. Most annual last-sighting dates fell within October, with two in November and one extremely late individual on 1st December. The first-winter individual off St Mary's on 3rd January 1993 was not known to have wintered, the last of autumn 1992 being noted on 12th September.

The recent increase in the number and frequency of birds reaching Scilly during autumn broadly fits the establishment of new European breeding colonies and population increases, mainly in the Mediterranean region from the 1950s but including France from 1968 and southern Britain from 1976 (Hagemeijer & Blair 1997). Even by the mid-1990s the Mediterranean held several thousand breeding pairs and western



and central Europe some 200 pairs, about half of which were in Belgium and the Netherlands and this population is known to be rapidly increasing, including in southern England. Ringing evidence shows a marked lack of between-year site-fidelity among breeding adults. Birds commence leaving the breeding colonies from late June or July, juveniles initially dispersing randomly, adults returning from March onwards (Cramp *et al.* 1977–94). Ringing recoveries provide evidence for the autumn movement of birds from eastern European colonies (including most of the Hungarian population) to several Baltic countries and these are thought to at least partly explain the presence of birds along the west European seaboard at that time (Wernham *et al.* 2002). No Mediterranean Gulls have been ringed in Scilly and there are no captures from elsewhere.

Laughing Gull

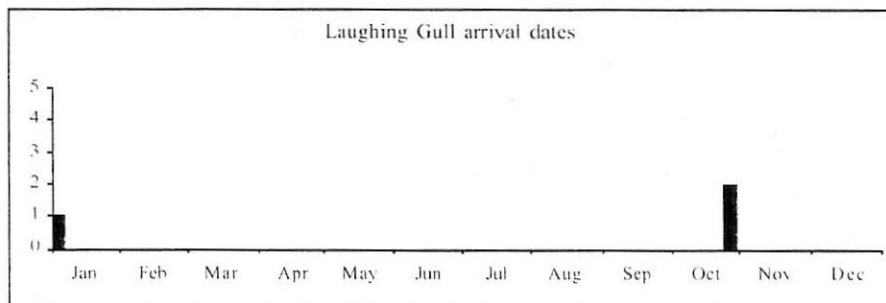
Larus atricilla A BBRC 1%

Extremely rare migrant or vagrant, full written description required by the BBRC.

- 1967 One St Agnes 31st October *British Birds* 61: 344, 65: 79–80
- [1974 One (first-year) Gugh 22nd October] *IOSBR* 1974
- 1986 One (first-winter) St Mary's 26th October *British Birds* 80: 541
- [1998 One Tresco 20th June] *IOSBR* 1898
- 2000 One (adult) St Mary's 7th to 20th January *British Birds* 94: 476

Breeds North America, from Nova Scotia south to Florida, Gulf of Mexico, southern California, Mexico, West Indies and Venezuela. Migratory, on Atlantic coast wintering from North Carolina south to northern South America, though many stay within southern breeding range; rarely wanders inland. Polytypic: *megalopecterus* occurs North America; nominate *atricilla* remainder of range.

Wallace described the first Scillonian record of this attractive American gull, an immature watched passing Horse Point, St Agnes, from the south on 31st October 1967, following severe overnight gales (Wallace 1972a). However, Landsdown's description of a bird in immature plumage off St Agnes on 22nd October 1974 was reportedly rejected by the BBRC (*IOSBR* 1974, 1975), though it appears to get no mention in the annual BBRC report. Subsequently, a first-winter individual was seen briefly as it passed over Hugh Town, St Mary's, heading west on 26th October 1986 and this record was found acceptable by BBRC. Another individual reportedly seen and heard as it overflew Tresco late evening on 20th June 1998 was not submitted, and the most recent sighting for the islands involved an adult viewable on St Mary's for two weeks during January 2000. The Chart shows arrival dates for the three accepted records.



The BBRC accepted a total of 100 Laughing Gull records during the period 1958–99 inclusive, so the single Scillonian record for the period represents just 1% overall. Other European records involved Iceland,

Faeroes, France, Belgium, Netherlands, Germany, Austria, Norway, Sweden, Hungary, Spain, Morocco, Azores and Madeira (Cramp *et al.* 1977–94; Snow & Perrins 1998). There were eight accepted records of this species on the nearby Cornish mainland up until 1999, the most recent in January 1998 (CBWPSAR 68). Birds begin leaving the breeding sites from late July or August and disperse initially randomly, before gradually moving southwards (Cramp *et al.* 1977–94). Large numbers of presumably southward-moving birds may be pushed north as far as Newfoundland by hurricanes off the eastern seaboard of North America in autumn, and this same feature is thought likely to account for the high incidence of European autumn vagrancy. However, at least some of those present in Europe outside the main migration period are thought likely to have crossed the North Atlantic during a previous season, which would of course help explain the June individual on Tresco (Cramp *et al.* 1977–94).

Little Gull

Larus minutus A

Scarce but now annual migrant, mainly in autumn, though one or two may remain during winter.

Three distinct central Eurasian breeding populations, in West Palearctic from Netherlands and Denmark (small numbers) to northwest Russia. A disjunct population breeds in western Siberia, northern Mongolia and eastern Siberia. Migratory, in West Palearctic wintering mainly coastally, including Baltic, Mediterranean, Black and Caspian Seas. Since 1962 also breeds in small numbers northeast North America, wintering on the east coast. Monotypic. Downgraded from Amber- to Green-listed in UK 2002 (Gregory *et al.* 2002).

E. H. Rodd knew it as one of the rarer gulls, quoting specimens obtained from Penzance and Land's End, among other Cornish sites, but made no mention of Scilly. This being the case, James Clark and E. H. Rodd's nephew Francis Rodd's comment that it had apparently been overlooked within the islands is the first mention of it in a Scillonian context. These two pointed out that it was thought to have been seen on St Mary's during October 1905, with a specimen obtained during Christmas week that same year, though they gave no location (Clark & Rodd 1906).

Penhallurick (1969) could trace only 15 Cornish records up until 1905, at least three of these prior to 1838 (Couch 1838) though the earliest dated record involved one from Land's End in December 1844. Penhallurick also thought it probably not as rare previously as published records suggested, pointing out that from 1947 it was noted annually in the county, being rare only during May–July when it was recorded in only three of the 21 years to 1967. Penhallurick also found that most sightings involved single individuals, though two or more parties of up to eight birds were on record.

The first confirmed 20th century island record concerned one on St Mary's on 18th October 1947, followed by singles on 15th and 18th September 1963. It was subsequently recorded almost annually in increasing but still small numbers. During the 13 years 1977–89, it occurred in spring in just seven years, involving 13 birds at an average of one per year, whilst a total of 32 appeared during autumn in all 13 years, at an average of 2.46. This compares favourably with the ten years 1990–99 when 20 were recorded in six years during spring, at an overall rate of 2 per year, whereas 25 appeared in all but one year during autumn, at an annual rate of 2.5 per year. The most seen together was two, on perhaps no more than three occasions and few remained more than 1–2 days. Records appeared to involve a mixture of adults and first-winter birds, though Cramp *et al.* (1977–94) considered the latter something of a scarcity in northwest Europe during winter, although not on passage.

Dates throughout the whole of the 23 years for which they were examined in detail suggest a pattern of wandering winter individuals, followed and preceded by what appeared to be spring and autumn migrants. Earliest recorded date was 1st January and the latest 29th December; however, there were just two May sightings and a single June appearance, with none at all during July. During the ten years from 1990, four of the six last spring sighting dates fell in the period 1st April to 4th May, five of the earliest autumn sightings occurring in the period 15th August to 21st September.

Some 75% of autumn sightings in coastal England and Wales occur during August–November, peak passage past northern France being noted from October to early November (Cramp *et al.* 1977–94). Immatures mainly precede adults, apparently because many adults stop off to moult in central Europe en route. Return spring passage is evident off northern France (Cape Gris Nez) from late March to late April, fewer passing during May. Off the coasts of Britain, spring migration follows much the same timing as in

northern France, but with substantially fewer birds involved than in autumn. Birds from the west Siberian population are believed to migrate through Kazakhstan and the Caspian Sea to winter in the Black Sea and Mediterranean area, some therefore mixing with birds from more western populations. No Little Gulls have been ringed on Scilly and there are no recaptures from elsewhere.

Sabine's Gull

Larus sabini A

Scarce autumn migrant, almost annual, though in some years all or most sightings are from outside Scillonian waters, e.g. pelagic cruises, or from routine crossings of the RMV *Scillonian*. Treated by the BBRC as a national Scarce Migrant, full written description required by the SRP.

Circumpolar but patchy breeding distribution, incorporating much of arctic North America, Greenland and central and northeast arctic Asia, though the only known West Palearctic breeding site is Spitsbergen. Migratory, in eastern Atlantic reaching Southern Ocean. Monotypic. Removed from BBRC Rarities List January 1963 (Harber & Swaine 1963).

Sabine's Gull was known to 19th century Cornish naturalists, E H Rodd describing it as sometimes met with in immature plumage in mainland harbours and estuaries, though irregular and uncertain in its appearances (Rodd 1880). The same author went on to say that he had never encountered a specimen in adult plumage, though he acquired an immature from Mount's Bay, west Cornwall, where a particularly confiding individual was knocked out of the air with an oar. On Scilly it just managed an appearance before the start of the 20th century, one being shot by Joe White in autumn 1893, presumably on Tresco (Clark & Rodd 1906) and a summer plumage adult was seen near the Wolf Rock in September 1894 (Penhallurick 1969).

There were perhaps sixteen 19th- or very early 20th century records from mainland Cornwall between 1860 and 1902 (Penhallurick 1969), the last involving an inland bird shot near Lostwithiel, west Cornwall. The next from Cornwall was noted in 1951, all sightings from then until the mid-1960s occurring during autumn, birds usually arriving during weather patterns suggestive of a North American origin. According to Penhallurick, the earliest sighting up until the mid-1960s concerned a bird, exceptionally, on 22nd July, whilst the latest was 25th December.

It may be no coincidence that the run of modern records in both Scilly and Cornwall commenced with birds that arrived during 1957 (Penhallurick 1969; *CBWPSAR* 27). In Scilly's case this involved one in The Roads on 12th September and then a first-year four days later between Tresco and St Martin's. Since that time it appeared increasingly and apparently always during autumn, apart from the exceptional record of a bird seen from *Scillonian III* on 23rd June 1990 (*IOSBR* 1990). During the 25 years 1975-99, it was recorded in all but four, numbers varying from one to a possible 18 in 1982, although, as with most seabird species, keeping track of individuals proved problematical. The greatest number reported on any day, however, concerned 14 off Tresco on 11th October 2000, during a month when 75, all allegedly juveniles, were reported in Britain and ten in Ireland (*Birding World* 13: 394). Sighting dates largely fell within the period late August to late October, with the apparent bias towards October perhaps reflecting the species' vulnerability to easterly drift during severe Atlantic weather.

Too few published records involve aged individuals to make analysis of age groups practical, but a significant proportion of sightings reportedly involved adults. However, reading the reports it seems clear that Sabine's Gull presents substantial problems in assessing the validity of reports. This apparently results from a combination of factors, foremost of which may be the tendency for birds to arrive in the least favourable viewing conditions, plus the preponderance of similarly plumaged first-winter Kittiwakes *Rissa tridactyla* about the islands during autumn.

Outside the breeding season, Sabine's Gulls are primarily pelagic, in the eastern Atlantic wintering south to the Southern Ocean, most using this route originating from Greenland and Canada, whilst those from Alaska and Siberia winter in the Pacific (Cramp *et al.* 1977-94). Greenland and Canadian birds reach the coast of western Europe via a transoceanic crossing of the North Atlantic, arriving on the eastern side between France and Morocco, and consequently it is largely a west-coast species in Britain. Breeding areas are deserted from August or early September, adults mainly departing before juveniles and the appearance of Sabine's Gulls in British and Irish inshore waters is largely associated with severe Atlantic weather systems, birds arriving from mid-August to mid-November. Cramp *et al.* suggest that 72% arrive in September-October, with 31% of adults but only 4% of juveniles recorded prior to 3rd September. Off

Africa, return passage is mainly evident during early May (Wernham *et al.* 2002), with the absence of Sabine's Gulls from European inshore waters presumably reflecting differences in North Atlantic weather patterns at this time of year. No Sabine's Gulls have been ringed in Scilly and there are no recaptures from elsewhere.

Bonaparte's Gull

Larus philadelphia **A** BBRC 0.94%

Extremely rare migrant or vagrant, full written description required by the BBRC.

1944 One (shot) Scilly 16th December *British Birds* 38: 358

1990 One St Mary's & St Martin's 21st March to 14th October *British Birds* 86: 489

Breeds North America, from Alaska through northwest and central Canada south to central prairies. Migratory, wintering central coastal USA south to West Indies and Mexico. Monotypic.

Details of the first record for Scilly are contained in a brief note describing one shot whilst feeding on worms exposed by a plough at an unspecified site within the islands on 16th December 1944 (CBWPSAR 14). This was followed after a gap of 46 years by another, this time present at various sites throughout the islands during 1990, from 21st March until last seen off Innisidgen, St Mary's, on 14th October. When first found this individual was still in first-winter plumage but during its protracted stay progressed first into adult and then adult-winter plumage. It mostly frequented St Mary's but during April spent time on St Martin's. The first recorded date of the earlier individual is unknown, therefore arrival dates are not charted.

There were a total of 40 Cornish records up to and including 1999, the most recent of which was a first-year at Drift Reservoir, west Cornwall, in November that year. All sightings occurred between October and June, with 11 in March being the highest combined monthly total. The BBRC accepted 106 national records during the period 1958–99 and there were just 11 known records prior to that period (BBRC 2000). Given Scilly's geographical position we might perhaps be forgiven for expecting to see rather more of this species about the islands.

In autumn, Bonaparte's Gulls move south to the Pacific coast or southeast through the Great Lakes to Atlantic coastal USA, smaller numbers utilising the central flyway. Autumn passage is protracted, most moving south during September–October, though later along the Atlantic coast (Cramp *et al.* 1977–94). And as with several North American migrant passerines, the high incidence of autumn European vagrancy in this species is thought to be largely attributable to an extension of the initial southeast heading out of the central prairies and towards Atlantic coastal northeast North America, with some birds presumably either overshooting or taking a transoceanic route out into the path of any autumn Atlantic depressions.

Black-headed Gull

Larus ridibundus **A**

Regular migrant and winter visitor, one or more very old and probably unsuccessful breeding attempts.

Breeds northern and central Eurasia, from Iceland, Britain and Ireland, France and Iberia east to Kamchatka and Sakhalin, from tree-line south to Mediterranean and northern Mongolia. Migratory in north and east, partially so or dispersive remainder of range, in western Europe wintering south at least as far as Mediterranean. Monotypic. National 36% decline 1994–99 (Bashford & Noble 2000). Upgraded from Green- to Amber-listed in UK 2002: moderate breeding decline over past 25 years; 50% or more of breeding population at ten or fewer sites (Gregory *et al.* 2002).

One glance at the 19th century literature in respect of this species and we are into the realms of uncertainty. E H Rodd's combined account of Black-headed Gull in his *Birds of Cornwall and the Scilly Islands* (Rodd 1880) was short and to the point, describing it as occurring in winter and perhaps being the commonest gull, particularly on the sands at Hayle, though these comments were primarily directed at the Cornish mainland. He went on to say, however, that it might be observed in almost any month and that he was unaware of it having bred in any part of Cornwall, 'although it used to do so formerly at Scilly'. Regrettably, Rodd gave no authority for this last claim but we are able to glean a little more information from the comments of other writers and against this species in Rodd's appended list of birds observed in the island there appears the comment 'used formerly, to breed in some of the islands, but has now ceased to do so'.

James Clark and co-author Frances Rodd, nephew of E H Rodd, drew attention to a note in the margin of the elder Rodd's copy of Montagu's *Dictionary of Birds* (1802–13) (though not in Rodd's own hand) stating that Black-headed Gull bred in Scilly in 1845 (Clark & Rodd 1906). These last authors also stated that 'An unknown naturalist who visited Scilly in 1841 speaks of two nests of Black-headed Gull he saw on St Mary's', though unfortunately they too fail to provide any reference. Much later, H W Robinson (1925c) described finding a nest with two eggs in the midst of a Common Tern *Sterna hirundo* colony on 2nd June that year, though he too omitted the location. By 29th the nest was still intact and Robinson assumed it had been deserted, but by 12th July it had disappeared. This, he explained, occurred after a gap of some eighty years but the incident seems not to have been repeated as there was no mention of Black-headed Gull breeding in Scilly by the time of a mid-20th century review of breeding birds (Ryves & Quick 1946).

Returning briefly to the 19th century, Clark and Rodd considered it annually common in winter, occasionally appearing in flocks during late spring, also describing a flock of 14 on Tresco's Abbey Green on 25th May 1903, none of which were in breeding plumage. The sole remaining 19th century reference to what may have been this species comes from E H Rodd, who quoted his nephew Frances's report of a strange gull he was unable to identify on the Tresco pools on Christmas Day 1864, the younger Rodd describing it as rather larger than Kittiwake (*Rissa tridactyla*) with very pointed, white-bordered, tern-like 'blue' wings and very rapid flight: 'it might have been a skua, but I do not know'. E H Rodd suggested Black-headed Gull, but it seems apparent that some doubt remains, particularly as Francis must surely have been familiar with this species.

Penhallurick added nothing further to the Scillonian debate but reference to the *IOSBR* for the ten years from 1999 shows a pattern of varying early year numbers, of from just a few to 200–300, most departing by mid-March and leaving just scattered singles until late May. At this time there was normally evidence of a small spring passage, though seldom with more than small groups involved. June was usually marked by the occasional sighting of one to two birds before a noticeable return passage got under way in July, numbers at this time rapidly increasing from small to medium-sized groups to nearer 100. In some years numbers continued to increase into October, by which time individual flock counts in the mid-hundreds are on record. The only co-ordinated all-island counts involved 232 recorded during the two-day late-January 1997 Winter Shorebird Survey, 101 (43%) of which were on Tresco and 90 (39%) on St Mary's (*IOSBR* 1997). Little information is available on Black-headed Gull feeding behaviour in the islands, but on 31st July 1992 a swarm of emerging ants attracted a feeding flock of 150 or more over Hugh Town, St Mary's (*IOSBR* 1992).

In western Europe, Black-headed Gull winters from Iceland, Faeroes, southern Scandinavia and the western Baltic southwards, some reaching Senegal or even the Gulf of Guinea (Cramp *et al.* 1977–94). However, many British birds move only as far as Iberia and are probably replaced in winter by birds from central Europe and the Baltic states (Wernham *et al.* 2002). No Black-headed Gulls have been ringed on Scilly and there are no Scillonian recaptures of birds ringed elsewhere. However, even by the mid- to late 1960s Penhallurick (1969) listed 35 individuals found in Cornwall having been ringed elsewhere in Europe. Countries involved included Larvia (3), Estonia (1), Lithuania (1), Finland (5), Sweden (6), Norway (1), Denmark (3), Germany (7), Netherlands (4) and Belgium (4). This leaves little doubt that Black-headed Gulls reaching west Cornwall, and presumably also Scilly, originate substantially from, or at least pass through, a number of countries to the north or east of Britain. Most birds were recovered between September and March, but included were individuals in June, July and August.

Ring-billed Gull

Larus delawarensis A

Until recently an extremely rare migrant or vagrant, now almost annual. Treated by the BBRC as a national Scarce Migrant, full written description required by the SRP.

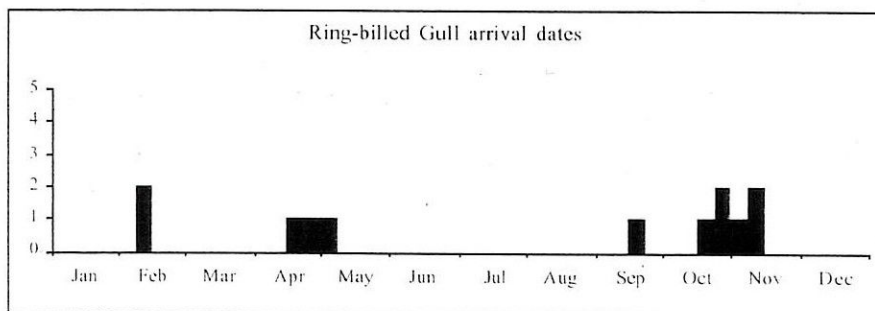
- [1981 One (second-winter) St Mary's 25th November (possibly from early November) until at least 15th February 1982]
- 1982 One (first-year) St Mary's 18th October
- 1987 One (first-year) Porth Hellick, St Mary's 12th & 13th November
- 1990 One (adult) Porth Hellick & Golf Course, St Mary's 10th February to 31st March
- 1990 One (first-year) Porth Hellick & Golf Course, St Mary's 11th February until 8th October

- 1990 One (second-winter) St Mary's 22nd October to 20th December
- 1990 One (second-winter) St Mary's, & Tresco 22nd October to 20th December
- 1991 One Garrison, St Mary's 20th September
- 1996 One (first-winter) St Mary's & Tresco 12th November until perhaps 15th June 1997
- 1997 One (first-summer) Tresco 6th to 10th May
- 1998 One St Mary's Golf Course 19th to 22nd April
- 1998 One (first-winter) Porth Killier, St Agnes 23rd April
- 1999 One (first-winter) St Mary's 2nd to 8th November

Breeds central-northern North America, from British Columbia, Washington and Oregon east through Great Lakes to Gulf of St Lawrence. Two discrete populations, one western interior, the other Great Lakes through St Lawrence River area to coastal New Brunswick. Northerly populations migratory, wintering south into Mexico. Monotypic. Population increasing (Bryant 1997). Removed from BBRC Rarities List January 1988 (Lansdown and the Rarities Committee 1987).

Despite its presence on the islands for some three months, a second-winter individual seen by many observers and well described failed to gain acceptance by the BBRC (*IOSBR* 1981, 1982, 1984). In the light of what followed over the next two decades, however, this record is perhaps now worthy of reconsideration. At first glance, the apparent indiscriminate nature of the 12 accepted arrival dates and the proportion of individuals that remained more than a day or two suggest that these were not migrants. However, closer examination reveals a fairly obvious pattern of October–November autumn arrivals and an equally obvious sprinkling of spring individuals during April and May. In this respect it is interesting to note that Cramp *et al.* (1977–94) considered that the occurrence of long-staying summering individuals probably masked the true pattern of British and Irish arrivals. In any event there seems little doubt this species is destined to become an annual visitor to the islands, if indeed that is not already the case. Interesting, too, was the mix of ages involved in these 12 sightings, although only one was an apparent adult.

A rather different situation exists on mainland Cornwall with an impressive 280 birds recorded since the first sighting in 1979 (*CBWPSAR* 69), at an annual average of 14 over the 20 years. As a consequence, it seems difficult to resist comparing the recent sightings in Scilly and Cornwall with the suggested recent North American population increase (Bryant 1997). Most birds in North America winter in coastal states, though the two populations remain largely separated. In the east it winters from New England south to the West Indies, fewer going as far as Columbia (Cramp *et al.* 1977–94). In autumn, birds commence leaving the breeding grounds from mid-July, initially dispersing randomly across the Great Lakes. And although by September few have reached further south, the intensity of true migration then increases, most having left the Great Lakes by December. Interestingly, in view of the two late-winter Scillonian arrivals, evidence in the form of ringing recoveries suggests that arrivals in southern USA peak during January–February.



A clear indication of the recent level of increase in British and Irish sightings can be gained from Cramp *et al.*, who by 1983 were able to draw on a sample of just 29 records, whereas by the late 1990s Snow & Perrins (1998) cited over 600 such records. The last authors also drew attention to the pattern of late-autumn or winter arrivals in coastal USA and commented that this same pattern of late-year arrival was evident among the 600 or so British and Irish records. However, they too thought the presence of long-staying summering individuals could be masking the fuller picture.

Common Gull

Larus canus A

Migrant and winter visitor in small to moderate numbers.

Breeds northern Eurasia, from Iceland, Britain and Ireland east to Kamchatka and Sakhalin, plus northwest North America. Mainly migratory, in West Palearctic wintering south to France, Baltic Sea and Iran. Polytypic: nominate *canus* occurs northwest Europe to White Sea; *heinei*, or 'Russian Common Gull' western-central Siberia; *kamtschatschensis* northeast Siberia; *brachyrhynchus* or 'Mew Gull' northwest North America. Amber-listed in UK: moderate breeding decline over past 25 years; 50% or more of breeding population at ten or fewer sites; unfavourable European conservation status (Gregory *et al.* 2002). National 4% decline 1994–99 (Bashford & Noble 2000).

There is some confusion in the 19th century Scillonian literature between this species and Lesser Black-backed Gull *L. fuscus*, Gilbert White apparently confusing the two, whereas W H Heaton though it might breed in the islands. The former stated similarly under both species (in Jesse 1887) that 'a few remain all the year round, the greater number leaving in the autumn and returning to their breeding grounds in April'. These remarks are now ideally suited to Lesser Black-backed but somewhat unsuited to Common Gull. Heaton, on the other hand, wrote to the *Zoologist* in 1876 claiming to have Common Gull eggs supposedly taken on Annet that same year and posing the question 'Does the Common Gull breed in the Scilly Islands?' (Heaton 1876). The journal's editor responded robustly remarking that Common Gull was not found in the islands during summer. He also pointed out that it was less common there in winter than several similar species and that Penzance taxidermist Vingoe and 'Mr Rodd', presumably E H Rodd, were equally certain it did not breed in the Land's End district. In fact Vingoe's remarks were based on at least one visit to Annet during the breeding season, at which time no Common Gulls had been observed. E H Rodd had very little to say about this species in Cornwall generally and nothing at all in relation to Scilly, describing it as by no means so plentiful as Kittiwake *Rissa tridactyla* or Black-headed Gull *L. ridibundus*, although going on to state that it was nevertheless not a rare bird in Cornwall and was not infrequently observed inland following the plough (Rodd 1880). Reasons behind Heaton's belief that his Common Gull eggs might have been taken on Annet are unknown, but we do know that enough experienced egg-collectors visited the islands during the 19th and early 20th centuries for them to have noticed this species had it been present. No other commentator apparently makes mention of it and certainly Penhallurick says nothing of even suspect nesting on the Cornish mainland. Similarly there is no mention of it the mid-20th century review of the breeding birds of the islands (Ryves & Quick 1946). The sole remaining early comment comes from James Clark and E H Rodd's nephew Frances Rodd, who thought small winter parties seemed not uncommon, though 'great numbers' appeared during autumn 1863 (Clark & Rodd 1906).

Penhallurick too thought it both a regular passage migrant and winter visitor to the Cornish mainland, believing its status little changed since the previous century (Penhallurick 1969). Nonetheless, the same author found further analysis frustrated by the lack of published numerical data, though it clearly had a rather patchy distribution throughout Cornwall, being seen in numbers of from one or two to as many as 250 or even 600, though a count of 2,400 at St John's Lake, Plymouth, in mid-January was presumably exceptional. Interestingly, Penhallurick found the situation on Scilly rather different, it being far less common, with smaller numbers involved on migration and just single individuals remaining during winter.

Examining the records for the ten years since 1990, we find it was present in every year, arriving in autumn between late July (earliest 24th) and 6th October. Although difficult to prove, there was some evidence of a slight early autumn passage, apparent in 1999 from 13th August until late October, after which it became scarce and only three wintered. This last, though, was unusual and in several winters single-site counts of up to 13–14 were recorded, e.g. 14 on Samson on 5th February 1996 and 13 on Tresco on 25th January 1997. In spring some lingered on until as late as June (one in 1999) though most departed by February or March. A favoured location for this and other gull species is the Morning Point sewerage outlet on St Mary's, where small accumulations of feeding Common Gulls are to be expected under the right conditions. The only all-island survey likely to have recorded this present species was the 1997 two-day late January Winter Shorebird Survey, which nevertheless failed to locate a single individual and only one Common Gull was recorded on St Agnes throughout the whole of 1999, along with one Ring-billed Gull *L. delawarensis*. A mounted skin in the Isles of Scilly Museum on St Mary's forms part of the on-loan Tresco Abbey collection and was presumably shot locally.

No Common Gulls have been ringed on Scilly and there are no recaptures from elsewhere. However, Penhallurick quoted ten Cornish recoveries up until the mid-1960s of Common Gulls ringed overseas, from Sweden (5), Norway (3) and Denmark (2) (Penhallurick 1969). But whilst this suggests a Scandinavian origin for at least some Common Gulls wintering in Scilly, this is clearly not the full picture, as evident from a bird ringed as a nestling in Co. Mayo, Ireland and recovered in Cornwall the following winter.

Nominate *canus* winters primarily in the eastern-coastal North Atlantic, as far as northern and western France but including the North and Baltic Seas, smaller numbers reaching the Mediterranean, particularly during severe winters (Cramp *et al.* 1977–94). Southward movement of autumn adults commences from July with most reaching the Baltic and North Seas by August or September, young birds initially dispersing randomly and moving south later than adults; main return movements occur during March. In discussing winter ringing recoveries of European Common Gulls Cramp *et al.* thought a higher proportion of Swedish than Finnish birds reach Britain and Ireland and that most Norwegian individuals head for the same destination. In contrast, fewer numbers of Danish birds reach Britain and Ireland, a feature apparently borne out by the small sample identified by Penhallurick for mainland Cornwall. British and Irish birds seldom migrate, though 'extensive internal dispersals' can be expected, primarily in a south or southwest direction (Wernham *et al.* 2002). Little is known, still, about the seasonal movements of the larger and darker *beinei* from western-central Siberia; although most are believed to winter from the Caspian and Black Seas south to Iraq and Iran, a few perhaps reaching the Mediterranean, Baltic or further west. However, as Gantlett (1998) points out, its status in western Europe is clouded by the difficulty of certain identification. The North American *brachyrhynchus* winters mainly in the western Pacific and on the face of it seems an unlikely visitor to Britain.

Lesser Black-backed Gull

Larus fuscus A

Summer visitor, migrant and possible winter visitor.

Breeds mainly coastal western Europe and northwest Asia. Mainly migratory, wintering eastern Atlantic south to equator and West Africa – increasing tendency to winter in Britain. Polytypic: *gracellsii*, or 'Western Lesser Black-backed Gull' occurs British Isles, Iceland, France, northwest Spain; *intermedius*, or 'Continental Lesser Black-backed Gull' Denmark, Netherlands, southern Norway; nominate *fuscus*, or 'Baltic Lesser Black-backed Gull' northern Norway, Sweden; *beuglini* and *taimyrensis* further east, as far only as about 100°E. Amber-listed in UK: 20% or more of European breeding population in UK, 50% or more at ten or fewer sites (Gregory *et al.* 2002).

There are currently around 3,600 breeding pairs on about 26 islands, though the bulk of these are on just five islands. Unlike the other two large gull species in Scilly, Lesser Black-backed Gull appears to be maintaining its numbers.

There is some apparent confusion in the 19th century Scillonian literature between this species and Common Gull *L. canus*, Gilbert White apparently confused the two and commented similarly (in Jesse 1887) under both species that 'a few remain all the year round, the greater number leaving in the autumn and returning to their breeding grounds in April'. These remarks suitably describe Lesser Black-backed Gull but are somewhat unsuited to its smaller relative. The only other significant early remark concerning this species seems to be that of James Clark and E H Rodd's nephew Francis who thought it abundant year-round and that it bred in numbers on most of the uninhabited islands (Clark & Rodd 1906). Early 20th century accounts include that it bred in large numbers among other gulls on Annet (H W Robinson 1911a), whilst by 1936 it was noted that outside the islands Lesser Black-backs were more numerous than Herring Gulls *L. argentatus* 'in the escort of drifters', whereas inside the islands their numbers swiftly decreased (CBWPSAR 6). This last comment almost certainly reflects the situation still today, Lesser Black-backs feeding mainly out at sea and being by far the least common of the three large gulls around St Mary's. This last journal remarked the following year that Samson held a 'huge' colony breeding amongst the Bracken *Pteridium aquilinum*, with a smaller colony on Bryher's Shipman Head (CBWPSAR 7), whilst by the mid-1940s Ryves & Quick (1946) were describing it as a common breeder on all suitable islands.

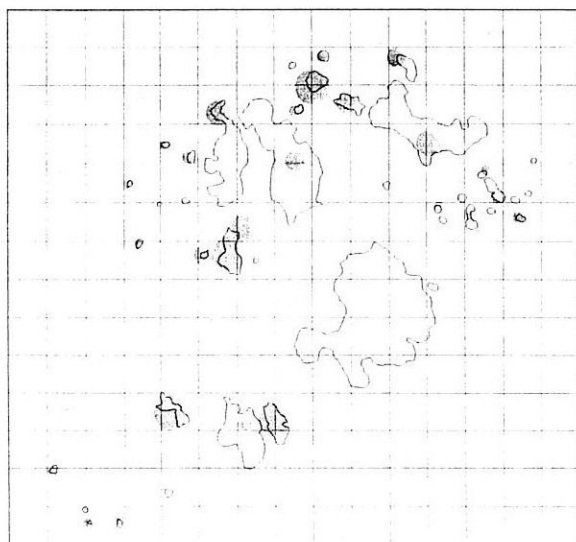
Very few Scillonian records make reference to racial characteristics of individuals involved, though local breeding birds should be *gracellsii*, as should passing migrants from Iceland. A goodly percentage of migrants should also include *intermedius* and *fuscus*, with the possibility even of birds from further east

occurring. Difficult to interpret, however, is the 1940's allegation that 'a considerable proportion' within a 'very large breeding colony' on St Helen's in 1946 were 'Scandinavian Lesser Black-backed Gulls' (CBWPSAR 16), presumably referring to the form *fuscus*. Two years later a comment appears in the same source (CBWPSAR 18) noting that about 400 Lesser Black-backed Gulls were examined – though presumably not in the hand – during 24th–25th July, approximately 5% of which were considered to have mantles darker than *gracillii*. However, according to the author, A G Parsons, the appearance of the spread wing ruled out 'Scandinavian Lesser Black-backed Gull', though a similarity with the 'Danish strain' remained. This remark was presumably intended to attribute these birds to the form *intermedius*, which today breeds in southern Norway, Denmark and the Netherlands. Certainly, no such assertion appears to have been published subsequently and doubt must be attached to these particular records.

The recent marked national trend towards overwintering within Britain is not reflected in Scilly, it being scarce in the islands during winter, first returning birds becoming evident from perhaps late February, though it is unclear if these are local breeders or on passage. Despite initial impressions of chaos, there is a great deal of order within Scillonian gull colonies. Herring Gulls being primarily confined to boulder beaches plus some rocky outcrops, with Lesser Black-backed Gulls occupying areas above the beach and further inland, a feature noted by E H Rodd back in the mid-19th century (Rodd 1880). Only in a few notable exceptions does this order break down and Lesser Black-backs extend down amongst the Herring Gulls, as on Gugh south of Cuckolds Carn, or at Tresco's Gimble Porth.

Islands	Nests	Islands	Nests
St Martin's	58	Gweal	4
Tresco	29	White Island, Samson	27
Shipman Head, Bryher	50	Puffin Island	108
St Agnes	2	Round Island	1
Gugh	1123	St Helen's	530
Samson	1062	Tean & Pednbrose	24
Annet	517	Northwethel	13
Gorregan	1	White Island, St Martin's	28
Rosevean	2	Great Ganinick	2
Great Crebawethan	1	Great & Little Arthur	1
Mincarlo	2	Great Ganilly	9
Maiden Bower	5	Nornour	1
Scilly Rock	2	Menawethan	6

Locations of 3608 Lesser Black-backed Gull Nests – 1999 (Seabird 2000 data)



Lesser Black-backed Gull Breeding Distribution – 1999 (data Seabird 2000)

For a gull that spends most of the day out of sight of land, Lesser Black-backs show a remarkable preference for nesting within, or even beneath dense ground cover, frequently deep inside tangles of bramble *Rubus* and bracken *Pteridium*. Indeed, one surprising feature revealed by the Seabird 2000 count of 1999 was Lesser Black-back's recent withdrawal from areas where vegetation had become suppressed by weather or other actions, as on Annet, and their accumulation now on islands where vegetation has increased, with the consequence that 75% of the population (2,715 pairs) now nests on the three islands Samson, Gugh and St Helen's. Interestingly, of all islands utilised by this species, these three encounter by far the highest levels of human disturbance, but Lesser Black-backs seems unconcerned, being more than capable of deterring the occasional wandering human! As with several seabird species, Lesser Black-backed Gulls are absent from apparently

suitable breeding sites in the Eastern Isles and though reasons for this have still to be determined they may be related to recent levels of Brown Rat *Rattus norvegicus* infestation, which seems certain to at least partially account for their recent desertion of Tean and St Martin's White Island.

Birds begin defending nest sites early in the year but egg-laying is normally delayed until well into May, and can be delayed even further in the event of cold easterly winds, the same feature sometimes resulting in the desertion of newly laid clutches. In normal years there is a gap of around three weeks between the mean laying date for Herring Gulls and Lesser Black-backs. Clutch size is two to three eggs, with a mean of around 2.8. In most years the majority of eggs laid hatch but in years of serious food shortage, for whatever reason, chicks die either soon after hatching or subsequently. As with other large gulls, estimating productivity for Lesser Black-backed Gulls in Scilly is hampered by high chick mobility soon after hatching, particularly in dense cover and the most beneficial method may be counts of large young around the time of fledging.

Lloyd *et al.* (1991) gave 205,000 Lesser Black-backed Gull pairs for Europe (apparently excluding the two most eastern forms) and 64,400 coastal breeding pairs for Britain and Ireland. In comparison, Stone *et al.* (1997) estimated the UK population at 83,000 pairs, which is close to the Gibbons *et al.* (1993) figure of 83,500 pairs for Britain. However, the British population increased by 46% during the period 1994–99 (Bashford & Noble 2000), in which case it may now be in the order of 93,000 to 120,000 coastal pairs. Though a reliable up-to-date figure will only become available once national Seabird 2000 results have been published.

However, using the Lloyd *et al.* 1991 figure of 64,400 pairs, the 1999 Scilly Seabird 2000 all-island count of 3,608 pairs represents 5.6% of the British and Irish population, use of the Gibbons *et al.* 1993 figure suggests 4.3%, whilst the possible current upper limit of 120,000 pairs still means Scilly holds 3%. Either way it seems clear that Scilly holds a measurable proportion of the British breeding total. Gibbons *et al.* also suggested that Lesser Black-backed Gull is fast disappearing as a breeding species in north Norway, in which case any recent British increases seem likely to be balanced by losses elsewhere in Europe. Calculations based on the figure of 230,000–250,000 pairs (Heath *et al.* 2000) for all European countries, indicate Scilly may hold some 1.5% of the overall European breeding population.

Numbers of breeding Lesser Black-backed Gulls recorded during various all-island surveys and on Annet are shown in the Charts, Annet totals are mainly based on nest counts whereas all-island counts were an alleged between-year mix of nests and pairs. Between-year variation in numbers on Annet is perhaps difficult to explain, but may partly relate to vegetational changes, as in 1976, when a two-thirds reduction in breeding pairs over two years was mainly thought attributable to a temporary loss of tall plants, e.g. Bracken, resulting from two particularly dry summers (Allen 1976). The more recent, late 1990s reduction is perhaps explained by a redistribution of pairs either to Samson, Gugh or St Helen's, again apparently attributable to a loss of tall vegetation caused by winter wind and salt damage (pers. obs.) and was not mirrored by comparable reduction in the all-island total. Looking at the all-island situation, it seems obvious that Lesser Black-backed Gull is maintaining its status within Scilly, regardless of marked declines in Herring and Greater Black-backed Gulls *L. marinus*.

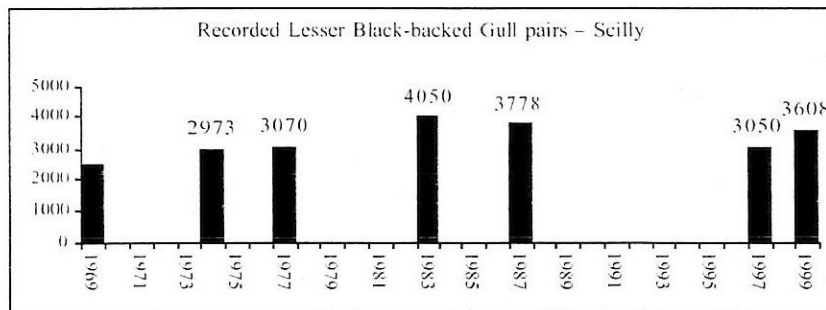
The most recent winter count involved the two-day late January 1997 Winter Shorebird Survey (Lock 1999), when 636 were recorded throughout the main islands. Of these, 328 (51%) and 283 (44%) respectively were on Samson and Tresco. Lock suggested that the January 1997 figures might be internationally significant, the individual site criterion having since been set at 400 individuals. However, the timing of the 1997 survey means some early returning birds may also have been involved.

A total of 1,423 Lesser Black-backed Gulls had been ringed on Scilly up until 1999, 719 prior to 1970 and 704 since then. Perhaps more than any species involved in local ringing programmes, Lesser Black-backed Gull demonstrates the value of such work in helping to answer difficult but nonetheless important questions on long-term population dynamics. For example, birds ringed by St Agnes Bird Observatory volunteers as pulli on Annet in 1966 are known to have been alive and presumably breeding on the same islands until at least 1995, almost 30 years later. More recently, young from several islands, identifiable by engraved coloured plastic rings, have demonstrated a marked and quite rapid first-winter dispersal to the coasts of Portugal and Spain, some arriving before the end of August, at least one first-year moving on down to coastal Morocco by November. Some, however, apparently go no further south than Brittany and there is even a strong suggestion many young birds, perhaps even most, spend their first full summer around the coast of northern France. However, one problem with colour-ringing in Scilly is the relative

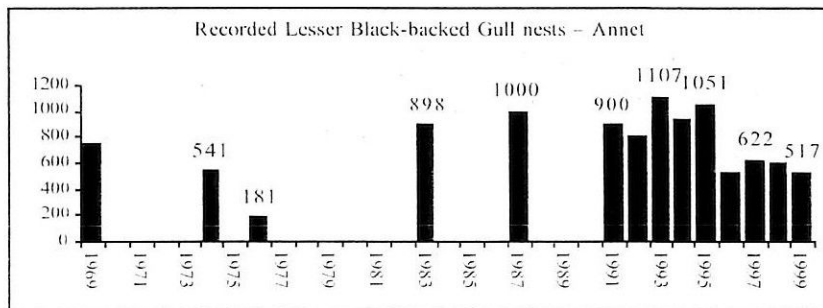
absence of any intensive gull-watching effort during summer, plus obvious difficulties associated with trying to prove the presence of rings on birds breeding in deep vegetation.

So far, birds up to three years of age have been sighted in Spain, Portugal and Morocco in winter, though fewer of greater age from the study are available yet for reporting. In recent years, limited attention has been paid to July and August accumulations of Lesser Black-backed Gulls on Annet's west coast, with a number of colour-ringed adults originating from the Bristol Channel colonies, presumably involving birds moving south. Of considerable interest are the number of recoveries resulting from birds ringed in Scilly during the early 20th century, first of which was a bird ringed on Rosevear in July 1914 and shot in Portugal in December that same year.

Western European populations, i.e. *gracillii* and *intermedius*, winter coastally south to the equator, a few also enter the western Mediterranean, whereas nominate *fuscus* moves mainly south or southeast, overland to the Black Sea and eastern Mediterranean, some continuing into eastern Africa. Western European birds begin leaving the breeding colonies from late July, some reaching Iberia by August, though most movement occurs during September. There is a marked tendency for British and Irish first-winter birds to move further south than adults, and some 80% of African recoveries involve this category (Cramp *et al.* 1977-94; Wernham *et al.* 2002). This no doubt explains how adults are able to commence reappearing in Scilly from at least mid-February. Interestingly, Baker (in Cramp *et al.*) suggested that adults undertaking a long migration are perhaps disadvantaged in their competition for nesting territories and are therefore wintering closer to the breeding sites. The BOURC is investigating reports of British *fuscus* records based on recoveries of birds ringed in Scandinavia (BOURC 2002a).



Data Sources: 1969 = Lloyd *et al.* 1991; 1974 = Allen 1974-77; 1977 = Allen 1974-77; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1997 = Wagstaff 1997; 1999 Scabird 2000 - unpublished data.



Data Sources: 1969 = Lloyd *et al.* 1991; 1974 = Allen 1974-77; 1976 = Allen 1974-77; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1991 = W Wagstaff pers. comm.; 1992 = P J Robinson 1992b; 1993 = P J Robinson 1993; 1994 = P J Robinson 1994; 1995 = P J Robinson 1995a; 1996 = Wagstaff 1996; 1997 = Wagstaff 1997; 1998 = P J Robinson 1998; 1999 = Scabird 2000 - unpublished data.

Controls

GK15863	Pul	Skokholm, Pembrokeshire	9th July 1975	FD	Annet 13th April 1982
GG24625	Pul	Skomer Island, Pembrokeshire	4th July 1987	FD	Annet 25th May 1993
CR	Pul	Skomer Island, Pembrokeshire	1985	FR	St Agnes 11th June 1996

Gulls

?	Pul	Skomer Island, Pembrokeshire 1986	FR	St Agnes 11th June 1996
			FR	Annet 17th July 1996
?	Pul	Skomer Island 1984	FR	Annet 18th July 1996
?	Pul	Skomer Island 1990	FR	Gull Point, Gugh 28th July 1996
Selected Recoveries				
?	?	Rosevear 16th July 1914	SH	Fao, Minho, Portugal December 1914
?	?	Annet 21st June 1923	?	Caperica, Lisbon, Portugal 28th September 1924
?	?	Gugh 8th July 1924	SH	Aiguillon sur Mar, Vendee, France 9th May 1925
?	?	Samson 2nd July 1959	SH	Olhao, Algarve, Portugal 12th January 1961
AJ68046	Pul	Annet 26th June 1962	FI	Linea de la Concepcion, Cadiz, Spain 10th January 1963
GM13817	Pul	Annet 4th July 1966	FD	Annet 14th May 1992
GM13987	Pul	Annet 7th July 1966	FD	Annet 6th June 1995
GF23896	Pul	Samson 4th August 1993	FD	Sale, Morocco 16th February 1996
GA07232	Pul	Gugh 9th July 1996	FR	Viana Do Castelo, Minho, Portugal 20th October 1996
			FR	Figueira Da Foz, Beira Litoral, Portugal 7th October 1997
GF41318	Pul	Gugh 4th July 1994	FR	Casablanca, Morocco 25th February 1997
GA07214	Pul	Gugh 9th July 1996	FR	Ille de Re, France 30th June 1997
			FR	Portes de Re, France 30th June 1997
			FR	Ille de Re, France 11th September 1997
			FR	Ille de Re, France 15th July 1998
			FR	Les Portes de Re, France 18th July 1998
GA07233	Pul	Gugh 9th July 1996	FR	Marrais D'Olonne, Vendee, France 28th May 1998
			FR	Marrais D'Olonne, Vendee, France 4th June 1998
			FR	Figueira da Fos, Portugal 19th October 1998
GF41308	Pul	Gugh 4th July 1994	FR	Beira Litoral, Portugal 5th November 1999

Lesser Black-backed Gull Ringing Recaptures

Herring Gull

Larus argentatus A

Breeding resident plus probable migrant and winter visitor. A full written description is required by the BBRC in the case of all *smithsonianus* records.

Smithsonianus Records

- 1997 One (first-summer) St Mary's 18th December 1997 to at least 6th April 1998
British Birds 91: 479
- 2002 One various islands 30th January to 17th February *Birding World* 15: 52
- 2002 One various islands from 6th February, dead Tresco 28th *Birding World* 15: 52
- 2002 One various islands 25th to 28th February *Birding World* 15: 52
- 2002 One (first-winter) Bryher 29th November *Birding World* 15: 446

Circumpolar, breeding coastal West Palearctic through central Asia to 120°E, also northeast Asia, Canada and northeast USA. Dispersive, northern birds move south in winter. Polytypic: nominate *argentatus*, or 'Scandinavian Herring Gull' occurs Denmark and Scandinavia; *argentatus* Iceland, Faeroes, British Isles, western France and North Sea coasts to western Germany; *smithsonianus*, or 'American Herring Gull' (a

probable pending split), North America and northern Siberia. Until recently Herring Gull was widely accepted as comprising three groups, i.e. '*cachinnans*', '*armenicus*' and nominate '*argentatus*' (Cramp *et al.* 1977–94; Collinson 2001b). Increasingly, however, authorities have treated *cachinnans* and *armenicus* groups as a full species, 'Yellow-legged Gull', but more recently this group too is being split even further (see Yellow-legged Gull). The form *smithsonianus* is undergoing consistent North American population decline (Bryant 1997), as are western European forms. Amber-listed in UK: probably greater than 50% breeding decline over past 25 years; 50% or more of breeding population at ten or fewer sites (Gregory *et al.* 2002). National 17% decline 1998–99 (Bashford & Noble 2000).

About 900 pairs currently breed on 34 islands, making this the second most widespread breeding seabird in Scilly after Great Black-backed Gull *L. marinus*. Nevertheless, it has undergone a 60% decrease in Scilly generally since 1974 and an eleven-fold decrease on Annet since 1960. Numerous bone remains unearthed from the prehistoric site on Nornour in the Eastern Isles were thought to include those of young gulls *Larus* (Turk 1984b). And though they could not be identified specifically these presumably involve one or other of the three large gulls currently breeding in Scilly.

Herring Gull was not often referred to by early writers, E H Rodd's only contribution being mention of his nephew Francis seeing a large flock on Tresco's freshwater pools on Christmas Day 1864 (Rodd 1880). Gilbert White thought a few remained all year, though the greater number left during autumn and returned to their breeding grounds in April (in Jesse 1887), a comment White nonetheless applied to several gull species, not all of which bred in Scilly. However, by the start of the 20th century, James Clark and Francis Rodd considered it abundant year round and breeding in great numbers on most uninhabited islands (Clark & Rodd 1906). First published breeding account apparently involved H W Robinson's 1911 observation of a nest with five eggs on Melledgan on 22nd May (H W Robinson 1911b). This was followed some years later by a note of 'a few' breeding on Bryher's Shipman Head, plus 'a large colony' on what was described as Stony Beach, Samson (CBWPSAR 7). Nonetheless, by the mid-1940s it was being described as an abundant breeder (Ryves & Quick 1946).

According to Lloyd *et al.* (1991), numbers of Herring Gulls breeding in Britain increased by an estimated 10–13% annually from at least the 1940s until the mid-1970s, and Parslow (1967a) noted that it had increased widely, especially during the preceding 20 years. However, between the national surveys of 1969–70 and 1985–87, many populations decreased by more than 50%, this being reportedly more pronounced in western Scotland and western England. Unfortunately, there is only one pre-1974 Scillonian Herring Gull count, though the decline from that point on fits the national picture. Reasons for these late 20th century declines are complex but are mainly thought attributable to changes in the disposal of human waste, and to changes within the fishing industry, though Lloyd *et al.* thought that human persecution may also have played a role. Overall, though, numbers of Herring Gulls breeding in Britain and Ireland fell by around 40% between the two national surveys (Lloyd *et al.* 1991). However, without knowing more about the movements of adult Herring Gulls, particularly during winter, it may be difficult determining what the controlling factors are in relation to the Scillonian population. Yet, although local changes in waste disposal seem an unlikely cause, recent changes to the Cornish fishing industry may perhaps be relevant.

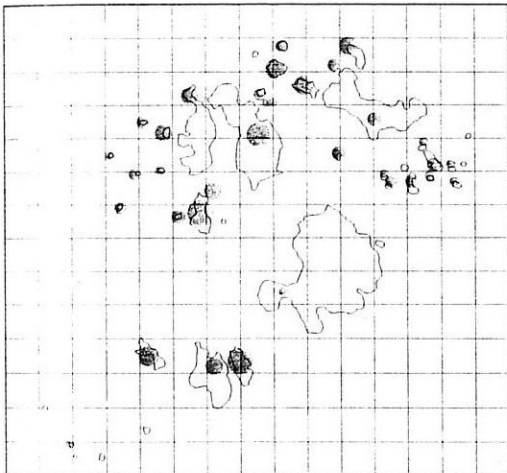
During the Seabird 2000 survey, 903 pairs of Herring Gulls were found breeding on 34 islands or rocks in 1999. Main concentrations were on Samson (184 – 20.3%), Gugh (159 – 17.6%) and Tresco (102 – 11.2%), the least number encountered being single nests on bleak Maiden Bower and precipitous Castle Bryher. Lloyd *et al.* (1991) concluded that the Scillonian Herring Gull population comprised some 16% of the total for southwest England, but that percentage may now have decreased.

As observed under Lesser Black-backed Gull *L. fuscus*, despite initial impressions of chaos there is a great deal of inter-specific order within Scillonian gull colonies. Herring Gulls are primarily confined to boulder beaches, or occur on some rocky outcrops extending inland from the beaches, whilst Lesser Black-backs mainly occupy areas above the beach and further inland. Even so, a few Herring Gull pairs are often found mixed with Lesser Black-backs away from main Herring Gull concentrations, as on Annet, St Helen's or Samson, where there is perhaps one pair of Herring Gulls in every two or three hundred Lesser Black-back pairs. This feature is easily accommodated during any survey once observers are familiar with differences in the calls of Herring and Lesser Black-backs, or with subtle differences in eggs of the two species.

During the early 1990s, productivity checks were carried out in the Herring Gull colony at Gull Point, Gugh. Mean clutch size was found to be in the region of 2.7 eggs, whilst during an average year pairs fledged about 0.53 young per total number of nests, or just over one chick per successful nest (P J Robinson

Island	Nests	Island	Nests
St Mary's	2	Round Island	8
St Martin's	18	St Helen's	64
Tresco	102	Tean & Pednbrose	62
Shipman Head, Bryher	23	Northwethel	10
St Agnes	25	Foremans Island	5
Gugh	159	Crow Island	3
Samson	184	Plum Island	6
Annet	42	White Island, St Martin's	34
Rosevear	2	Guther's Island	18
Mincarlo	6	Great Ganinick	2
Illiswilgig	8	Little Ganinick	6
Maiden Bower	1	Great & Little Arthur	8
Castle Bryher	1	Ragged Island	9
Scilly Rock	10	Great Ganilly	13
Gweal	15	Nornour	3
White Island, Samson	15	Great Innisvoulis	3
Puffin Island	31	Menawethan	5

Locations of 903 Herring Gull Nests – 1999 (Seabird 2000 data)



Herring Gull Breeding Distribution – 1999 (data Seabird 2000)

number of reports in recent years have referred to the appearance in the islands of yellow-legged individuals, treated here as a full species (see Yellow-legged Gull). Away from the colonies, co-ordinated counts have been few and in recent years were confined to the two-day late January 1997 Winter Shorebird Survey, when a total of 1,765 would have omitted Herring Gulls feeding away from tidal areas (Lock 1999). The species was fairly evenly distributed over four islands, Bryher, St Mary's, Tresco and Samson, these accounting for 443, 392, 366 and 352 respectively, whereas St Martin's and St Agnes scored 108 and 104 respectively. Other than this, counts have typically been random, as in 1994 when 100 plus were in Porth Cressa during January, with 300 on St Agnes and 265 on Tresco during October, the St Agnes figure reducing to 200 by mid-November. The greatest number recorded in one place, at least in recent years, probably involved 500 or so attending a trawler in The Roads for two days during December 1995. Although such figures may not be particularly helpful in determining the size of the non-breeding population, the species received even less attention in some years, to the point even of not being mentioned at all.

Little, too, has been published on the feeding behaviour of Herring Gulls in Scilly, though a report of them eating swedes during the severe weather of early 1963 perhaps demonstrates their adaptability

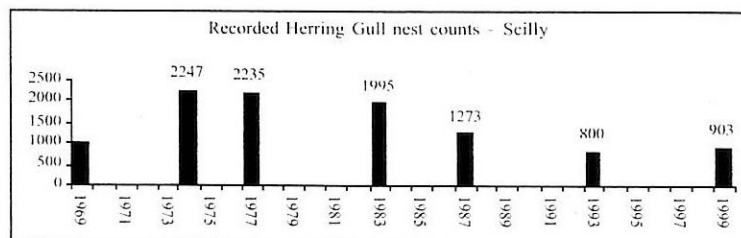
unpublished data). From this it was assumed that causes of any decline in Scilly were probably unconnected to breeding success. Since at least 1995, up to three or four pairs of Herring Gulls have been nesting or showing obvious signs of doing so, e.g. copulating, undergoing site selection, and rudimentary nest building, on rooftops in Hugh Town on St Mary's, and young have been fledged in at least two years, very possibly more (Wagstaff 1996; P J Robinson 1998). The level of such activity seems certain to increase within Hugh Town, as indeed it has at numerous other rooftop colonies throughout Britain. The closest such sites to Scilly are in St Ives, Newlyn and Penzance, all in west Cornwall, in which area large gulls were first recorded nesting on rooftops from about 1950 (Cramp 1971).

As with Lesser Black-backed Gull, little seems to have been published on the racial status of Herring Gulls involved in Scillonian sightings, except that a

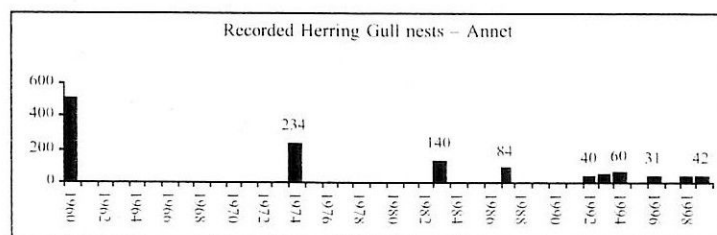
Birds of the Isles of Scilly

(CBWPSAR 33). By mainland standards, rubbish disposal sites are difficult to come by in Scilly now most human waste on St Mary's is incinerated, a factor reflected in the small number of Herring Gulls now frequenting 'The Dump' area. A few though still utilise the sewage outfall at Morning Point, St Mary's and up to about 50 regularly frequent the Hugh Town area in search of food provided by islanders and visitors alike. However, the vast majority of Herring Gulls in Scilly continue to feed along the intertidal zone and in adjacent areas and therefore seldom come into direct contact with humans. Young (1987) described an individual Herring Gull that specialised in feeding on Rabbits *Oryctolagus cuniculus* inside Jersey Zoo, but this behaviour seems not to have been recorded in Scilly, despite the presence of a widespread Rabbit population, including on some islands frequented by breeding gulls. However, it is noticeable that on islands with high concentrations of breeding gulls, e.g. Annet, or Samson, Rabbits seem disinclined to show themselves during daylight, although if this is a consequence of gull predation then Lesser and Great Black-backed *L. marinus* offer a more probable explanation.

An unusually dark first-winter *smithsonianus* or 'American Herring Gull' frequented St Mary's from 18th December 1997 until at least 6th April 1998 (see Table). It remained mainly in the Porth Mellon and Dump areas and because its presence in Scilly coincided with the discovery in Hugh Town of a putative Spotless Starling *Sturnus unicolor*, it was seen by many birders. The *smithsonianus* record was accepted by the BBRC as the fourth for Britain, the subspecies having been added to the BOU's Category 'A' on the strength of a bird in Ireland during November–December 1986 (BOURC 1992) and onto the British list via a bird in Cheshire during February–March 1994 (*Ibis* 139: 197). During February 2002, three reported first-winter *smithsonianus* frequented Scilly, one of which was found dead on Tresco (*Birding World* 15: 51, 106–110). First-winter 'American Herring Gull' plumage is normally distinctive, but less obvious individuals are nonetheless liable to be overlooked and Millington & Garner (1998) emphasised the likelihood of adult *smithsonianus* being overlooked among flocks of mixed-age large gulls *Larus*. The northern *argentatus*, or 'Scandinavian Herring Gull' must surely pass through the islands, or even winter, but if so the topic seems to have received little attention.



Data Sources: 1969 = Lloyd *et al.* 1991; 1974 = Allen 1974–77; 1977 = Allen 1974–77; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1993 = P J Robinson 1993; 1999 Seabird 2000 – unpublished data.



Data Sources: 1960 = Allen 1974–77; 1974 = Allen 1974–77; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1992 = P J Robinson 1992b; 1993 = P J Robinson 1993; 1994 = P J Robinson 1994; 1996 = Wagstaff 1996; 1998 = P J Robinson 1998; 1999 Seabird 2000 – unpublished data.

The current national status of the Scillonian Herring Gull population will only become clear following publication of the Seabird 2000 results. However, at the time of the 1987 estimate of 190,900 British and Irish pairs (Lloyd *et al.* 1991), Scilly held less than 1% of the national population, whereas using Stone's UK figure of 180,000 pairs produced a very similar result (Stone *et al.* 1997). In Britain, Herring Gulls are

widely distributed both coastally and inland during winter, ringing studies revealing that a large percentage of birds wintering south as far as the Home Counties are *argentatus* from northern Europe (Wernham *et al.* 2002). Within Britain, birds gravitate towards main gull wintering areas (mostly coastal) after breeding, with some southward drift among more northern populations (P Lack 1986). Ringing data show a clearly increased tendency for birds from southwest England to reach northwest France during winter than those from elsewhere in England or Ireland (Wernham *et al.* 2002). A total of 1,073 Herring Gulls had been ringed in Scilly up to the end of 1999, the 854 (79%) prior to 1970 doubtless reflecting its greater availability at that time. The Table, which shows a selection of known Scillonian-ringed controls and recoveries but omits local movements, suggests a south and east movement of Scillonian birds, though only as far as Cornwall or France, the single control from France involving a bird ringed in northwest Brittany the previous autumn. Some of the controls support the known southward movement of more northerly birds, though the Scillonian-ringed individual in Norfolk three years later is noteworthy.

Controls

?	Ad	Brest, France	17th October 1956	FD	Scilly	17th April 1957
AJ2025	Pul	Lundy, Devon	14th June 1958	?	St Mary's	17th February 1963
AJ96961	Pul	Bodorgan, Anglesey	5th July 1963	FD	St Agnes (spring)	1964
?	Pul	Isle of May, Firth of Forth	1967	?	Porth Cressa, St Mary's	28th September 1977
GF41209	Pul	Sanda Island, Kintyre	30th June 1994	FR	Porth Cressa, St Mary's	8th October 1994

Recoveries

AF3237	Pul	Scilly	6th July 1952	FD	Piriac, Penistin, Morbihan, France	23rd April 1954
AJ68060	Pul	Annet	26th June 1962	FI	La Barra de Monts, Vendee, France	3rd December 1962
AJ68275	Pul	Gugh	24th June 1963	?	Newlyn, west Cornwall	2nd December 1963
AJ88102	Pul	Gugh	1st July 1964	?	St Ives, west Cornwall	26th September 1964
AJ88123	Pul	Annet	12th July 1964	FI	La Turballe, Loire-Atlantique, France	1st November 1964
?	?	Annet	30th June 1963		Old Great Yarmouth, Norfolk	27th February 1966
GF4129-	Pul	Gugh	3rd July 1994	FR	Par Sands, Cornwall	20th February 1995
GF41212	Pul	Gugh	27th June 1994	FI	Hayle, west Cornwall	16th June 1995
GA09929	Pul	Gugh	29th June 1998	FD	Plymouth, Devon	19th February 1999

Selected Herring Gull Ringing Recaptures

Yellow-legged Gull

Larus michahellis A

Rare migrant or winter visitor, full written description required by the SRP.

Still considered by some authorities as part of the Herring Gull *L. argentatus* complex, this largely recognisable group is increasingly viewed as a species in its own right (Collinson 2001b) and may perhaps soon be further split. Breeds West Palearctic from France south and eastwards through Mediterranean and Black Sea, migratory or dispersive. Polytypic: *atlantis* occurs Azores, Madeira and Canary Isles; *michahellis*, or 'Western Yellow-legged Gull' western France, western Iberia, Morocco and into Mediterranean; *armenicus*, or 'Armenian Gull' Armenia, eastern Turkey and western Iran. Opinions vary on wisdom of also including *cachinnans*, or 'Caspian Gull' and perhaps three additional forms of large white-headed gulls (Cramp *et al.* 1977-94; Collinson 2001b).

A small number of darker-mantled Herring Gull-type large gulls with yellow or yellowish legs are reported most years and are normally accepted as *michahellis*, or what is now generally referred to as 'Western Yellow-legged Gull'. Nevertheless, assessing numbers of individuals involved is often confused by

Birds of the Isles of Scilly

long-stayers plus inter-island movements, for example a total of about twenty sightings during 1999 were thought to have involved perhaps just four individuals. However, it should also be borne in mind that a minute percentage of Herring Gulls do have yellow legs (Garner *et al.* 1997; Jonsson 1998). A typical year for Yellow-legged Gull sightings was 1996, commencing with one at the Tresco rubbish dump for two days during early January and another at nearby Gimble Porth on 24th March. These were followed by an adult at Lower Town, St Martin's, on 2nd April, this same individual possibly accounting for sightings from St Agnes and then Tresco's Great Pool on the 8th. Four more Tresco reports followed, on 27th April, 7th and 16th July and finally on 12th October, though the actual numbers of birds involved was impossible to ascertain. The form *cachinnans* is also a rare visitor to Britain most winters and so could occur in Scilly (Gantlett 1998). A presumed *michahellis* was seen apparently paired with a Herring Gull on Gugh early in spring 1992 (pers. obs.) but was not relocated subsequently. Early Scillonian records of Yellow-legged Gull in Scilly include one to two on St Mary's during late September and mid-October 1972 and what was presumably one of these two from 21st to 31st October.

Iceland Gull

Larus glaucoides A

Regular migrant or winter visitor, full written description required by the SRP.

- 1852 One (first-winter – shot) Bryher Rodd 1852b
- 1884 Oliver's Castle, Tresco 1884 Clark & Rodd 1906
- 1885 One Tresco infant school 25th February Clark & Rodd 1906
- 1890 One 'Scilly' 1st December Clark & Rodd 1906
- 1923 One St Mary's wintered until 9th May Penhallurick 1969
- 1951 One (adult) St Mary's 28th April
- 1965 One Tresco 12th February
- 1967 One (first-winter) St Mary's 3rd November
- 1969 One (adult) St Agnes 8th October
- 1974 One (first-year) Harbour, St Mary's February to mid-summer 1975
- 1974 One (second-year) Harbour, St Mary's February to end of May
- 1974 One (adult) St Agnes 27th & 28th October
- 1980 One Porth Hellick, St Mary's 3rd February
- 1981 One (second-winter) Harbour, St Mary's 29th January
- 1981 One (second-year) Burnt Island, St Agnes 24th May
- 1982 One (second-winter) Bant's Carn & Porthloo, St Mary's 6th to 8th February
- 1982 One Porth Cressa, St Mary's 'end of year'
- 1983 One (second-year) St Mary's 6th to 27th February
- 1984 One (first-year) St Mary's 19th to 21st January (dead 22nd)
- 1987 One (first-winter) St Agnes & St Mary's 16th October
- 1990 One (first-winter) Porth Cressa, St Mary's 2nd & 3rd February
- 1990 One (first-winter) Porth Hellick & Porthloo, St Mary's 30th & 31st December
- 1990 One St Martin's & Tresco 30th December to 10th February 1991
- 1991 One various islands 16th to 20th October
- 1992 One (first-winter) Annet 14th May
- 1993 One from RMV *Scillonian III* 13th October
- 1994 One (first-winter) Tresco & St Mary's 15th January to 16th May
- 1994 One Hugh Town, St Mary's 4th to 27th April
- 1996 One (first-winter) Porth Hellick, St Mary's 16th January to 4th March
- 1996 One (second-summer) St Agnes & Tresco 22nd May
- 1997 One (first-winter) Porth Cressa, St Mary's 12th to 16th February
- 1997 One (adult) St Mary's 18th February to 30th March
- 1997 One (first-winter) Daymark, St Martin's 6th March
- 1998 At least one (first-winter) St Mary's 2nd January to 8th May
- 1999 One (adult) Porth Mellon & Porthloo, St Mary's 8th February
- 1999 One (second-winter) Rocky Hill, Airport and Porth Cressa, St Mary's 1st to 6th December

'Kumlien's Gull' Records

- 1994 One St Mary's 30th March to 4th June IOSBR 1994
 1998 One (possibly two) St Mary's 2nd February to 19th March

IOSBR 1998; *Birding World* 11: 86

Breeds south and west Greenland and northeast Canada. Migratory or dispersive, moving south in Atlantic during winter to line from British Isles to Carolinas in eastern USA. Polytypic: nominate *glaucoides* occurs Greenland and, recently, Novaya Zemlya; *kumliceni*, or 'Kumlien's Gull' northeast Canada. Some authorities treat closely related Thayer's Gull *L. thayeri* of central-northern Canada as form of Iceland Gull *L. g. thayeri*, whilst some also consider *kumliceni* a hybrid population between *glaucoides* and *thayeri* (e.g. Boertman - *British Birds* 94: 547-548).

First published mention of Iceland Gull in Scilly came in E H Rodd's letter to the *Zoologist* of 1852, entitled 'Occurrence of Iceland Gull (*Larus Islandicus*) at Scilly', in which he drew attention to the shooting of a specimen in the islands during the latter part of May or beginning of June that year (Rodd 1852b). He later mentioned that the bird had been in immature plumage and was shot by the Rev J H Jenkinson, describing the upperparts as 'dull white, with occasional broccoli-brown markings, the smaller webs of the quill feathers being also of a pale brown; the rest of the plumage being entirely white' (Rodd 1880). On mainland Cornwall Rodd described it as reasonably frequent in occurrence, though he knew of only four or so specimens obtained up until 1880. Clearly though, the situation changed on Scilly towards the close of the 19th century, James Clark and E H Rodd's nephew Francis mentioning three more in the islands by 1890 (Clark & Rodd 1906), also clarifying that Jenkinson's 1850's individual had been obtained on Bryher. First of the additional Scillonian records was shot by Tresco gamekeeper David Smith near Oliver's Castle at the northern end of Tresco Channel in 1884 and the next near Tresco infants school on 25th February 1885, whilst the last, a probable adult, was seen at an unnamed location on 1st December 1890.

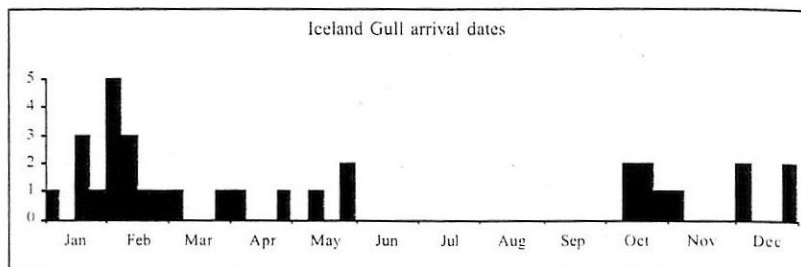
Checking through earlier records, Penhallurick (1969) found just four 20th century Scillonian records up until the mid-1960s and only 10 for mainland Cornwall, suggesting, with apparent justification, that in Cornwall it was far scarcer than Glaucous Gull *L. hyperboreus*. Of the two Scillonian birds that were aged, one was an adult and one a first-year, and only one of the four possibly overwintered.

Taking the ten years from 1990, Iceland Gull was recorded in all except 1995, with the majority of sightings falling in the second winter period. However, during the 15-year period prior to the 1990s it arrived in only six years and in substantially fewer numbers. The Table shows all published Iceland Gull records up until 1999 and clearly demonstrates how much more frequent it has become since about 1980. Reasons for this increase are unclear and it may be more apparent than real, among other things perhaps reflecting increased observer coverage, apart from which it may also reflect an increased interest in gull identification in Britain generally. The Chart incorporates all 31 recorded arrival dates plus the two 'Kumlien's Gulls'.

The not always so easily identifiable 'Kumlien's Gull' from northeast Canada has been identified at least twice (possibly involving three individuals) in Scilly since 1994 (see Table), the first British record dating from 1869 and involving a bird killed in Shetland in late November (BOURC 1997; Palmer 2000). In addition, the closely related North American Thayer's Gull, which some authorities, e.g. Snow & Perrins (1998), treat as a form of Iceland Gull, *L. g. thayeri*, has occurred in Ireland (McGeehan & Millington 1998). So it is certainly worth bearing in mind the possibility of these two forms/species when confronted by any *glaucoides*-type individual. For useful reading on the identification of Kumlien's Gull see Garner *et al.* (2000).

Greenland populations of the low-arctic breeding nominate *glaucoides* are mainly migratory, the majority of eastern birds probably wintering along Iceland's northern coasts, where they arrive from late September, and depart again for their breeding grounds by late April (Cramp *et al.* 1977-94). However, each winter small numbers reach further south, including the Faeroes, Britain and Ireland, a few subadults remaining in more southerly latitudes after the adults depart in spring. The Canadian 'Kumlien's Gull' winters along the coasts of northeast North America, from Hudson Bay to at least Long Island and inland as far as the Great Lakes. Recent stragglers have been noted in Britain, Ireland, Denmark and Sweden (Snow & Perrins 1998). Thayer's Gull, which also bears some resemblance to Herring Gull *L. argentatus*, breeds in northwest Greenland and arctic Canada and winters primarily in west-coast North America south as far as California, though some can be found annually in mid-western and eastern coastal states south to Texas and Florida. Interestingly, Thayer's Gull breeds closer to Britain than Franklin's Gull *L. pipixcan*, for which there were 40 British records up until 1999 (McGeehan & Millington 1998). Thus all populations are likely to come in contact

Birds of the Isles of Scilly



with each other at some time. For further reading on the identification of first-winter Kumlien's Gull see Garner *et al.* (2000). No Iceland Gulls have been ringed on Scilly and there are no recaptures from elsewhere.

Glaucous Gull

Larus hyperboreus A

Scarce annual migrant or winter visitor, full written description required by the SRP.

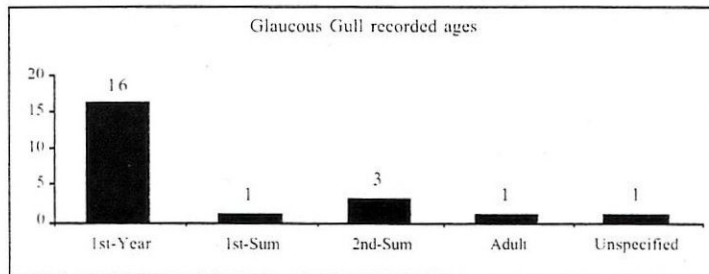
Circumpolar, breeding edge of the Arctic Ocean from southern Barents Sea east through extreme northern Asia, Alaska and Canada to Greenland, including Iceland, Spitsbergen and Novaya Zemlya. Polytypic: nominate *hyperboreus* occurs Eurasia and North America; *barrovianus* Alaska; *pallidissimus* eastern Siberia. Classification of paler Icelandic and Greenland birds questionable, perhaps as separate *leucocetes* or 'Greenland Glaucous Gull' (Gantlett 1998).

E H Rodd made no mention of Glaucous Gull in the islands but knew it as an occasional visitor to mainland Cornwall at irregular intervals, pointing out that a 'fine large bird of this species' in his collection was obtained in Mount's Bay, west Cornwall, during early April 1872 (Rodd 1880). According to James Clark and E H Rodd's nephew Francis, first and second Scillonian records involved a young female shot at Pentle Bay, Tresco, by veteran gamekeeper David Smith in 1874, and one shot by T A Dorrien-Smith at Carn Near, also Tresco, in 1885 (Clark & Rodd 1906).

Surprisingly, Penhallurick (1969) could trace only ten records of this species on Scilly up until 1967, latest dates being 16th May and 16th June. Unlike mainland Cornwall, where all records at least until the mid-1960s involved single individuals, on Scilly up to three birds had been recorded as being loosely associated, as on Tresco in May 1924. The most recorded in any one year appears to have been seven during early 1967, the earliest being an immature on St Mary's on 20th January and the last two seen off the Western Isles on 29th March.

Since the mid-1970s, Glaucous Gull has become almost annual on Scilly, though occurring during spring in just six of the ten years since 1990, though in two cases birds still present from the previous autumn were involved. In autumn, it appeared in seven years since 1990, with 14 birds occurring at an average of 1.4 per year for the full ten years. The latest obvious spring departure date was 10th May, though a first-winter individual on St Helen's for one day in mid-June 1999 was also presumably moving through the islands. The earliest autumn arrival date was 26th September, though in some years none arrived until December. Interestingly, three out of four that arrived during December were the only individuals remaining into the following year – 30th December on St Martin's until 10th February, 31st December in Tresco Channel until 25th January, and 14th December in The Roads until 31st January. Only one individual was reported from the RMV *Scillonian III* during routine crossings to and from Cornwall, this involving an unaged bird seen on 12th September 1992. Out of the total of 22 birds, 73% were aged as first-year or first-winter, 4.5% as first-summer and 14% as second-summer (see Chart). An adult was found dead on Tresco on 12th March 1995 and two remain unclassified, including the bird seen from *Scillonian III*. The June 1999 individual was not unique, with at least two other June sightings involving birds in flight over St Mary's Quay on 16th June 1947 and over Lower Moors, St Mary's on 16th June 1977; the similarity of these dates is noteworthy. Nevertheless, at least two of these June individuals were aged as first-year or first-winter, which if true would have involved a fairly rapid departure from the natal area and therefore the possibility of incorrect ageing remains.

In the West Palearctic, most Glaucous Gulls winter south only as far as limits set by winter sea-ice, or food availability allow, though vagrants are known to reach the Mediterranean, Caspian and Black Seas.



Adults leave the breeding areas before juveniles, the former commencing their departure by September. This marked delay in the departure of first-years calls into question the ageing of the two recent June Scillonian sightings (see above), whereas many non-breeders remain south of the breeding grounds during summer, some as far as the British Isles.

Gantlett (1998) suggested that paler birds from Iceland and Greenland, sometimes referred to as *leucocetes*, or 'Greenland Glaucous Gull', probably occur in Britain as vagrants and that the darker and longer-winged Alaskan *barrovianus* might also occur. However, no observer appears to have commented on the likelihood of hybrid Glaucous x Herring Gull *L. argentatus* occurring in Scilly, though they certainly occur elsewhere in Britain and Ireland and the possibility needs bearing in mind when examining any *hyperboreus*-type gulls in Scilly. Nevertheless, Dean (1984) drew attention to apparent regional differences in the abundance of these hybrids within Britain and it may be that Scilly falls outside their expected 'range'. A comment appears in *CBWPSAR* 17 regarding the shooting of four Glaucous Gulls during winter 1947, though no details are provided and it is unclear whether the early or late winter period was involved. A mounted and cased skin in Tresco's Island Hotel presumably involves either one of these four or one of two shot on Tresco during 1874 and 1885. No Glaucous Gulls have been ringed on Scilly and there are no recaptures of birds from elsewhere.

Great Black-backed Gull

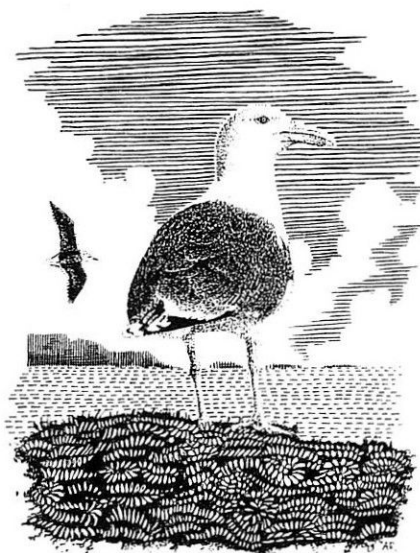
Larus marinus A

Breeding resident plus probable migrant and winter visitor.

Breeds coastal North Atlantic, from northern France through Britain, Ireland, Fennoscandia, Spitsbergen, Iceland and Greenland to northeast North America. Mainly migratory in north but dispersive in south, to about 40°N. Monotypic. National 22% decline 1994–99 (Bashford & Noble 2000).

About 800 pairs currently breed on 38 islands, making this the most widespread, though not the most abundant breeding seabird in Scilly. It has experienced a 50% decline since a mid-1970's peak of nearly 1,600 pairs; large breeding concentrations, particularly on Annet, are an important feature of this species in Scilly.

Earliest mention of Great Black-backed Gull in the islands seems to be North's (1850) observation that it annually bred on the high rocks of Gorregan in the Western Isles, though he provided no information on numbers. Next mention was E H Rodd's comment that it was generally seen singly or in pairs (Rodd 1870a) and by the early 20th century James Clark and Rodd's nephew Francis felt able to describe it as 'resident but in limited numbers'. Their additional comment, however, suggested that it may in fact have been extremely limited: 'Eleven nests found in 1903, including eight on Menawethan, one on Great Ganilly, one on Little Ganinick and one on Inner



Birds of the Isles of Scilly

Innisvouls. Several birds were frequenting the Western Islands, but no nests were noticed' (Clark & Rodd 1906). By 1999 the first of these four islands alone held 63 pairs, with 20 on Great Ganilly, 32 on Little Ganinick and 50 on Great (Inner) Innisvouls. Noticeably, Clark and Rodd made no mention of Annet, which at around 140 pairs now holds the greatest local concentration.

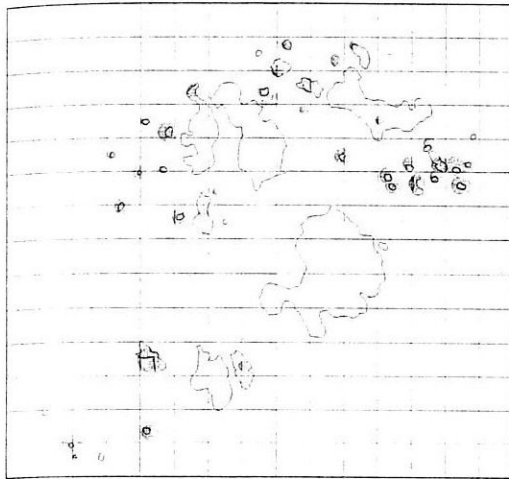
It also seems clear from what E H Rodd had to say that it was not frequent on mainland Cornwall during the mid-19th century, i.e. 'not a common species on the Cornish coast, one or two may be seen at almost any season of the year about the cliffs and the open sands'. He added that, unlike most other gulls, it was usually observed singly or in pairs (Rodd 1880), and to further emphasise its precarious status, noted it only at Hayle, Marazion and Land's End in west Cornwall, plus Scilly, specimens also being procured in Falmouth Harbour.

According to Parslow (1967a), Great Black-backed Gull underwent a very marked and widespread increase in Britain from about 1880, involving an almost threefold increase in some island populations between 1930 and 1956, though the same author (Parslow 1965c) thought this a possible underestimate. He also suggested that the Scillonian increase commenced from 1890, whilst earlier C J King (1924) thought the 200 pairs in the 1920s compared with just 20 in 1890. This last author mentioned two colonies of over 50 nests each and suggested that there were few islands by that time where Great Black-backs did not now mix with other gulls *Larus* during the breeding season. And certainly by the mid-1940s, Ryves & Quick (1946) thought it bred abundantly.

Published all-island count data for Scilly as a whole are charted, showing an increase from 1924 up until 1974, though with huge gaps in the data. However, from a peak of 1,600 pairs in 1974, the population underwent a 50% reduction by the late 1990s, though Annet counts showed a post-1974 decrease in the order of 64%; presumably indicating that losses here were greater than for Scilly generally, or that there was a redistribution of pairs to other colonies. Interestingly, therefore, in 1978 the then Nature Conservancy Council carried out a control of Great Black-backed Gulls on Annet, the number of breeding pairs being reduced by some 35% on the preceding year (IOSBR 1978). It seems unlikely, however, that this action was primarily responsible for the subsequent long-term reduction in counts on that island, though at least one unauthorised control was carried out subsequently. In comparison, Lesser Black-backed Gull *L. fuscus* numbers on Annet actually increased between 1974 and the early 1990s. Lloyd *et al.* (1991) listed just eight British or Irish Great Black-backed Gull breeding sites in excess of 300 pairs, of these only Scilly sites were south of the Scottish northern coastline. Importantly, the 1999 Scillonian population of 808 pairs represents something in the order of 4% of the recent UK estimate of 20,000 pairs (Stone *et al.* 1997) and 3.4% of the total recorded during the 1985–87 British and Irish survey (Lloyd *et al.* 1991). In European terms, the Scillonian population comprises in the order of 0.5% or less overall (Heath *et al.* 2000).

Island	Nests	Island	Nests
St Martin's	3	Northwethel	18
Shipman Head, Bryher	13	Foremans Island	1
Gugh	3	Hedge Rock	2
Samson	5	Peashopper Island	1
Annet	137	Crow Island	3
Melledgan	28	Half-tide Rock	1
Rosevean	1	Pernagic Island	11
Rosevear	95	White Island, St Martin's	2
Mincarlo	23	Guther's Island	29
Illiswilgig	12	Great Ganinick	21
Maiden Bower	1	Little Ganinick	32
Castle Bryher	2	Little Ganilly	20
Scilly Rock	1	Great & Little Arthur	34
Gweal	62	Ragged Island	18
White Island, Samson	39	Great Ganilly	32
Puffin Island	2	Nornour	6
Round Island	5	Great Innisvouls	50
St Helen's	6	Little Innisvouls	10
Tean & Pednbrose	16	Menawethan	63

Locations of 808 Great Black-backed Gull Nests – 1999 (Seabird 2000 data)



Great Black-backed Gull Breeding Distribution
– 1999 (data Seabird 2000)

Although a few pairs still breed on what E. H. Rodd described as the highest rocks, as on the east side of White Island, St Martin's, most are now concentrated close to sea level, e.g. the 100-plus pairs on Annet. Most Great Black-backed Gull nests on Annet are currently distributed around the edges of that island's northern portion, particularly the western section south of Carn Irish, though formerly many more were spread out across the Thrift *Armeria maritima* carpet of the slightly more elevated northern plateau (C. Nicholas pers. comm.).

C. J. King discussed Great Black-backed Gull feeding behaviour in the vicinity of other breeding seabirds, graphically describing how 'It makes havoc amongst the Puffins (*Fratercula arctica*) and the Shearwaters (*Puffinus puffinus*), and at the end of the nesting season leaves the whole district in a repulsive condition, strewn with the dead bodies of birds which it has slain and partly consumed' (C. J. King 1924). He also described how, apart from Great

Black-back's normal behaviour with prey, he had witnessed them dropping recently captured Puffins onto rocks from 'a couple of hundred feet (60 m)'. The same authority quoted local lobster fishermen as having watched them attacking and taking Razorbills *Alca torda* from the surface of the water, though he could not claim to have seen this himself. Likewise, the author has never seen or heard of this happening within the islands more recently. However, a noticeable feature of Annet and Rosevear during late summer are the remains of large numbers of young Shags *Phalacrocorax aristotelis* killed by Great Black-backed Gulls, birds of even this size being turned inside out with apparent ease. Nevertheless, perhaps only a few 'specialist' gulls are involved as the predation usually appears confined to discrete groups of Shag nests. And in any event, on Annet, as elsewhere in Scilly, Shags have apparently adapted to black-backed gull predation, the vast majority now breeding within the boulder beaches, or in holes at the base of Scilly's low cliffs. These nest sites usually have only a single entrance, which the adult Shags appear more than capable of defending against attempted gull predation, most losses seemingly involving mobile or unattended young close to fledging.

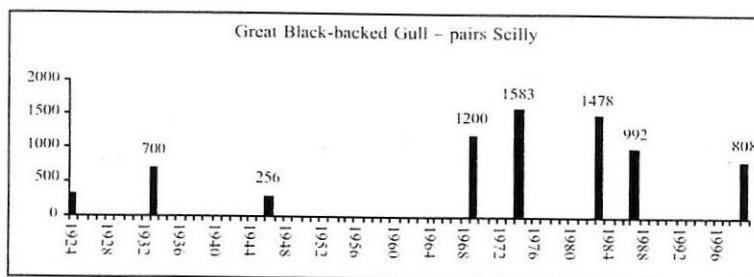
Various writers besides King commented on Great Black-backed predation of Puffins, Manx Shearwaters and Storm Petrels *Hydrobates pelagicus* on Annet, most expressing concern over possible adverse effects on local populations of these three species. Interestingly, although Gurney, who visited Annet in May 1887, commented at length on the shearwater population, he made no mention of Great Black-backed Gull predation, regardless of his attention to all other details. In contrast, several early 20th century commentators, e.g. H. W. Robinson (1911a), Wallis (1923, 1924) and Walpole Bond (1937) all remarked at length on what they saw as the undesirable consequences of observed levels of Great Black-backed predation should it be allowed to continue.

Parslow pointed out that Great Black-backed Gulls were first recorded killing petrels on Annet in June 1914 (*Wildlife* 8: 269–279), observers finding a small number of petrel remains among a far greater number of Puffin and Manx Shearwater (Parslow 1965c). Parslow also suggested a direct correlation on Annet between an increased number of gull pellets containing Storm Petrel remains and the increase of breeding Great Black-backed Gulls on that island, noting in particular its spread to the southern half of Annet during the mid-1960s, adjacent to some of the main petrel breeding beaches. Although Parslow thought there was no evidence that Great Black-backed Gull predation caused the extinction of petrels from the small island of Rosevear, 'no other possible explanation comes to mind or fits the facts so well' (Parslow 1965c). However, early data on number of petrels on Rosevear were never obtained, or if so were not published, and the 19th century concept of this as the main Scillonian breeding site may have been formulated amidst a lack of appreciation that substantial numbers of petrels bred on Annet. In addition, construction crews from the Bishop Rock Lighthouse lived on Rosevear for some ten years during the mid-1980s and seem bound to have had an adverse effect on any breeding petrels. Therefore, arguments

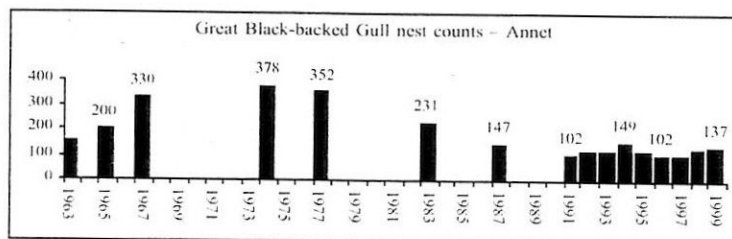
Birds of the Isles of Scilly

that Great Black-backed Gulls caused declines in any breeding seabird species in Scilly have yet to be established, although this has not prevented the occasional individual or group visiting the breeding islands and carrying out impromptu culls. Organised egg-pricking 'parties' were another regular feature of the not-so-distant past, with an apparent high proportion of the human population of the islands also involved in the collection of eggs for domestic use (Vyvyan 1953). Species involved including the other two large *Larus* gulls and perhaps even other seabirds.

A 1976 Great Black-backed Gull winter count produced a total of 1,200–1,500 individuals (IOSBR 1976). However, the only recent co-ordinated all-island non-breeding season count involved the two-day late January 1997 Winter Shorebird Survey, when 656 were recorded, most being fairly evenly distributed between Tresco, Bryher and Samson, at 186, 185 and 158 respectively. St Mary's had the next highest total with 84, whilst St Martin's held 38 and St Agnes just five. Importantly, in examining the significance of wintering wader populations in Scilly, Lock (1999) suggested that populations of wintering Great and Lesser Black-backed Gulls might also be nationally important, the individual site criterion for Great Black-backed Gull having more recently been set at 500. And in the absence, yet, of the national Seabird 2000 results, the current breeding season total of around 800 Great Black-backed Gull pairs amounts to over 4.2% of the stated British population of 18,900 pairs quoted by Lloyd *et al.* (1991). However, if account is taken of a more recently estimated 22% British decline (Bashford & Noble 2000), the Scillonian figure advances to perhaps 5.4%. Similarly, the figure of 19,000 pairs suggested by Stone *et al.* (1997) for the UK as a whole also suggests that Scilly may hold something in the order of 4.2% of breeding UK Great Black-backed Gulls.



Data Sources: 1924 = Allen 1974–77; 1933 = Allen 1974–77; 1946 = Penhallurick 1969; 1969 = Lloyd *et al.* 1991; 1974 = Allen 1974–77; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1999 Seabird 2000 – unpublished data.



Data Sources: 1963 = Allen 1974–77; 1965 = Allen 1974–77; 1974 = Allen 1974–77; 1977 = Allen 1974–77; 1978 = IOSBR 1978; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1990–92 = P J Robinson 1992b; 1993 = P J Robinson 1993; 1994–95 = P J Robinson 1995a; 1996 = Wagstaff 1996; 1997 = Wagstaff 1997; 1998 = P J Robinson 1998; 1999 Seabird 2000 – unpublished data.

Great Black-backed and the two other British large gulls breed on buildings as close to Scilly as Newlyn and St Ives, both in west Cornwall, but although some 3–5 pairs of Herring Gulls *L. argentatus* now do so regularly on St Mary's, no Great Black-backs have yet bred there. Nevertheless, 1–2 pairs have recently shown signs of doing so in the near future, e.g. in the vicinity of the Town Hall (pers. obs.). A pulli spirit specimen in the British Museum (Natural History) collection, reference 1924.6.25 and dated 25th June

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1924, is attributed to H W Robinson, who carried out work on this and other seabird species in Scilly during the very early 20th century. Compared to the other two large gulls occurring regularly in Scilly, the likelihood of confusion with other species is limited. Nevertheless, Pineau *et al.* (*Birding World* 14: 110–111) drew attention to the presence in coastal North Africa of the closely similar Kelp Gull *L. dominicanus*, a southern species which now breeds in West Africa north at least as far as Senegal and which is thought capable of penetrating well into the West Palearctic. This species therefore has an outside chance of reaching Scilly and should be kept in mind.

A total of 1,254 Great Black-backed Gulls had been ringed on Scilly up until 1999, 856 prior to 1970 and most as pulli. There are no controls from elsewhere but the Table shows eleven recoveries of Scillonian-ringed birds, involving a fairly random dispersal of first- or second-winter individuals, as far as Spain (1), France (5), Kent (1) and southwest Ireland (2), plus two more locally. In the absence of any ringed individuals from elsewhere, there is little to indicate whether all birds within the islands belong exclusively to the local population, or whether mixed-age wintering or summering flocks include birds from other areas. Northerly populations are more migratory than those further south, birds reaching as far as the coasts of Spain and Portugal, young birds tending to travel furthest (Cramp *et al.* 1977–94). In the more northerly colonies, post-fledging dispersal commences from August, adults moving south from September or October, and although return passage occurs from March or April, many, perhaps most, immatures summer coastally between wintering and summering areas. Like Herring Gull, this species shows a clear tendency for more birds from southwest England to reach western France during winter than from elsewhere in England and Ireland (Wernham *et al.* 2002). A proportion of birds wintering in western England and Ireland are thought likely to originate from the Faeroes or Iceland, whereas many, perhaps most, wintering in eastern England come from arctic Norway and extreme northwest Russia (Wernham *et al.* 2002).

Recoveries

AJ32280	Pul	Rosevear	30th June 1961	?	St Guenole, Finistere, France
					21st December 1961
417873	?	Rosevear	28th June 1962	?	Minster, Isle of Sheppey, Kent
					20th February 1963
425680	?	Rosevear	22nd June 1964	?	Ile de Sein, Finistere, France
					2nd October 1964
425744	Pul	Annet	27th June 1964	?	Penmarch, Finistere, France
					15th October 1964
425687	Pul	Rosevear	22nd June 1964	FD	St Guenole, Finistere, France
					4th November 1965
HW00680	Pul	Rosevear	29th June 1966	FD	Le Lock, Finistere, France
					19th January 1967
HW00791	Pul	Annet	4th July 1967	SH	Fuenterrabia, Spain 6th January 1968
HT54298	Pul	Annet	7th July 1994	FD	Praa Sands, Cornwall 9th January 1996
HT62044	Pul	Annet	12th June 1996	FD	North Slob, Wexford, Ireland
					13th October 1996
HT62125	Pul	Gweal	20th June 1996	FD	Raven Wood, Wexford, Ireland
					16th April 1998
HT62101	Pul	Illiswilgig	19th June 1996	FR	Newlyn, Cornwall 1st May 1998

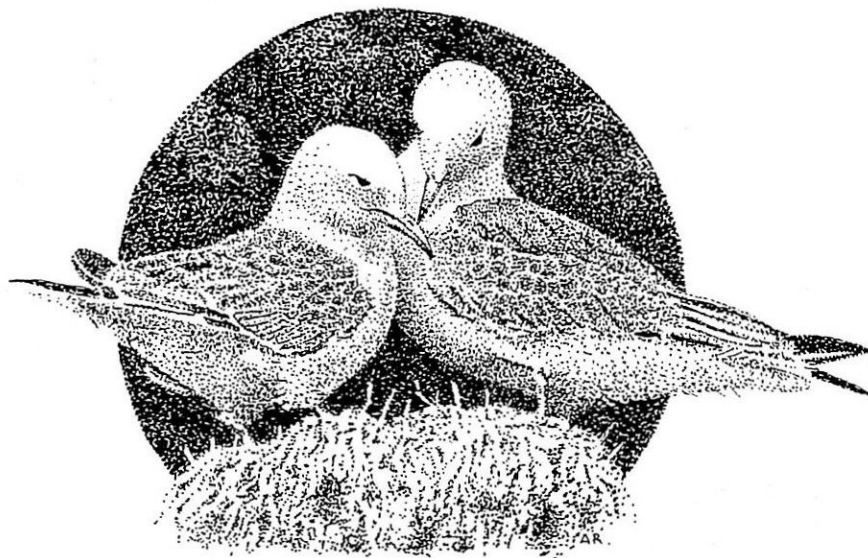
Great Black-Backed Gull Ringing Recaptures

Kittiwake (Black-legged Kittiwake)

Rissa tridactyla A

Summer visitor, migrant and winter visitor.

Breeds North Atlantic, in Iberia, France, Britain and Ireland, Russian Arctic islands, Greenland, northeast Canada, Newfoundland and Gulf of St Lawrence, also North Pacific. Dispersive in winter, occupying North Atlantic south to about 30°N, plus North Pacific, pre-breeders largely pelagic. Polytypic: nominate *tridactyla* occurs North Atlantic; *pollicaris* North Pacific. Upgraded from Green- to Amber-listed in UK 2002: 50% or more of breeding population at ten or fewer sites (Gregory *et al.* 2002).



Less than 300 pairs currently breed on five islands, three of which are inhabited, birds are also seen in varying numbers at other times.

Surprisingly, E. H. Rodd made no mention of Kittiwake breeding in mainland Cornwall, though he considered it did so 'in numbers' on Scilly's cliffs. Nevertheless, he thought it the commonest seabird on the Cornish coasts after Black-headed Gull *Larus ridibundus*, both adults and subadults entering harbours and estuaries during autumn (Rodd 1880).

Far more helpful is the summary by James Clark and Rodd's nephew Francis (Clark & Rodd 1906), who pointed out that since 1901 it failed to breed in the islands, though it formerly did so commonly. They also drew attention to former large breeding numbers on Menawethan in the Eastern Isles, as detailed in a letter from Jenkinson (presumably the Reverend J. H.) of 1852, before birds gradually relocated to exposed Gorregan in the Western Isles. This last remained the favoured breeding location in Scilly until just three nests could be found in 1900, up to 100 having been previously recorded there, though numbers steadily diminished from the 1870s. Interestingly, Clark and Rodd were nonetheless of the opinion that small flocks were seen from time to time during summer, suggestive perhaps of breeding elsewhere, ending with the comment that it was often seen during winter but that at all times of the year it seemed commoner between Land's End and Scilly than within the islands.

Earlier doubts over the presence of breeding Kittiwakes in mainland Cornwall seem to have been unjustified. Penhallurick (1969) pointed out that even by the late 1830s Yarrell knew of active colonies, whilst by the 1880s Lord Lilford knew of sites on the south coast. And it appears to have been present in the county ever since, with an estimated 515 pairs at three or more sites in 1999 (CBWPSAR 69).

Exactly when Kittiwake recommenced breeding on Scilly remains unclear, though in 1938 G. H. Harvey and others observed six nesting pairs on rugged Man-a-Vaur in the Northern Isles, noting too that at least one nest contained eggs. By 1949 birds were present at three sites on Gorregan plus a party of non-breeding Kittiwakes were observed on isolated Hanjague at Scilly's eastern extremity, where they had not previously been recorded (CBWPSAR 18), though nothing seems to have come of this last incident. By the mid-1950s, birds were nesting annually on both Gorregan and Men-a-Vaur and we have the benefit of one full count on Men-a-Vaur, Ron Simmons recording 258 nests in early July 1958, usefully pointing out too that although none contained three eggs, about one third did so the previous year (CBWPSAR 28). In 1959 came a report of a new site on the north face of St Helen's, facing nearby Men-a-Vaur, nests on Gorregan being seemingly down in number that same year. With the notable exception of Gorregan, most pairs up until the mid-1960s were concentrated in the north of the island group, followed by a period during which colonies were spread throughout the islands, before the Kittiwake centre of gravity shifted to the middle of the archipelago.

Gulls

	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
Gorregan								25	47	F		P-			36		55	P			
Men-a-Vaur	6	P						P							P-	P	P-	P-		P	258
St Helen's																					
Daymark																					
	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Gorregan	50			P		66		P	91						P	112					
Men-a-Vaur			200			P				+	100					P	166				
St Helen's	12	21	45	P+	60	82	100	-	120				60	80F	P	43					
Annet							2	P		28					P				15	20	
Daymark								P	20					43		104					
Rosevean									1				14			22					
White Island**																51			74	75	
	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	
Gorregan				124	F			32				5	14	10	18	3					
Men-a-Vaur				128			F					1	30	1					P		
St Helen's			65	85					2										P	7	
Daymark		349		292	F		26	124	D	D		46	56	13	17	10	6	3	10	27	
Annet				46				27			43	36	29	8							
White Island		42		49				63	D				8	1							
Shipman Head				137			10	84		392		P	P	31	19	9					
Gugh							100	206	P		115	110	109	125	118	119	145	182	136	155	
Samson South							8	46	P	68	116	F	82	57	43	39	25	21	13	10	
Samson North														8	13	32	22	37	23	28	
Tresco Gimble Porth													3	8	20	35	42	56	48	54	

Numbers of Reported Kittiwake Nests in the 20th Century by Island/Year. P present; F site failed; D colony deserted, + no published count but reported increase; - no published count but reported decrease; ** White Island, St Martin's

Note: lack of data reflects a lack of annual published information and does not necessarily imply absence from the site.

As apparent from the Table, most Scillonian breeding sites lack long-term stability and though reasons for this are unclear it seems largely linked to annual site success or failure. New site occupation normally follows complete failure of an existing site and is seemingly triggered by the same-year relocation of failed breeders, some apparently building basic replacement nests, reoccupation of the new site the following spring being almost guaranteed, normally accompanied by the near or total abandonment of the failed site. Nevertheless, a lack of colour-marked individuals within the Scillonian population creates difficulties determining whether post-failure nest structures are in fact 'frustration nests' built by failed adults, or the efforts of pre-breeders.

Reasons for annual site failures vary, but are perhaps mostly due to weather and/or food-related causes. However, also involved have been nest predation by Brown Rats *Rattus norvegicus* (P J Robinson 1992b), Great Black-backed Gull *Larus marinus* (P J Robinson 1993), cats *Felis catus* (P J Robinson 1998) and, allegedly, Carrion Crows *Corvus corone* or Ravens *C. corax* (IOSBR 1984, 1986). In addition, a contributing factor at some sites may be their geological unsuitability. Another factor blamed for breeding failure is disturbance by birdwatchers and photographers, which allegedly facilitates predation by Herring Gulls *L. argentatus* (IOSBR 1971), although, interestingly, during the nine years 1991-99 not a single known incidence of Herring Gull interaction was recorded at any Scillonian Kittiwake nest. Nevertheless, there were a small number of incidents of Great Black-backed and, possibly, Lesser Black-backed Gull *L. fuscus* predation of both eggs and young. Known cat predation of Kittiwake nests during the ten years from 1991 was confined to Gugh, where one or more animals gained access to the upper ledges of the colony during 1998 (P J Robinson 1998) and perhaps 1999.

Kittiwakes can be seen occupying their breeding ledges from February onwards, particularly during good weather. The Gugh site suffers serious rat predation during some years, a situation not helped by the ease with which these animals can gain access to the numerous earth and rock ledges. In an attempt to limit rat access and to also test the feasibility of providing Scillonian Kittiwakes with additional, or alternative, less accessible nest sites, a small number of artificial ledges were excavated by the author on a vertical earth cliff in the Gugh colony during early 1992 and 1993. One of these ledges was occupied by a prospecting pair of Kittiwakes in July 1992 and over the following three years all were occupied by pairs that subsequently reared young.

The Chart incorporates all known Kittiwake counts and reveals a clear long-term increase from its reappearance in the islands in the 1900s up until the late 1960s, followed by a more rapid decline, to around 300 pairs by 1999. Reasons for these Scillonian changes are still poorly understood, but Lloyd *et al.* (1991) considered the long-term national increase attributable to a cessation of both human hunting pressures and egg-collecting, though they thought food supplies undoubtedly also played a part and suggested links with the parallel expansion of the fishing industry around Britain and Ireland during the 1940s. However, the same authors drew attention to the problems of over-exploitation of British sandeel *Ammodytes* stocks since the 1980s, which they knew to have resulted in widespread and greatly reduced Kittiwake productivity, particularly in northern Britain. On the other hand, reductions in the number of breeding Kittiwakes in southeast Ireland from the 1970s were thought attributable to declines in local Herring *Clupea harengus* stocks (Lloyd *et al.* 1991) and each of these theories fits the timing of the Scillonian Kittiwake increase and decline. The 1987 total of 585 pairs/nests amounted to approximately 10% of the population of southwest England (Lloyd *et al.* 1991).

Since 1991, a proportion of Scillonian Kittiwake nests have been individually marked for comparative study using numbered plastic labels, mostly on Gugh, Samson and Tresco. All Scillonian Kittiwake nests are positioned on the relatively low earth and boulder cliffs and perhaps for related geological reasons are mostly positioned above boulder beaches, which in turn are mostly above the reach of high spring tides. These same boulder beaches also usually accommodate breeding Herring or, less often, Lesser Black-backed Gulls. Owing to the limited height of Scillonian cliffs almost all nests are accessible for annual inspection, most without the use of a ladder. Indeed, nests are often positioned just a metre above the surface of the boulder beach and not infrequently the same distance from the nearest Herring Gull nest.

Approximately 80–90% of nests are positioned on protruding boulders, rather than earth ledges, presumably because they provide a more suitable support and whilst most are constructed substantially of seaweed, there are at least two recorded sightings of birds visiting Tresco's freshwater pools to gather nest material. The first of these was in June 1958 when Hilda Quick saw four to five individuals around the edge of Abbey Pool apparently plucking weed, though they were not seen to fly away with it (CBWPSAR 28). The second incident occurred two years later, the observer witnessing 'much carrying of mud from Abbey Pool' involving 'quite a noticeable traffic' (CBWPSAR 30). Although the Kittiwake colony or colonies involved were not stated, only nearby St Helen's and Men-a-Vaur and the much more distant Gorregan were recorded as active breeding sites that year (see Table). Eggs are laid in the majority of nests that are built.

In the single observed incident of Great Black-backed Gull predation, a subadult was observed removing eggs from nests in the Samson South colony (P J Robinson 1993), though large gulls were also suspected of predating small to medium-sized Kittiwake young at a Samson site in two years. In 1991, most nests, already containing well-grown young, were washed off the cliffs by torrential overnight rain during July. Samson has been rat-free since the removal of these animals during winters 1991–92 and 1992–93 (P J Robinson 1992c). However, on Gugh, which throughout the 1990s held the greatest Kittiwake breeding concentration, Brown Rats were kept in check by the limited application of proprietary rat poison (warfarin). Any absence of both adults due to difficulties in obtaining adequate food supplies apparently leaves even quite large young vulnerable to predation.

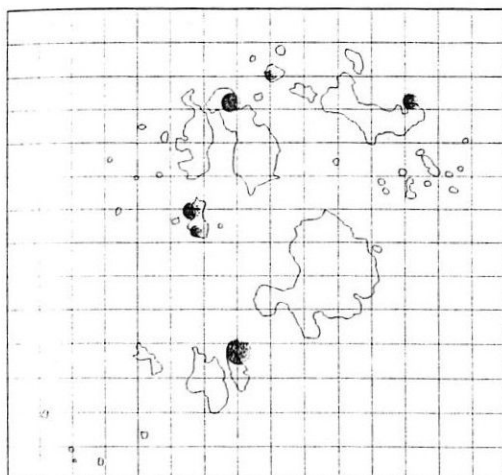
First-laying date varies between years, perhaps advancing during a run of successful years, or being earlier at larger colonies. Coulson & White (1958) suggested a figure of 70% two-egg clutches for their study colony and, as most Scillonian females lay two eggs, that may not be far off the Scillonian figure, mean clutch size being around 1.6 to 1.9 (P J Robinson 1993; P J Robinson unpublished data). The remaining 30% comprised a mix of one and three-egg clutches, the latter being something of a rarity.

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During the ten years 1991–99, three-egg clutches were not recorded until 1993, one each on Gugh and Samson (P J Robinson 1993), with none in 1994 and never more than seven in any year. Coulson and White found three-egg clutches were laid by older, more experienced females, the percentage involved being used to measure the 'health' of a breeding colony. The same authors pointed out that although the average clutch size laid by any given species normally results in maximum productivity, three-egg Kittiwake clutches produce 1.5 times more young, regardless of their scarcity. The apparent anomaly is explained by the fact that only experienced female Kittiwakes lay three eggs, whereas both experienced and inexperienced individuals lay two. Interestingly, even in the 1950s, Hilda Quick thought that Scillonian Kittiwake laying dates were much later than on mainland Cornwall, e.g. at Morvah (CBWPSAR 22) and others have expressed similar views (e.g. J Coulson *in litt.*). There is, too, wide variation in the annual level of productivity, both between years and between sites (P J Robinson 1993, 1994, 1995), from close to or perhaps even complete failure, to approaching one young per total number of nests involved. Any between-year variation in productivity tends to reflect events during the nestling phase as most eggs hatch in most years.



Island	Nests
St Martin's	27
Tresco	54
Gugh	155
Samson	38
St Helen's	7

Locations of 281 Kittiwake Nests – 1999
(Seabird 2000 data)

Kittiwake Breeding Distribution – 1999 (data
Seabird 2000)

Post-fledging dispersal commences from July–August, ringing data revealing that the extent of autumn dispersal from coastal European waters increases with age up to three years, though birds remain mostly within the north Atlantic and adjoining waters. Birds move 1,200 km on average during their first autumn but reach 2,800 km by year three, then drop to 800 km by year four, comparable with adult dispersal. Birds first enter the breeding colonies from around year three, most males returning to the natal colony, and more females than males move to new breeding sites, though established breeders rarely if ever move to a new colony (Wooler & Coulson 1977, in Cramp *et al.* 1977–94).

A total of 1,282 Kittiwakes had been ringed on Scilly up until 1999, 1,154 (90%) since 1970, mostly as pulli and most since 1991, largely explaining just two pre-1990 recoveries. The six controls and nine recoveries provide an interesting overview of Scillonian Kittiwake movements, with several patterns detectable. Most obvious is the exchange of birds with colonies in northwest France, four hatched in Scilly being later found breeding in Finistere, one for perhaps at least two years, whilst three hatched in Finistere were discovered in Scilly, one of which was apparently breeding. Similarly, two birds ringed as pulli in the Northumbrian Farne Islands were later found breeding in Scilly, one on White Island, St Martin's, in 1975 and one on Annet in 1991. In addition, two colour-ringed individuals seen briefly in colonies during the late 1980s or early 1990s were believed to have originated from Norway (pers. obs.).

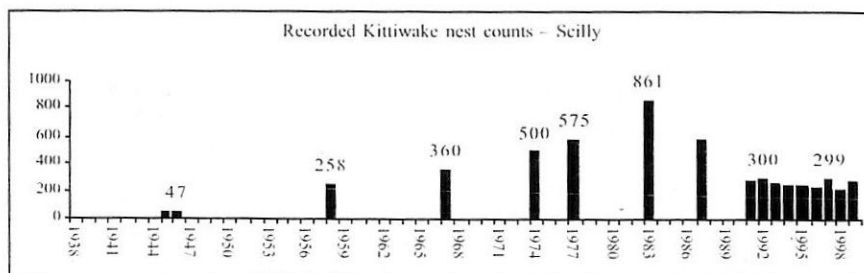
Prime contender, however, for Scilly's most unfortunate Kittiwake was the bird ringed on Tresco by the author in June 1999 and found entangled in fishing line in St Peter Port, Channel Islands, two months later. Having been released from this predicament its remains were eventually found in a marten's *Martes* nest in the roof of a Danish bungalow. Amazingly, Scilly's second Danish Kittiwake record came in August that same year. Given Kittiwake's tendency to wander widely outside the breeding season the recovery of

Birds of the Isles of Scilly

birds in eastern Scotland, southwest Ireland, Denmark and off the west coast of North Africa are not unexpected, even the first of these, way back in 1939. The most southerly Scillonian record came from aboard ship between southern Morocco and the Canary Islands and on the face of it seems rather far south for this largely North Atlantic species. However, Cramp *et al.* (1977–94) point out that there is both a north-south and age-related North Atlantic distribution, birds reaching their southernmost limits during their first year, with British birds showing a more southerly distribution. Although British and Irish-reared Kittiwakes disperse randomly outside the breeding season, as far as Greenland, Newfoundland, Iberia and the North Atlantic islands, such movements are more marked among immatures (Wernham *et al.* 2002). In addition, British or Irish-reared birds have been recovered in subsequent breeding seasons from northern Norway and through Denmark south as far as northwest France.

Quick (CBWPSAR 22) remarked on the presence of at least one shot individual among several dead Kittiwakes noted on Gorregan during 1952 and the annual destruction of an unknown number of seabirds is known to have been a problem formerly, though hopefully this is no longer so. Worthy of mention, too, is the occasional presence in Scilly, as elsewhere, of Kittiwakes displaying red legs and thought to involve first-summer individuals (J Greenwood 1963). At least one such bird is mentioned in the literature (P J Robinson 1991b), though David Hunt reportedly also saw one about 1980 (W Wagstaff pers. comm.). Both Kittiwakes and Little Gulls *L. minutus* have been recorded feeding in company with Razorbills *Alca torda* (R E Scott 1972; Jones 1975). Scott gained the impression that Little Gulls were taking advantage of small fish driven to the surface by the feeding auks. In Scilly, one to two Kittiwakes are occasionally seen associating with feeding Razorbills, but it is difficult to know whether they are intent on robbery, or are merely feeding off the 'by-catch' (pers. obs.). R Harding (1959) described Kittiwakes apparently attacking feeding Grey Seals *Halichoerus grypus*, but despite a healthy Grey Seal population in Scillonian waters, no such Kittiwake behaviour has been noted.

Outside the breeding season, Kittiwakes occur in and around the islands in greater or lesser numbers, single-day autumn, winter or spring counts normally remaining around 100 or less, though this can vary tremendously, as in early April 1978 when 3,500 to 5,000 were recorded (IOSBR 1978), or in mid-January 1998 when about 1,000 presumably storm-blown birds were in The Roads (IOSBR 1998). However, reports of 100 per hour passing various vantage points, e.g. in October 1984, could have involved even greater numbers had the duration of the seawatch been stated.



Data Sources: 1945–46 = Penhallurick 1969; 1958 = Penhallurick 1969; 1967 = Penhallurick 1969; 1974 = Allen 1974–77; 1977 = Allen 1974–77; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1990–92 = P J Robinson 1992b; 1993 = P J Robinson 1993; 1994–95 = P J Robinson 1995a; 1996–98 = P J Robinson 1998; 1999 Seabird 2000 – unpublished data.

Controls

ED75271	Pul	Farne Islands 5th July 1969	FR	White Island, St Martin's 4th April 1975
EB91984	Pul	Farne Islands 4th July 1980	FR	Annet 28th June 1991
FT85755	Pul	An Aoteriou, Finistere, France 17th June 1983	FR	Samson 24th May 1990
EJ26864	Pul	Farne Islands 16th June 1984	FR	St Agnes 25th May 1988
FS19015	Pul	Cape Sizun, Finistere, France 9th July 1991	FR	Daymark, St Martin's 13th July 1992
?	?	Brittany 1998	FR	Men-a-Vaur 8th June 1999

Recoveries

: Ad 'Scilly' 22nd May 1938
 EN58921 Pul Gugh 31st July 1986
 ES19828 Pul Samson 4th July 1995
 ET10665 Pul Gugh 30th June 1997
 ES21279 Pul Gugh 2nd July 1993

ET44251 Pul Tresco 8th June 1999

ET10598 Pul Gugh 9th July 1996

ET10533 Pul Gugh 25th June 1996

ES19816 Pul Samson 4th July 1995

Kittiwake Ringing Recaptures

FD St Andrews, Fife 11th August 1939

FR Cape Sizun, Finistere, France
 14th April 1990

FD Glenbeigh, Co. Kerry, Ireland
 19th August 1995

AS El Laáyoune, Western Sahara
 14th April 1998

FR Point du Raz, Plogoff, Finistere,
 France 9th July 1998

CT Point du Raz, Plogoff, Finistere,
 France 26th June 1999

FR Point du Raz, Plogoff, Finistere,
 France 11th March 2000

FR Point du Raz, Plogoff, Finistere,
 France 27th January 2001

FI St Peter Port, Guernsey, Channel
 Islands 17th August 1999

FD Sommerland, Nissum Fjord, Jylland,
 Denmark 15th February 2000

FR/BR Karreg Korn, Goulien, Finistere,
 France 28th May 2000

FR/BR Karreg Korn, Goulien, Finistere,
 France 20th June 2001

FD Nr Douarnenez, Finistere, France
 1st August 2001

FR Bulbjerg, Jylland, Denmark
 19th August 2000

FR/BR Point de Raz, Plogoff, Finistere,
 France 30th June 2001

Ivory Gull

Pagophila eburnea A BBRC 0%

Extremely rare vagrant, full written description required by the BBRC.

1917 One (shot) Scilly January Penhallurick 1969

Breeds high Arctic, in Greenland, Spitsbergen, Russian Arctic islands and central Canadian Arctic. Despite perhaps deserting breeding areas in winter, remains largely within confines of pack ice. Monotypic.

There is just the single old record involving a bird shot on Scilly in January 1917 (Penhallurick 1969). It was sexed as a male, presumably on dissection, and the mounted skin placed in the Tresco Abbey collection, though it is currently in the Isles of Scilly Museum on St Mary's. The BBRC accepted a total of 44 British and Irish records during the period 1958-99 but there were 76 prior to that time. Therefore, this classic arctic gull appears to have become less frequent as a winter visitor to Britain during the latter half of the 20th century.

Although the complexities of the winter movements of Ivory Gulls in waters north of the Eurasian landmass are still poorly understood, there is growing support for the theory of southward autumn migration off eastern Greenland involving birds from the Eurasian Arctic islands, these perhaps going on to Labrador in northeast North America, as apparently also happens with other seabird species, e.g. Kittiwake *Rissa tridactyla*, Brünnich's Guillemot *Uria lomvia* or Little Auk *Alle alle*. This same movement is considered at least partly responsible for the high incidence of Ivory Gull records in the Faeroe Islands and in Britain and Ireland, in contrast to its rarity elsewhere in Europe (Cramp *et al.* 1977-94).

Gull-billed Tern

Sterna nilotica A BBRC 1.8%

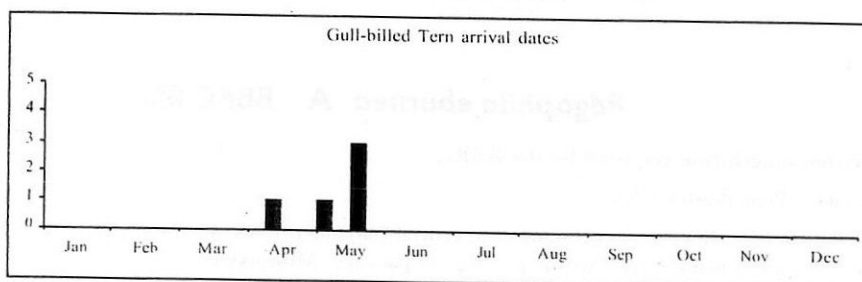
Very rare migrant, full written description required by the BBRC, a mid-19th century claim of it having bred in Scilly seems unsupportable.

- 1852 One (adult - shot) Tresco May or June Rodd 1870a; Clark & Rodd 1906
- [1967 One Tresco 3rd June] Accepted by BBRC but subsequently withdrawn *British Birds* 76: 500
- 1980 Two Tresco 16th May *British Birds* 74: 475
- 1980 One St Agnes 17th May *British Birds* 74: 475
- 1994 One Gugh 3rd May *British Birds* 88: 520
- 2000 One Lower Moors, St Mary's 10th April *British Birds* 94: 478
- 2001 One St Mary's 3rd September *Birding World* 14: 360

Widespread around central latitudes, European populations winter Africa. Polytypic: nominate *nilotica* occurs Europe, North Africa and Middle East to Manchuria; *arenca* and three additional forms North America. Formerly classified as single-species genus *Gelochelidon*, but reclassified as *Sterna* by BOURC July 1996 (BOURC 1997).

In his *A Week at the Land's End*, Blight (1861) named this as one of several tern species the eggs of which could be found 'in other places, and generally in the sand or herbage about the shore'. However, no other 19th century writer suggested that Gull-billed Terns bred in Scilly and the circumstances described by Blight seem wholly unacceptable, as does his claim that Whiskered Tern *Chlidonias hybrida* also bred. Of the five pre-1999 records, one is very old and one was withdrawn by the observer after acceptance by the BBRC.

First mention of Gull-billed Tern in Scilly is contained in E H Rodd's short note to the *Zoologist* entitled 'Occurrence of the Gull-billed Tern (*Sterna Anglica*) at Scilly' (Rodd 1852a). In this he credits the shooting of the bird to the Reverend John Jenkinson, near Tresco Abbey, either at the end of May or the beginning of June 1852. Rodd later aged the bird as an adult (Rodd 1878b) and later still James Clark and Rodd's nephew Francis gave the month as May (Clark & Rodd 1906). E H Rodd also mentioned one shot near St Just, west Cornwall, on or about the 11th July 1872. Next on Scilly, however, and over one hundred years later, was a bird seen over Old Grimsby, Tresco, in June 1967. This was described by David Hunt (*CBWPSAR* 37), but although his description was accepted by the BBRC, David later withdrew the record, even though no explanation was published (*British Birds* 76: 500).



The four remaining arrival dates for accepted records up until 2000 (five birds) were all in spring and disregarding the 19th century incident, for which there is no information, all Scillonian arrivals were present for just one day. These occurred too early for post-breeding dispersal and seem likely to have involved either overshooting migrants from French or Iberian populations or displaced migrant central-European individuals, presumably of the nominate *nilotica*. According to Cramp *et al.* (1977-94), migration routes are still poorly understood but spring passage is believed to be rapid and to involve a broad-front crossing of the Sahara, with 25% of European birds passing north through the Iberian Peninsula. Peak passage in central Europe occurs during April or May. As Gantlett (1998) pointed out, the slightly smaller North American *arenca* might be expected to occur in Britain, in which case Scilly seems a likely place to look for it. A total of 216 Gull-billed Tern records were accepted by the BBRC during the period 1958-99, with 52 prior to that time, the four accepted Scillonian individuals therefore represent 1.8% of the national total. As of summer 2002, the report of a Gull-billed Tern seen briefly on St Mary's on 3rd September 2001, the potential first autumn sighting for the islands, was still under considered by the BBRC. The nearest breeding colonies are in Denmark, Germany, southern France and Spain.

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[Caspian Tern***Sterna caspia*] A**

No accepted records, full written description required by the BBRC.

[1962 Two off Tresco]

Cosmopolitan breeding distribution except for South America, West Palearctic populations winter coastally south to Africa north of equator and east through Iran to India and Bangladesh. Monotypic.

The only documented account likely to have involved this species is contained in *CBWPSAR* 32 for 1962 and is repeated here in full:

July 22nd. My sister and I saw two large red-billed terns hawking off Tresco, which we identified as Caspian from their heavy build and flight, shortish forked tail and all-red, noticeably heavy bill. *Common Terns* were also present, so we were able to compare the size, build, etc. The Caspians flew lower over the water than the Commons, and quartered the area very methodically, diving with less of a splash than the smaller birds, and at a slant, not straight down.

The report, from a Miss Blount, is accompanied by no editorial comment and is not in squared brackets, but was presumably never submitted for scrutiny. However, the editors were all knowledgeable ornithologists and appeared to accept the record, in their introduction listing ten species new to the islands in 1962, excluding Caspian Tern, followed by nine 'Other records of interest' including Caspian Tern. From all of this it appears perhaps that not only did the report editors accept the two Tresco birds, but were also of the opinion Caspian Tern had previously occurred in Scilly. Penhallurick also seems to have accepted the record (Penhallurick 1969). However, Miss Blount's description fails to mention some obvious features and in any event perhaps fails to eliminate the possibility of other large, red- or orange-billed terns having been involved.

A total of 231 British Caspian Tern records were accepted by BBRC during the period 1958-99, whilst there were just 30 prior to that period.

[Royal Tern***Sterna maxima*] A**

[2000 Various islands]

Breeds coastal Pacific and Atlantic North America plus Caribbean Islands and northern coastal South America, also coastal West Africa. Migratory or dispersive, wintering coastally in Americas, Caribbean and western Africa. Polytypic: *albididorsalis* occurs West Africa; nominate *maxima* elsewhere.

A large orange-billed tern seen by various observers at a number of locations around the islands during year 2000 was reportedly believed to be this species by observers obtaining the best views (IOSBG 2000), though none saw it adequately enough to convince the BBRC that it was indeed a Royal Tern. The northwest African population is migratory, most wintering south coastally as far as Angola. Five records accepted by the BBRC up until 1999 could have involved African or Nearctic individuals.

Lesser Crested Tern***Sterna bengalensis* A BBRC 12.5%**

Extremely rare migrant or vagrant, full written description required by the BBRC.

1996 One (adult) Skirt Island, Tresco 2nd to 4th August *British Birds* 90: 487

Breeds coastal North Africa, Red Sea, Persian Gulf and Indian Ocean east to coastal Australasia, migratory or partially so. Polytypic: nominate *bengalensis* occurs Red Sea, East Africa and eastern India; *torresii* North Africa, Persian Gulf, Pakistan, New Guinea and Australasia.

One confirmed record of this attractive and elusive tern involved a bird keeping company with Sandwich Terns *S. sandvicensis* in the area of Skirt and Green Islands, Tresco, from late evening on 2nd to mid-morning on 4th August 1996. One feature noted whilst the bird stood amongst the Sandwich Terns was the manner in which it periodically held its bill pointing vertically downwards, as if displaying to the other birds, though if this was the case no response was detected. The call was noted as quite distinct from that of Sandwich Tern, falling rather between that species and Common Tern *S. hirundo*.

Birds of the Isles of Scilly

Given the similarity of dates involved, it may be no coincidence that an unidentified medium-sized, orange-billed tern was seen on two or three occasions between St Mary's and Tresco for a few days from 28th August 1994 (IOSBR 1994). However, without the benefit of adequate views the possibility of hybrid Lesser Crested x Sandwich Tern could be discounted (Steel & McGuigan 1989), or even the possibility of Elegant Tern *S. elegans*. A total of just eight records of Lesser Crested Tern were accepted by the BBRC during the period 1958-99, though it is conceivable that as few as two individuals may have accounted for all or most of these (Palmer 2000), thus the Tresco bird represented at least 12.5% of the recorded national total. For a useful account of the problems involved in separating Lesser Crested from similar tern species see Dubois (1991). The North African *torresii* population vacates the Mediterranean basin during autumn to winter in coastal West Africa, possibly providing an explanation for vagrant Lesser Crested Terns seen in Britain and Europe.

Sandwich Tern

Sterna sandvicensis A

Formerly up to perhaps 100 pairs bred but now less than annual and becoming scarce, though annual and sometimes numerous on passage during spring and autumn.

Breeds central West Palearctic and eastern Central America. West Palearctic populations winter southern Europe east to Caspian Sea and south through Africa to Antarctic Ocean. Polytypic: nominate *sandvicensis* occurs coastal western Europe through Mediterranean to Caspian Sea; *aculflavida*, or 'American Sandwich Tern' North and Central America; *curvignatha*, considered by some authorities as separate species, South America. Included on Annex I of 1979 EEC 'Birds Directive'. Amber-listed in UK: 50% or more of breeding population at ten or fewer sites; unfavourable European conservation status (Gregory *et al.* 2002).

Earliest reference to Sandwich Tern in Scilly seems to be in E H Rodd's *List of the Birds of Cornwall* in the *Zoologist* (Rodd 1870a), in which he pointed out that 'a few pairs' were observed in the summer months and that it bred annually on some islands. He wrote again to the *Zoologist* in 1879 having heard from T A Dorrien-Smith that there were now 'heaps of Sandwich Terns on their eggs and nests' on various islands, though naming Guther's Island in particular (Rodd 1879c). However, just a year later he commented on how only a few pairs might now be annually observed and not in such numbers as formerly (Rodd 1880).

As with many species on Scilly, it fell to the ever reliable James Clark and E H Rodd's nephew Francis to succinctly describe Sandwich Tern's status at the close of the 19th century, these two pointing out that in 1841 more than 100 pairs reportedly bred among the islands (Clark & Rodd 1906). They quoted A A Dorrien-Smith to the effect that up to 40 nests were annually found on the southern end of Annet's northern half, though this site seems to have been deserted from around the mid-1880s. Clearly, though, Dorrien-Smith could not have come by that information first hand as he was born in 1876 and it seems likely this description of the early Annet Sandwich Tern colony was handed down, presumably from his father, T A Dorrien-Smith. During the 20 or so years from the 1880s, just single nests were to be found about the islands in some years, though in 1903 two pairs unsuccessfully attempted to breed on Guther's. Nonetheless, at least one brood was successfully hatched in 'a less frequented spot' that same year. Penhallurick (1969) added to the picture by mentioning Saunders' failure to find evidence of breeding during the 1880s, likewise noting that H W Robinson found no such evidence during 1911.

Bringing the situation nearer the present time, Penhallurick made mention of up to 40 on passage off the Cornish mainland during the 1960s, though he considered four together nearer the limit for Scilly, with 13th October the latest recorded date. There appears to be no mention of even attempted breeding during the early to mid-1900s and certainly Allen found none during his comprehensive seabird surveys of 1974 and 1976, although in 1978 six to seven pairs were said to have bred successfully on Green Island, Samson (Birkin & Smith 1987). It then continued to breed up until 1981 and again from at least 1987, when 20 pairs were again present on Green Island. Birkin and Smith attributed any Green Island breeding failures to possible disturbance from passing tripper boats but gave no additional information. However, more recently inundation by spring tides has proved problematical for breeding terns at this last site (pers. obs.) and seems a far more likely explanation for past failures. Subsequent to 1987 the most successful year was 1991, when 15 pairs laid eggs among Common *S. hirundo* and Roseate Terns *S. dougallii* on the summit of Samson's North Hill, though this activity was brought to a conclusion by the attentions of Brown Rats *Rattus norvegicus* (P J Robinson 1992b), the only subsequent known breeding attempts

involving three pairs in 1993, again on Samson's Green Island and a single pair there in 1998, both of which failed.

Sandwich Terns annually pass through the islands on passage to and from Atlantic-coastal Africa (Wernham *et al.* 2002), creating difficulties in spring determining whether birds are intent on breeding. Likewise, late summer adults may appear with and be seen feeding young seeming hardly capable of sustained flight, though the absence of local breeding evidence suggests these originate from colonies much further afield, e.g. southern Ireland. Cramp *et al.* (1977–94) commented on the rapid dispersal of young from the breeding colony, quoting sightings of birds 65 km from the colony three days after fledging, whilst Fernandez-Cordeiro and Costas commented on Sandwich Terns feeding juveniles in migration off the coast of Spain (Fernandez-Cordeiro & Costas 1991).

Earliest birds appear from early to mid-March and they are rarely seen after late October, though extreme dates during the period 1990–99 were 20th February and 14th December, both in 1997. Autumn passage substantially outnumbers spring passage and normally commences from early to mid-July. Determining numbers of birds present at any one time is confused by inter-island movement, but roosts of up to 60 or more were recorded post-1990, plus at least one feeding concentration of over 100 individuals over St Martin's Flats in 1992. More usually, though, daily totals of 10–40 birds occur during autumn with fewer in spring. Main roost sites include Samson's Green and Stony Islands, Tean's rocky shoreline and, sometimes, Green Island, Tresco. All these sites are situated within the shallow-water areas to the south of St Martin's and Tresco and east of Samson which are so much favoured by feeding *Sterna* terns in Scilly. Importantly, Sandwich Terns ringed as pulli in Britain and Ireland are regularly found breeding in other British, Irish or Continental colonies (Wernham *et al.* 2002), thus proving the potential for eventual recolonisation of Scilly.

There is already one British record of the slightly smaller North and Central American *acutiflvida*, involving a dead ringed individual in Hertfordshire in 1984 (Gantlett 1998), so it may be worth examining birds in Scilly with this possibility in mind, particularly perhaps during autumn, though field identification may be problematical. Initial dispersal of European breeding adults and fledged young appears to be random, though by late September most are moving south, with return migration commencing as early as February.

Roseate Tern

Sterna dougallii A

Summer visitor and passage migrant.

Fragmentary world breeding range, including southwest Europe and Azores, East Africa, Western Atlantic, southern India and Australasia. European birds winter coastal West Africa south to Equator. Polytypic: nominate *dougallii* occurs Atlantic Ocean and Caribbean; *bangsi* Arabian Sea, coastal East Africa and Central Pacific; *korustes* Bay of Bengal east to Burma; *gracilis* Australia and South Pacific. Included on Annex I of 1979 EEC 'Birds Directive'. Red-listed in UK: rapid, greater than 50% decline over past 25 years and greater than 50% range retraction within same timescale; 50% or more of breeding population at ten or fewer sites; unfavourable world conservation status (Gregory *et al.* 2002).

Allegedly bred commonly up until the early to mid-19th century but then declined rapidly, since when it has remained either scarce, rare or absent. Roseate Tern did not breed or attempt to breed in Scilly from 1994 until at least 2001, though a multi-agency recovery programme is now in place.

According to James Clark and Francis Rodd (1906), Roseate Tern bred in considerable numbers when Penzance resident D W Mitchell visited the islands in May 1840. E H Rodd explained Mitchell's presence in Scilly as 'investigating the ornithological resources of the islands during the nesting season', though Mitchell was nevertheless able to obtain as many eggs as he required (Rodd 1880). Unsurprisingly, perhaps, numbers (and indeed those of other tern species in the islands) then very soon declined, to the point where Jenkinson (presumably the Reverend J H) found only one or two pairs of Roseate breeding by 1854 (Clark & Rodd 1906). Clark & Rodd pointed out that in 1867 Francis Rodd, or his esteemed uncle E H Rodd, 'saw a few in their former breeding haunts' but that was the last recorded presence in the islands up until at least 1906. Surprisingly, Clark & Francis Rodd make no mention of the breeding sites involved in the 19th century, though the elder Rodd named Annet in at least two sources (Rodd 1870a, 1878b). Interestingly, though, the latter's reference to additional breeding sites merely as 'a Scilly rock and some other locations' hints at some effort on his part to conceal their exact whereabouts away from Annet (Rodd 1878b), perhaps in response to egg-collecting.

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Roseate Terns returned to the islands in 1920 after an absence of 60 years, at which time C J King (1924) knew of at least two pairs among Common Terns *S. hirundo*, though Penhallurick later put the number at 3–4 pairs (Penhallurick 1969). Something of a chequered history followed, birds probably being present almost annually through to the early 1990s, though with never more than 20 pairs involved and frequently less. The Table and Chart show minimum recorded numbers of pairs, the former including records up until 1949 and the Chart showing the subsequent situation; records of a 'few' were taken to imply a minimum of three pairs and high and low estimates were averaged to the nearest half pair. As with most breeding species in Scilly, Roseate Tern recording suffered from a lack of dedicated long-term interest, which reveals itself through the lamentably inadequate dataset on the number, distribution and success of breeding pairs.

Within the islands there is a clear history of Roseate Terns breeding within Common Tern colonies, a situation that persisted right up until the final few pairs during the early 1990s. However, reasons for this association are by no means clear and Roseates were undoubtedly disadvantaged in Scilly by the near annual fragmentation of the Common Tern breeding population, most Roseate nests being situated towards the edge of Common Tern colonies, often but by no means always within or under peripheral vegetation, e.g. low Bracken *Pteridium aquilinum* (Blair 1950). British and Irish Roseate Terns winter off the West African coast south as far as the Gulf of Guinea (Wernham *et al.* 2002) and though the precise spring return route through the western approaches is unclear, birds from sites in eastern Ireland seem likely to pass close to Scilly, as may those from any North Sea locations.

Year	No. Pairs	Site	Reference
1840	'common'	Annet?	Clark & Rodd 1906
1854	'few'	Annet?	Clark & Rodd 1906
1920	3–4	Green Island, Samson – Guther's Island	C J King 1924; Penhallurick 1969
1921	1	?	Penhallurick 1969
1923	1	?	Penhallurick 1969
1924	1	?	Penhallurick 1969
1940	'recolonisation'	?	Penhallurick 1969
1943	5	Green Island, Samson – Guther's Island	CBWPSAR 13
1946	1	Annet	CBWPSAR 16
1947	3	Annet – Green Island, Samson?	CBWPSAR 17
1948	2–5	Two unnamed sites	CBWPSAR 18
1949	1–3	Two unnamed islands	CBWPSAR 19

Numbers of Recorded Roseate Tern Pairs – Scilly pre-1950

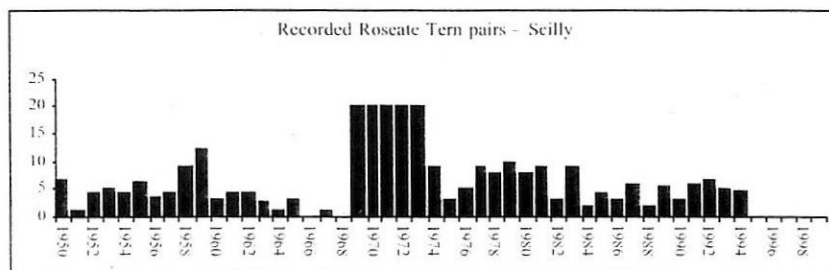
Commencing with the 1991 breeding season, timber nestboxes were deployed at a selection of tern breeding sites known to have previously held Roseates, e.g. Samson's North Hill, Merrick Island, Apple Tree Banks, Tresco and nearby Green Island, Tresco. At the last of these, up to two pairs utilised boxes in 1993, one laying a clutch of two eggs inside a box, whereas two chicks from an exposed clutch moved into a box as soon as they hatched (P J Robinson 1993). Nevertheless, the eventual loss of breeding Roseates from Scilly was probably mainly attributable to frequent failure of the more numerous Common Tern colonies, which in turn was attributable to a variety of factors, not all of which operated at the same time. However, there is some evidence that Roseate Terns may be more site-faithful to historical sites in Scilly than are Common Terns. By the start of the 21st century, a multi-agency Isles of Scilly Roseate Tern recovery programme was underway, aimed at establishing a viable multi-species tern colony at the much-favoured site on the summit of Samson's North Hill, this particular site being beyond the reach of even the highest tides, with at least some protection from the attentions of large gulls *Larus*, plus a controlled visitor presence, but perhaps most importantly, on an island now cleared of Brown Rats *Rattus norvegicus*.

The basis of the recovery effort, part of the National Roseate Tern Species Recovery Programme, is the pre-season provision of both nestboxes and artificial Common and Roseate Terns, supported by the constant playback of mixed-tern colony calls using a portable CD player powered by a miniature solar panel. Up

until 2001, Common Terns were responding well, with a minimum of 25 pairs laying eggs at the site and a lesser number of young reared (Robinson & Colombe 2001).

The reported rapid decrease in the Scillonian breeding population during the early 19th century corresponds with the known national decline, just as the early 20th century recolonisation reflected a national improvement in the species' distribution and numbers (Parslow 1967a). However, interestingly, even by 1968 Parslow thought the national population was beginning to decline again, a view since confirmed in the eastern Atlantic, where the number of British breeding pairs fell from 700 to 64 during the 30 years 1970–99 (Batten *et al.* 1990; *British Birds* 94: 369). Caution may nonetheless be required in interpreting reported Roseate Tern breeding numbers in Scilly, as evident, for example, from the *IOSBR* claim of no successful breeding in 1969, whereas Cramp *et al.* (1974–77) quoted a figure of 20 breeding pairs. Similarly, although the *IOSBR* lists as few as two pairs for the five years 1969–73, Lloyd *et al.* (1975) produced a figure of 20 pairs for each of these years. In addition, throughout the 1960s and 70s only very scant information was published on even the presence of birds within the islands. The St Agnes Bird Observatory mainly reported only what was viewable from that island, thus the *SABOAR* mainly mentions only birds breeding in the vicinity of Annet. There also appears to be some confusion within the various reports over the difference between failed breeding and the absence of any attempted breeding. It must be appreciated, too, that whilst gaps in the Table or Chart show the absence of published information, this may not necessarily prove an absence of breeding Roseate Terns.

Estimating numbers of Roseate Terns present in and around the archipelago is frustrated by feeding movements and, similarly, calculating precisely how many breeding or potential breeding pairs may be present is complicated by the apparent inter-site movements of failed pairs, as is also true for Common Terns. Nevertheless, there seem to be few recorded counts involving more than the local Roseate Terns, with two to three roosting flocks of 20 during the early 1980s the apparent highest counts. Indeed, the suggestion that few Roseate Terns from elsewhere may pass through the islands on passage gains support from the fact that recorded sightings decreased in line with the recent reduction and eventual loss of breeding birds, to the point where just two and four birds were seen during the whole of 1998 and 1999 respectively.



Data sources: mainly *CBWPSAR* and *IOSBR*

Common Tern

Sterna hirundo A

Annual summer visitor and migrant, 100 breeding pairs or less represents a 50% decrease on the early 1990s.

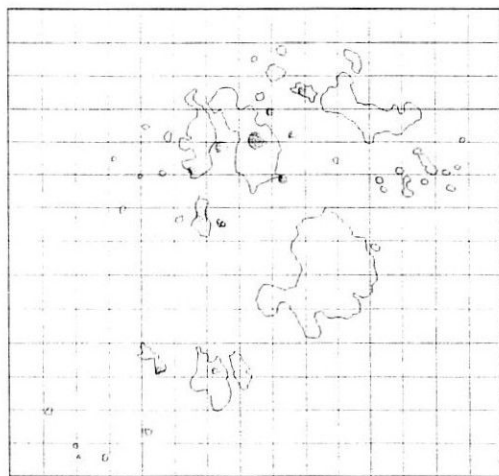
Breeds mainly south of Arctic Circle, from central and southern Europe through central Asia to Kamchatka and Bering Sea, also central northern North America. Migratory, wintering on coasts of most landmasses south to Southern Ocean. Polytypic: *longipennis* occurs eastern Siberia south to northern China; *tibetana* central-southern Asia; nominate *hirundo* remainder of range.

North (1850) recorded Common Terns in Scilly along with Sandwich *S. sandvicensis*, Arctic *S. paradisica* and Roseate Tern *S. dougalli*, all of which he said bred on sand, shingle or grassy banks on various islands, though especially on Annet. By present standards, late 19th century assessments of the status of Common Tern status in the islands seem surprising, E H Rodd considering it less numerous than either Roseate or Arctic (Rodd 1878b), though he did agree it was an annual breeding visitor, as was also the case in mainland Cornwall (Rodd 1880). Even by the early 20th century, Rodd's nephew Francis and James Clark thought it 'not nearly so abundant as formerly, though it is still well represented in the breeding season' (Clark &

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Rodd 1906). Sadly, however, they attached no population estimate and we still have no real idea how many Common Terns, or other tern species, were breeding in Scilly during the 19th and early 20th centuries.

However, some things clearly have not changed, Clark and Rodd lamenting that Common Terns were inclined to nest at sites frequently inundated by spring tides. In their assessment of terns generally, these two thought they had been much more abundant fifty years beforehand, noting too that even by 1854 Jenkinson (presumably the Reverend J H) thought terns had all diminished in numbers over the previous four years, i.e. 1850–54. There seems little doubt, though, that things were in a quite rapid state of change, for although E H Rodd considered Arctic more numerous than Common during the 1880s, by 1906 Clark and Rodd thought Arctic was greatly outnumbered by Common Tern. The only other reports prior to the mid-20th century are contained in the *CBWPSAR* for 1937 (No. 7), from which we see that only Common Terns bred in the islands that year, in colonies situated on Bryher (four sites) and Green Island, Treseco.



Common Tern Breeding Distribution – 1999
(data Seabird 2000)

Common Terns have a chequered 20th century breeding history in the islands, characterised by years of extreme successes or extreme failure. Cataloguing this occupies much space and in the event proves little, save to show how adaptable the species is in the face of combined adversity. Similarly, a list of islands formerly or currently holding breeding terns would be unnecessarily extensive and in itself would prove little. However, it would reveal an obvious preference for the shallow sandy waters surrounding Treseco, Bryher and Samson, with mostly small gatherings or isolated pairs elsewhere, e.g. on St Agnes, or St Martin's. Typical years were 1945–46, when birds bred or attempted to breed at 15 locations from Annet east as far as Guther's Island and White Island, St Martin's. If all-island counts were conducted prior to 1969 they apparently went unrecorded, although such counts were carried out in 13 of the 31 years to 1999. The Chart shows that since at least 1973, numbers rose to over 200 in the

early to mid-1980s, before declining to an end-of century level of under 100 pairs in 1999.

Island	Nests	Flush Count	Count Date	Extra Birds Involved
St Agnes – Killimay	2	3	31/5	
St Agnes – Browarth	1	2	31/5	
Peashopper Island	1	2	7/6	
Great Cheese Rock	5	27	10/6	17
Old Man of Tean	1	2	10/6	
Samson – Green Island	7	48	14/6	34
Merrick Island	13	31	15/6	5
Treseco – Apple Tree Banks	39	80	22/6	2
Treseco – Green Island	1	3	22/6	1
Annet	1	2	23/6	
Bryher – Colvel Rock	1	2	24/6	
Treseco – Castle Down	13	15	25/6	
Samson – North Hill	11	60	7/7	38
Total Number of Nests	96			

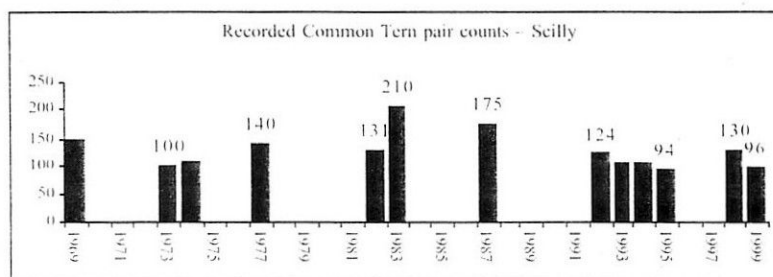
Distribution of Scillonian Common Tern Nests – 1999 (Seabird 2000 data)

Causes of this recent decline are untested but would seem to be probably related to poor productivity, although driving forces behind recent colony failures are varied and not always associated. Foremost among

them, however, is the inability of Scillonian Common Terns to agree on a preferred breeding site, the resultant fragmentary attempts leaving small, isolated breeding groups vulnerable to predation of eggs by Carrion Crows *Corvus corone*, or of small young by gulls *Larus*. Other causes of failure include high spring tides, disturbance by humans, predation by Brown Rats *Rattus norvegicus* or loss of eggs during heavy rain. More recently, the Scillonian Roseate Tern recovery programme is calling for the establishment of a single Common Tern colony on the summit of Samson North Hill, a site long favoured by terns but much troubled by Brown Rats until their recent removal from that island. This site is beyond the reach of high tides and has at least some protection from the attentions of large gulls, plus human access can be controlled, though it is still too soon to assess results.

The Table and Map show the distribution of 96 Common Tern pairs recorded during fieldwork carried out in 1999 as part of the national Seabird 2000 survey. Also shown are flush-counts (*Seabird monitoring handbook for Britain and Ireland* 1995) and numbers of additional or 'spare' birds believed to have been present at each site. Interestingly, both Samson's North Hill and Samson's Green Island scored highest in terms of additional birds and it has long been suspected that these two locations attract birds from failed sites elsewhere in the islands, the difference between them being that Green Island is susceptible to tidal flooding, whereas Samson North Hill is not. Several small rocky sites, e.g. Merrick Island, Tresco's Green Island or Great Cheese Rock, are devoid of vegetation or other cover and so are vulnerable to various causes of failure. Efforts during the mid-1990s aimed at reducing clutch losses by pre-sanding these sites proved extremely successful, numbers of pairs increasing from five up to 40. However, the resultant increased numbers of young, combined with the lack of suitable protection attracted the attentions of large gulls and it was considered safer not to encourage use of what are, in reality, only peripheral breeding sites. Up until the end of the 20th century, the recently introduced Hedgehog *Erinaceus europaeus* was confined to the main island of St Mary's, where terns and other seabirds do not breed. However, the potential spread of this active ground predator to other islands, e.g. St Agnes, Tresco or Samson, represents a serious threat to terns and other ground-nesting seabirds in Scilly.

The closest breeding Common Terns to Scilly are on Chesil Beach in south Dorset, along Ireland's southern coastline and in northern Brittany in northwest France, all of these being at a distance of at least 160 km. Penhallurick recorded evidence of Common Tern passage through west Cornwall in spring from mid-April to late May, and found it to be always lighter than in autumn, though a single-day count of over 500 was recorded off St Ives. Although autumn numbers were higher, 3,000 off St Ives during a gale was nevertheless exceptional and several hundred per day seemed more usual (Penhallurick 1969). On Scilly, any Common Tern passage is clouded by the presence of local birds and so the situation is less easily assessed. Consequently, Common Tern movements have mostly been poorly recorded and for many years the suggestion is of little or no movement through the islands at either end of the year. And certainly what data there are give a slight hint of a greater passage in spring than autumn. In nine of the ten years 1990–99, first sightings occurred between 5th and 29th April, the exception being 20th March. But whilst final sightings ranged between 1st and 26th October in nine out of ten years, a bird on 17th December (dead on 20th) proved the exception. Maximum single-day spring counts were in the range 70–100, but whilst autumn totals were broadly similar, there was a high of 200 on 27th July. The only report of birds showing 'portlandica'-type plumage features during the ten-year period involved two in Tresco Channel on 1st July 1993.



The majority of the West Palearctic population winters off coastal West Africa, smaller numbers staying north as far as Iberia (Cramp *et al.* 1977–94). More northerly populations move furthest south and British

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and central European birds winter mostly off West Africa, with ringing data showing that birds from the Baltic states also pass through Britain (Wernham *et al.* 2002). A total of 229 Common Terns were ringed in Scilly during the late 20th century, 145 (63%) since 1970. The only two recaptures are shown below, both of which fit the West African pattern. However, it is worth recording that as long ago as 1911 H W Robinson ringed 191 young terns on one island in Scilly (Penhallurick 1969). A pulli spirit specimen prepared by Robinson on 23rd June 1923 resides in the British Museum (Natural History) reference number 1924.6.25.

Recoveries

SX06437	Pul	Merrick Island 3rd July 1991	CT	Cape Three Points, Ghana
				2nd December 1991
SX37862	Pul	Merrick Island 13th July 1992	AS	Offshore, Guinea Bissau
				3rd January 1994

Common Tern Ringing Recaptures

Arctic Tern

Sterna paradisaea A

Scarce migrant and former summer visitor, reportedly bred as recently as 1973.

Breeds edges of Arctic Ocean, extending into North Atlantic as far as Britain and Ireland and extreme northeast USA, and into North Pacific to Sea of Okhotsk, Aleutian Islands, Alaska and northwest Canada. Long distance migrant, wintering south into Antarctic Ocean. Monotypic. Included on Annex I of 1979 EEC 'Birds Directive'. Amber-listed in UK: moderate population decline over past 25 years (Gregory *et al.* 2002).

According to E H Rodd, Arctic Tern was the commonest migrant tern in Cornwall and Scilly up until at least the 1880s, the same authority noting that although it bred in Scilly it did so in far fewer numbers than previously (Rodd 1870a, 1880). In a similar vein, by the early 20th century James Clark and Francis Rodd were lamenting the fact that although it had greatly outnumbered the Common Tern 20–25 years beforehand, it was now in the minority (Clark & Rodd 1906). Unsurprisingly then, by the mid-20th century Arctic Tern was believed to have disappeared from the islands as a breeding species (Witherby *et al.* 1940; Ryves & Quick 1946), the last recorded breeding perhaps having occurred in 1924. Nevertheless, in his review of changes among British breeding species Parslow found no evidence of wide-scale declines during the late 19th and early 20th centuries, though local fluctuations were known to have occurred (Parslow 1967a).

Most subsequent references to Arctic Tern in Scilly involve random sightings of what were assumed to be passage birds, mostly in very small numbers, e.g. four together on one of the two Green Islands on 6th June 1947. Nonetheless, the possibility of it lingering to breed remained, as evident from A A Dorrien-Smith's 1948 report that 'a few pairs attempted to breed' (CBWPSAR 18). However, far more frequent were comments such as 'heavy spring passage, but no evidence of nesting'. In fact, in 1961, an observer, having located a single Arctic Tern on Treco on 16th August, saw the need to provide a description for what was indeed the only individual record in the islands that year.

During the ten years from 1990 it was recorded in all but 1994, but in surprisingly low numbers – though doubtless the odd individual escaped identification among the far greater number of Common Terns. A total of 67 passage Arctic Terns were recorded during the nine years, two-thirds of these in autumn and at an annual mean of 7.4. Sixteen in 1997 was the most in any one year, 15 of those in autumn, and two in 1993 was the lowest annual total.

All of this makes it difficult to understand claims that 30 pairs of Arctic Terns bred on Annet in 1945 (CBWPSAR 15), plus 12 pairs on the same island in 1963 and 40–60 pairs the following year (SABOAR 1963–64), with the further suggestion that a few pairs may have bred on Treco during 1973 (IOSBR 1973) and 1977 (IOSBR 1977). Reactions to such claims are mixed, many taking the view that birds involved were incorrectly identified Common Terns. However, during the late 1960s and early 1970s, Arctic Terns bred in Dorset and around Ireland's southern coastline, with other outlying groups in Kent, Suffolk and Norfolk, a situation that persists to the present time (Sharrock 1976; Gibbons *et al.* 1993). In addition, some of the observers involved in Scilly were particularly reliable, the 1963–64 Annet pairs being

seen by observers from the St Agnes Bird Observatory. But in any event, such issues are not easily reassessed at this distance in time and much reliance must be placed upon the integrity of both the observers involved and any editorial and vetting staff. More recently, a single Arctic Tern was witnessed among Common Terns above Green Island, Samson during a survey by the author and W H Wagstaff on 15th June 1995, though no nest could be attributed to this bird and it was not recorded subsequently (IOSBR 1995).

Much Arctic Tern passage occurs offshore, presumably explaining the paucity of Scillonian sightings of a migrant species that breeds in substantial numbers in Ireland, northern Britain, Fennoscandia, northwest Asia and adjacent Arctic islands. Ringing recoveries show that many birds from both shores of the Baltic Sea routinely pass through Britain (Wernham *et al.* 2002). No Arctic Terns are recorded as having been ringed on Scilly and there are no recaptures from elsewhere.

Bridled Tern

Sterna anaethetus A BBRC 5.5%

Extremely rare vagrant or migrant, full written description required by the BBRC.

1991 One Tresco & Crow Sound 6th July to 13th August *British Birds* 85: 107, 531

Fragmentary distribution, breeds Caribbean, Central America, tropical West Africa and Indian and Pacific Oceans. Migratory or highly dispersive, mainly offshore. Polytypic: *melanopectera* occurs West Indies and West Africa; *nelsoni* Central America; *antarctica* Red Sea, Persian Gulf and western Indian Ocean; nominate *anaethetus* eastern Indian Ocean and southeast Pacific (Cramp *et al.* 1977–94).

Just one occurrence of what remains an extreme rarity throughout the whole of the British Isles, with the BBRC accepting just 18 British records within the period 1958–99 and with only three records prior to that. The appearance of the 1991 individual, an adult, coincided with the arrival of an extreme low-pressure weather system, which remained centred over the islands for two days during early July and was marked initially by a prolonged period of extremely heavy rain. During its 39-day stay the bird mainly frequented the shallow water and sandy beaches around the southern ends of Tresco and St Martin's, and towards the end of its stopover occasionally visited Common Tern *S. hirundo* colonies (IOSBR 1991). During at least one such occasion it was heard to called repeatedly as it flew back and forth low over the colony on Tresco's southeast corner (pers. obs.).

Birds reaching the British Isles seem most likely to originate from West African, Caribbean or Central American populations (Cramp *et al.* 1977–94), though as Gantlett (1998) pointed out, the BOURC currently assumes all records are *antarctica*, based on a bird found dead in Kent in 1931. Dymond *et al.* (1989) showed that most, if not all, birds arrived in Britain and Ireland between mid-April and the last week of October, with a very obvious concentration in southwest England.

[Sooty Tern

Sterna fuscata] A

Extremely rare vagrant or migrant, full written description required by the BBRC.

[1883 One Tresco] Clark & Rodd 1906

Fragmentary distribution, breeding Atlantic, Caribbean, Indian Ocean, Persian Gulf, tropical and southern Pacific. Migratory or dispersive, movements poorly understood. Polytypic: nominate *fuscata* occurs Caribbean and Atlantic; *nubilosa* Red Sea, Persian Gulf and Indian Ocean; with five more forms in Pacific.

Like the previous species, there is just a single claimed record, but in this case it is quite old and perhaps not as reliable as we might wish, originating as it does from a time when the only certain rarity was a dead one. James Clark was certainly sufficiently cautious about this record in his list of *The Birds of Cornwall* to enclose the entry in squared brackets (Clark 1902). The incident occurred after publication of F H Rodd's landmark *The Birds of Cornwall and the Scilly Islands* (Rodd 1880) and is summarised by James Clark and F H Rodd's nephew Francis Rodd in their normally dependable *Zoologist* review of 'The Birds of Scilly' (Clark & Rodd 1906). Here they explain that in 1883 veteran Tresco gamekeeper David Smith saw a strange bird hawking flies over the freshwater pools. Because he was still recovering from a severe illness, Smith asked a friend to shoot the bird, but the shot missed and the bird flew off and was never seen again. Smith was subsequently 'shown the plates in Gould', whereupon he allegedly identified the bird as Sooty Tern. The only pre-1883 Gould publication containing a Sooty Tern plate appears to be

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his 1848 *Birds of Australia*, which also contains a plate of Bridled Tern *S. anacthetus* (E Warr *in litt.*), thus demonstrating that Smith had a clear choice between these two look-alike species. However, in preparing the *Zoologist* text, Clark appeared slightly less cautious about this record than he did years earlier. Nevertheless, the record is square-bracketed here in view of the known possibility of confusing these two species, plus the lack of any known written description. It does not appear in the 1971 BOU Checklist (Snow 1971). A total of ten British Sooty Tern records were accepted by the BBRC during the period 1958–99, with 16 prior to that period, perhaps suggesting that the species has become less likely to be seen in the British Isles than formerly, allowing for the increased number of observers. European records attributed subspecifically are thought to have involved *fusca* (Cramp *et al.* 1977–94). Clark and Rodd make no mention of the timing of the Tresco incident, and although Penhallurick (1969) gave it as autumn he too provided no additional information. In their review of 20th century British and Irish Sooty Tern records, Dymond *et al.* (1989) found that all occurred between late May and mid-August, though several older records fall within the period March or April through to October (Witherby *et al.* 1940). These last authors also made no mention of the claimed Tresco sighting.

Little Tern

Sterna albifrons A

Scarce migrant, mainly now in spring. There seems no reason to doubt a claim that single pairs bred in 1908 and 1919.

Breeds Caribbean, Central and North America, central and southern Europe, central and eastern Asia and Australasia. Migratory, west European population winters coastal West Africa to equator, perhaps further south. Polytypic: nominate *albifrons* occurs Europe to central Asia and south to North Africa, Iran and India; *guineae* West and central Africa; at least five additional forms elsewhere include the North and Central American *antillarum* or 'Least Tern'. Included on Annex I of 1979 EEC 'Birds Directive'. Amber-listed in UK: moderate population decline over past 25 years; 50% or more of breeding population at ten or fewer sites; unfavourable world conservation status (Gregory *et al.* 2002).

E H Rodd knew it as 'Lesser Tern *Sterna minuta*' and described it as far from rare along the Cornish coast, though as far as he knew it did not occur in Scilly during summer (Rodd 1880). Nonetheless, James Clark and Rodd's nephew Francis made mention of one in immature plumage shot on Guther's Island on 14th September 1857, the latter having also seen seven between Tresco and Samson in October 1863, three of which were shot. One also spent several weeks in the area of Tresco's Great Pool in July 1877 and another was present in the Bryher area in April 1904 (Clark & Rodd 1906). These records apparently were the sum total of published Little Tern reports up until the start of the 20th century.

Penhallurick reviewed the status of Little Tern up until the mid-1960s, pointing out that according to C J King, he and F W Frohawk found a Little Tern nest on Tean in 1908, King also making mention of a nest at Pelistry, St Mary's, in 1919 (Penhallurick 1969). However, Penhallurick also drew attention to King's confession that he once mistook an exceptionally small clutch of Common Tern *S. hirundo* eggs for those of Little Tern (C J King 1924) and on that basis suggested King's records were perhaps suspect. However, King was quite clear this misidentification took place on Guther's Island in 1923 whilst he was accompanied by his son, not by Frohawk and the error was corrected at the time, therefore there seems nothing in these remarks to cast doubt on the earlier record, though, unfortunately, King provided no additional information on the St Mary's record. Penhallurick considered Little Tern a scarce migrant in the islands at least by the 1960s, mainly in autumn, and drew attention to the fact that the earliest published 20th century account of it after Clark and Rodd's mention of one on Bryher in 1904 concerned a bird moving southwest past St Agnes on 20th August 1952 (CBWPSAR 22). Sightings ranged between mid-August and early October with eight the most seen together and there were just two spring records.

Examining the situation for the ten years from 1990, we see a slightly different situation to that described by Penhallurick, with 33 Little Terns arriving in eight years in spring, whereas just 21 appeared in five years during autumn. However, the spring figure is inflated by an excessive 16 during 1991 and once that count is disregarded overall totals for the two periods are similar. Some authorities suggest a fall-off in numbers in recent years, but the situation described differs little from the 13 preceding years, when none were recorded in at least two years, but with 19 in 1983 described as 'more than usual'.

The closest breeding Little Terns to Scilly are in Dorset and southeast Ireland (Gibbons *et al.* 1994) and in northwest France (Guernneur & Monnat 1980). In western Europe, post-breeding movement commences from early July and continues through into October, some travelling in family groups, which presumably accounts for a juvenile seen being fed by adults in Pentle Bay, Tresco, on 13th August 1995. Most passage south to the West African wintering areas (Wernham *et al.* 2002) occurs along the coasts and is sometimes rapid, return spring movement being less well documented but thought to commence from April, most passing north off European coasts during April and May (Cramp *et al.* 1977–94). Gantlett (1998) identified the possibility of the perhaps recognisable East African form *guineae* occurring in Britain and there are already British claims of the North and Central American *antillarum*. No Little Terns have been ringed in Scilly and there are no recaptures from elsewhere.

Whiskered Tern

Chlidonias hybrida A BBRC 0%

Extremely rare migrant, full written description required by the BBRC. An early claim of breeding is unsupported by published detail and seems extremely improbable in any event.

1851 One (immature – shot) Tresco 2nd August Rodd 1851d; Clark & Rodd 1906

Fragmentary southern Eurasian breeding distribution, from Iberia and France east to China and south to East Africa, Madagascar, India and Australia. Migratory, European populations winter mainly tropical West Africa. Polytypic: nominate *hybrida* occurs Europe, North Africa, Middle East, northern India and southern Siberia and China; two further forms eastern and southern Africa plus Australia (BOURC 2002b)

In his *A Week at the Land's End*, Blight (1861) names this as one of several tern species the eggs of which were to be found 'in other places, and generally in the sand or herbage about the shore'. However, no other 19th century writer suggested that Whiskered Tern bred or even occurred in Scilly apart from the one obtained specimen and the circumstances described by Blight seem wholly unsatisfactory for what is principally a marshland species.

The single old Scillonian record involved a bird shot on Tresco in August 1851. In a note to the *Zoologist* entitled 'Occurrence of Whiskered Tern at Scilly' and dated 2nd September that same year, E H Rodd reported that 'a bird which I have no doubt is an immature specimen was shot near Tresco Abbey a few days since' (Rodd 1851d). Rodd later reconfirmed the record in his classic *Birds of Cornwall and the Scilly Islands*, pointing out too that as far as he knew it was still the only record for Cornwall and Scilly (Rodd 1880). In preparing the latter book, either the printer or James Harting (who was charged with completing the publication following Rodd's untimely death) mistakenly gave the year as 1857. Certainly James Clark and Francis Rodd knew of no other on Scilly by the time of their own review, commenting that a 'fine example in immature plumage' was shot on Tresco by Augustus Pechell on August 2nd 1851 (Clark & Rodd 1906).

However, whilst the record is not in doubt the precise date remains questionable, primarily because E H Rodd is unclear on the point. In their 1906 review Clark and Francis Rodd gave the date as 2nd August and it must be assumed they were quoting from the Tresco Abbey records, with which Francis would have been familiar and which ought to have been reliable. However, although E H Rodd's *Zoologist* letter of 1851 supports the view that it was shot in August, in later years he appeared to settle on an unspecified day in September (Rodd 1870a, 1878b, 1880).

A total of 107 records were accepted by the BBRC during the period 1958–99, compared with just 20 prior to that time. Birds reaching the British Isles are presumably of the form *hybrida* and certainly T A Dorrien-Smith (1951) made that assumption in the case of the Tresco individual.

Black Tern

Chlidonias niger A

Scarce migrant in small numbers, mostly in autumn and not annual.

Breeds southern Europe and central western Asia east to Kazakhstan, plus central North America. Migratory, Eurasian populations winter coastal West Africa south to Namibia and upper Nile Valley. Polytypic: nominate *niger* occurs Eurasia; *surinamensis* North America.

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Black Tern was known to E H Rodd as a rare autumn visitor to mainland Cornwall, where it mainly occurred over rivers and freshwater pools. In April 1866 he received three summer-plumage specimens shot on a large pond near Land's End and he knew of others seen or obtained near Falmouth during October (Rodd 1880). Although Rodd made no mention of Scilly, his nephew Francis and co-author James Clark put right that situation soon after the start of the 20th century, pointing out that it was 'Seen every now and then on the pools of Tresco in immature plumage in the autumn, and sometimes in August'. They also mentioned an adult obtained some time during April 1877, whilst on 10th April 1903 a flock of seven were watched feeding over Porth Hellick Pool on St Mary's, and on 26th April 1905 four were similarly feeding over Tresco's Great Pool (Clark & Rodd 1906). The inference is that these last were exceptional records and that autumn birds were more frequent. Interestingly, Clark (in W Page 1906) thought there had been a slight increase in Cornish numbers or frequency post-1901, though the only prominent early 20th century report concerned two seen feeding over Porth Hellick Pool for seven days from 12th April 1925 (H W Robinson 1925b).

Scilly is largely positioned outside the main migration path of this species, though numbers annually pass through the Somerset Levels to the east. Examination of records for the ten years from 1990 supports earlier suggestions that this species was more frequent in Scilly during autumn, though spring arrivals are not unusual. Autumn records involved 39 birds in 25 sightings in all but one year, at an average of 4.3 per year, whereas 30 birds in spring involved eleven sightings in only five years. But although this last suggests an annual spring occurrence of six birds per year, 21 of these arrived during spring 1994 (groups of 15 and 6), giving an annual arrival rate of just 2.2 for the remaining four years. The great majority of sightings (90%) involved birds recorded on just a single day, the earliest spring arrival being 30th April (four years) and the latest 18th June, whilst the earliest in autumn was on 7th August and the latest the rather extreme date of 2nd October. The latest ever recorded in the islands may have been the bird found dead on St Mary's on 26th November 1967.

Black Terns breed regularly no closer to Scilly than the Netherlands, with other populations in Denmark, northwest Germany, central and northeast France and Spain (Hagemeijer & Blair 1997). Within the West Palearctic, autumn migration commences from late June or earlier, most adults moving before juveniles; initial juvenile movements taking the form of random dispersal (Cramp *et al.* 1977-94). The Netherlands has been identified as the probable prime autumn staging post for all northern and eastern European populations, plus possibly those in western Siberia, most birds then continuing south through France and Iberia (Cramp *et al.* 1977-94). As evident even from Scillonian records, the volume of between-year passage through Britain and other southwest European counties varies, being exceptionally heavy in some years. Return spring migration begins from late March, most birds passing through southern and central Europe during May. A substantial percentage of birds pass through the Strait of Gibraltar and follow the Atlantic coast northwards to reach Britain, Ireland and even Iceland.

The BOURC recently admitted the North American *surinamensis* to the British List on the strength of a juvenile at Weston-super-Mare, Avon, 3rd-11th October 1999 (BOURC 2002a; *Birding World* 12: 416-418). Consequently, and given the relative scarcity of Black Tern in Scilly, any bird found should be examined with care, especially perhaps during autumn (Gantlett 1998). T A Dorrien-Smith seems to have attributed all pre-1951 records to *niger* (T A Dorrien-Smith 1951).

White-winged Black Tern (White-winged Tern)

Chlidonias leucopterus A BBRC 0.13%

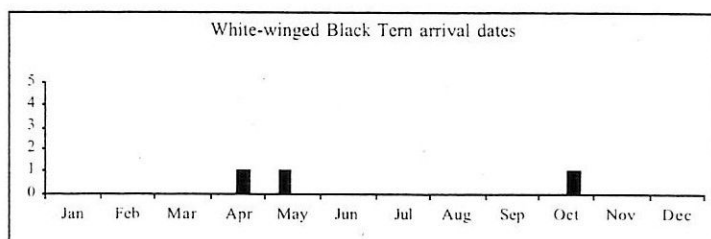
Extremely rare migrant, full written description required by the BBRC.

- 1882 One (adult - shot) Great Pool, Tresco 14th May Cornish 1882b; Clark & Rodd 1906
- 1933 One Great Pool, Tresco 17th April CBWPSAR 3 (A A Dorrien-Smith)
- 1995 One (juvenile) St Agnes & Tresco 17th October (Hayle, Cornwall 18th) *British Birds* 89: 50

Breeds intermittently west and central Europe but more consistently eastwards through central Asia to Mongolia and south to Iraq. Migratory, West Palearctic populations winter Africa south of Sahara, where probably joined by birds from further east. Monotypic.

The first of three acceptable Scillonian records involved a bird in full summer plumage shot by

gamekeeper David Smith on Tresco's Great Pool on 14th May 1882 (Cornish 1882b; Clark & Rodd 1906). The skin of this individual is allegedly now in the Tresco Abbey collection. The next, again on Tresco Great Pool but some fifty years later, was reportedly seen in flight in April 1933 and unusually for Scilly up until that time, was not shot (CBWPSAR 3). Most recent was a first-winter individual initially seen on Tresco on 17th October 1995, before relocating to Periglis, St Agnes and leaving the islands later the same day. Interestingly, what was almost certainly the same bird was present in the Hayle Estuary, west Cornwall, on the 18th (CBWPSAR 65), before leaving in an easterly direction and very possibly also accounting for the sighting of a first-winter individual at Greater Westhay Moor, Somerset, from 23rd to 27th (CBWPSAR 65). The nearest recorded breeding colonies are in Poland and Hungary (Hagemeljer & Blair 1997).



An unusual 'marsh-tern' seen feeding off Tean on 24th June 1969 could have involved this species but the description left room for substantial doubt that something more exotic may have been involved, for according to the observer the bird was jet-black with white shoulders and white tail, reddish legs, yellowish bill and was watched flying low over the water and feeding by dipping rather than with the splash of a Common Tern *S. hirundo* (IOSBR 1969).

Guillemot (Common Guillemot)

Uria aalge A

Summer visitor, breeds in small numbers at a few 'ancestral' sites, smaller numbers are evident in Scillonian waters during winter.

Breeds northern edge of Atlantic and Pacific Oceans, in North Atlantic mainly Britain, Ireland, Norway, Iceland and Newfoundland. Dispersive, northwest Atlantic populations winter south as far as coastal Iberia. Polytypic: nominate *aalge*, or 'Northern Guillemot', occurs North Atlantic south on eastern seaboard to northern Scotland; *albionis*, or 'Southern Guillemot', remainder of Britain, plus Ireland south to Iberia; *hyperborea*, or 'Arctic Guillemot', northern Norway and adjacent Arctic islands; *californica* and *inornata* North Pacific. Amber-listed in UK: 20% or more of European breeding population in UK (Gregory *et al.* 2002).

Earliest evidence of Guillemot presence in the islands came from archaeological sites on Samson, May's Hill on St Martin's and Nornour in the Eastern Isles (Turk 1973, 1984a, 1984b). Bone remains at May's Hill originated from between 1700 and 1000 BC and the 3rd and 4th centuries AD, whilst a tibio-tarsus fragment from Samson dated from around 1200 BC. Unusually in a British context, Razorbill *Alca torda*, Guillemot and Puffin *Fratercula arctica* are the commonest bird species (in that order) found at archaeological sites in Scilly, although Guillemot remains were not found at the Halangy Down site on St Mary's, despite the presence there of Great Auk *Alca impennis* bones (Ashbee 1999).

Nineteenth- and early 20th century accounts of Guillemot on Scilly are as much concerned with plumage type as with numbers or location, Besley's Handbook (Anon, 19th century undated) describing both 'Common and Bridled Guillemot' as common in Cornwall during summer and breeding in Scilly. E H Rodd considered it a well-known seabird either singly or in small parties around coastal Cornwall, where, 'especially at Scilly', it resorted to the cliffs in May 'for the purposes of nidification' (Rodd 1880). Rodd also acknowledged that the bridled form, 'obtained occasionally on the Cornish coast', was generally now regarded as 'merely a variety of the common species'.

More informative, however, was James Clark and Francis Rodd's early 20th century account, these two pointing out that Guillemot was never as abundant in Scilly as Razorbill, though it formerly 'nested in

great profusion' (Clark & Rodd 1906). They also noted that during the late 19th century it had 'sadly diminished', so much so that on Scilly Rock in 1903 only a single (broken) egg could be found, whilst on Gorregan, described by Clark and Rodd as one of its 'recent strongholds' only three eggs were discovered. Meanwhile, on Mincarlo, in the Northern Isles, no nests were found, even though King had described nine or ten eggs three years beforehand. However, it was still breeding on Men-a-Vaur in small numbers and was also thought to do so on Hanjague in the east. Clark and Rodd concluded with the observation that it was 'nowhere prominent'. Sadly, we have no means now of knowing just what Clark and Rodd meant when they described Guillemot as formerly nesting in 'great profusion', though the inference elsewhere is that perhaps not many were involved. In addition, although breeding Guillemots persist still at three or more of the above-mentioned sites, many pairs are what can best be described as subterranean, though we have no means now of assessing whether this was formerly the case, or, if so, whether these went unrecorded by early visitors to these remote sites. Importantly, Smart (1885–86) named only Men-a-Vaur, Hanjague and Scilly Rock as breeding sites, putting the total population even at that time at thirty pairs or less.

Penhallurick (1969) noted that precise details on early distribution and numbers of breeding Guillemots in Cornwall were lacking and though it clearly bred at fewer sites than Razorbill, overall numbers of these two were believed to be similar. The same author highlighted what appeared to have been substantial Cornish Guillemot reductions during the first half of the 20th century, though the timing of publication of his *Birds of the Cornish Coast* made it difficult to assess any effects of the 1967 *Torrey Canyon* disaster. On Scilly, King thought Razorbills outnumbered Guillemots by about 20:1 during the early 20th century and suggested perhaps five known breeding sites (C. J. King 1924). However, some early 20th century reports only confuse the overall picture; for example, according to Penhallurick, Harvey saw few on Mincarlo in 1938 where, again according to Penhallurick, Wallace had found many in 1923. In addition, whereas Ryves (1948) found good numbers on nearby Men-a-Vaur in 1938, Penhallurick also quoted an unnamed source who found that in 1946–47 numbers on Men-a-Vaur and Gorregan were 'too large to estimate'. Nonetheless, no co-ordinated early to mid-20th century all-island count appears to have been carried out, though by the late 1960s Penhallurick suggested a total of c. 50 pairs, with 25 on Men-a-Vaur, 8 on Scilly Rock and 17 on Gorregan. He further suggested that breeding may have ceased on Mincarlo and Hanjague and that by then most Scillonian Guillemots nested beneath boulders, whilst confirming this behaviour had not been recorded prior to 1923. Nonetheless, some still apparently bred on Mincarlo up until 1952, at which time the island was visited from the mainland by active egg-collectors (Cole & Trobe 2000).

The fragmentary distribution of breeding Guillemots in Scilly, the isolation of sites and relatively brief period when birds are present at colonies, plus difficulties involved in gaining access, all severely limit count data. Certainly since 1990, no Guillemots have bred on Hanjague in the Eastern Isles and the only indication of possible breeding on Mincarlo involved a single bird seen leaving the site during the Seabird 2000 count. Therefore, the current known Scillonian breeding sites are limited to Gorregan, Scilly Rock and Men-a-Vaur, plus possibly Mincarlo. Despite earlier observations of breeding on Rosevean in the Western Isles, none have been noted ashore there since 1974.

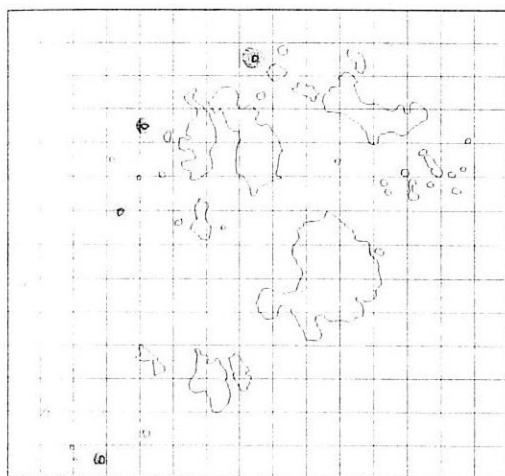
The Table shows all-island Guillemot survey totals plus associated individual site counts together with sources of information. The loaded oil tanker *Torrey Canyon* struck the Seven Stones reef to the east of Scilly on 18th March 1967, but regrettably there are no all-island count data for years prior to that time. However, results of a post-*Torrey Canyon* survey of Scilly and the Cornish mainland during summer 1967 revealed less-than-expected reductions in most mainland auk colonies. However, at least one Scillonian Guillemot site, Gorregan, was believed to show a marked reduction, based partly on the known (small) number of birds previously ringed at this site, plus the percentage found oiled during 1967 (Parslow 1967b), but also upon the knowledge that an estimated 50 breeding pairs had been present at this site five years beforehand. The Chart shows the pattern of all-island Guillemot count totals since 1967 and reveals either a recovery from the losses of 1967, or even a possible increase, and whilst the true island situation remains unclear the national population is known to be increasing.

Survey methods used in past all-island Guillemot counts are not always entirely apparent but the 1999 counts involved all birds leaving the main area of the breeding colonies but not adjacent 'roost' areas, these results then being multiplied by 0.67 (Walsh *et al.* 1995) to give the figure shown. It should also be noted, however, that there was strong evidence, in the form of birds counted away from the colonies, that 1999 represented a better than average year for this species in Scillonian waters.

	Total	Gorregan	Scilly Rock	Men-a-Vaur	Mincarlo	
1967	50	17	8	25		Parslow 1967b
1974	36	10	6	20		Allen 1974-76
1983	104	27	20+	57		P Harvey 1983
1987	109	20-40	20-40	40+		Birkin & Smith 1987
1999*	130	26 (39)	26 (39)	78 (117)	1 (1)	P J Robinson 1999c

Guillemot Breeding Distribution by Island (*Seabird 2000 data [adjusted figures, full-count data in brackets])

Numbers of wintering Guillemots in Scillonian waters are far less well understood, as demonstrated by the fact that the only birds recorded during the two-day late January 1997 Winter Shorebird Survey were two off St Mary's. Doubtless most individuals remain further out to sea and are therefore less visible from the islands. Although most observations seem likely to involve birds passing the islands during migratory or weather-related movements, most go no further south than the Bay of Biscay (Wernham *et al.* 2002). Examination of records for the ten years from 1990 reveals little reference to winter sightings, most of which in any event involve oiled individuals, up to a maximum of 10-15 per winter. Indeed, outside the breeding season there are just a few random sight records, the two very obvious exceptions being reports of up to 50 an hour passing the islands between 5th and 27th October 1997 and 45 past Peninnis, St Mary's, on of 22nd October 1998 (IOSBR 1997, 1998); neither account stating the direction of travel.



Island	Pairs
Gorregan	39
Scilly Rock	39
Men-a-Vaur	117
Mincarlo	1

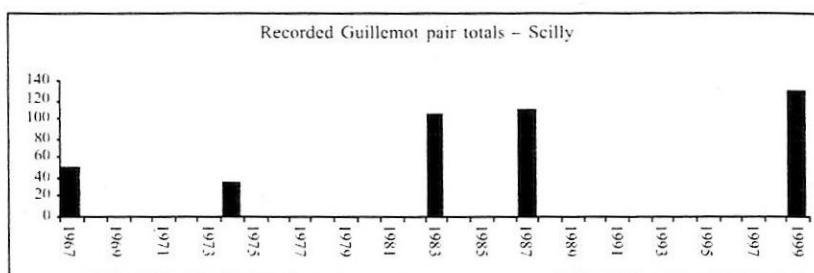
Guillemot Breeding Distribution - 1999
(Seabird 2000 data)

Guillemot Breeding Distribution - 1999 (data
Seabird 2000)

The local *albionis* population plus the slightly larger and darker nominate *aalge* seem most likely to account for any winter Guillemot sightings in Scillonian waters. However, although the more northerly *hyperborea* mostly moves no further south than coastal Fennoscandia, some are known to reach southwest England and although perhaps not readily identifiable in the field all tide-line corpses should be examined carefully (Cramp *et al.* 1977-94; Gantlett 1998). Parslow attributed declines at Guillemot colonies in southern England to oil pollution, though he thought predation from large gulls *Larus* and food-related factors also played a part. A small number of (mainly dead) oiled Guillemots were washed ashore in Scilly each winter and as breeding adults mostly remain close to their colonies at this time that particular form of mortality has the potential to seriously deplete local breeding numbers. It is also interesting that 'cavity' nesting among local Guillemots reportedly commenced from the mid-1920s, which correlates closely with the colonisation and spread of Great Black-backed Gull *Larus marinus* in Scilly. Indeed, both Shag *Phalacrocorax aristotelis* and Razorbill now similarly nest almost exclusively beneath large boulders. Fogden & Greenwood (1965) found Guillemots breeding inside a natural chamber on Cape Clear Island, Ireland, in 1965, and pointed out that they knew then of just one other such example, in Norway, and attributed this behaviour to natural necessity brought about by the local geology at both sites, concluding that 'adaptive radiation has produced a wide range of nest-sites in the auk family'.

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A total of 107 Guillemots have been ringed in Scilly as adults or pulli, 60 prior to 1970. The small number of recoveries shown here demonstrates that at least some local first-winter birds move south to the near limit of Guillemot's winter range in the eastern North Atlantic, whilst not all adults remain close to the islands outside the breeding season. In addition to those shown, two out of four ringed as breeding adults on Gorregan in 1962 were recovered in April 1967 as a consequence of the *Torrey Canyon* incident, one on St Mary's the other on the Cornish mainland. There was a marked difference in the mean age of recovered Guillemots, compared to Razorbills, the mean age of the four Scillonian recoveries being one year and eight months – or just over three months if the single long-lived individual is discounted, whereas the mean age of the seven Scillonian-ringed Razorbills was three years seven months, only one of which died in its first winter.



Data sources: 1967 = Parslow 1967b; 1974 = Allen 1974-77; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1999 = Seabird 2000 – unpublished data

Controls

AT18601 Ad Lundy Island, Devon 9th July 1954 FD St Mary's 11th February 1955

Recoveries

?	Pul	Men-a-Vaur 4th July 1958	SH	Pasajes, Guipuzcoa, Spain 20th November 1958
?	Ad	Scilly Rock 30th June 1960	?	Fort-Bloque, Mobihan, France 23rd August 1960
AI32243	Pul	Gorregan 29th June 1961	SH	Off Pasajes, Guipuzcoa, Spain 7th November 1961
?	Ad	Men-a-Vaur 4th July 1958	FI	Rade de Brest, Finistere, France 18th April 1964

Guillemot Ringing Recaptures

Razorbill

Alca torda A

Summer visitor, breeds on about 14 uninhabited islands and in greater numbers than Guillemot *Uria aalge*. Probably fewer than at the start of the 20th century, smaller numbers are evident in Scillonian waters during winter.

Breeds northeast and northwest North Atlantic, from northern France, Britain, Ireland and Fennoscandia west through Faeroes, Iceland and western Greenland to Newfoundland and Nova Scotia. Migratory in north of range, dispersive in south, in eastern Atlantic wintering south to coastal North Africa and Mediterranean. Polytypic: nominate *torda*, or 'Northern Razorbill' occurs north and west; *islandica* Iceland, Faeroes, Ireland, Britain and Brittany. Amber-listed in UK: 20% or more of European breeding population in UK, 50% or more at ten or fewer sites (Gregory *et al.* 2002).

Like Guillemot, earliest evidence of Razorbill in Scilly came from bone remains unearthed from archaeological sites on Nornour in the Eastern Isles, at May's Hill on nearby St Martin's and on Samson (Turk 1973, 1984a, 1984b). Bone remains at the May's Hill site date from between the Early Christian period and 1700, whilst on Nornour it was the commonest bird species unearthed and was found in almost all levels. Unusually in a British context, Razorbill, Guillemot and Puffin *Fratercula arctica* are the

commonest bird species (in that order) found at such sites in Scilly, for though Razorbill remains are commonly found in kitchen middens in northern Scotland, they are seldom found at English sites (Turk 1984a). Interestingly, Carew (1602) mentions the use of 'murre' as food in Cornwall, this term being applied to both Razorbill and Guillemot in the county, though in west Cornwall more probably to Razorbill (Penhallurick 1969).

There are few early reports of this species in Scilly, E H Rodd briefly describing it as common in the late 19th century, 'sometimes appearing in small parties in Mount's Bay, and all round the coasts, especially at Scilly' (Rodd 1880), whilst elsewhere in the same volume he mentioned that it bred in Scilly's cliffs. However, as so often is the case, the most descriptive comments came from James Clark and E H Rodd's nephew Francis, who at the start of the 20th century observed that it 'Breeds in extraordinary numbers, especially in the Western Islands, and those to the north of Bryher' (Clark & Rodd 1906). Whilst it may be tempting to think there was perhaps a measure of exaggeration involved, the same authors described how 41 Razorbill eggs were found on the eastern section of isolated Scilly Rock in less than half an hour on 20th May 1903. These remarks must be viewed against a total of perhaps 15 surveyed pairs at the same site in 1999, Clark and Rodd's inference being that not all eggs were found in 1903.

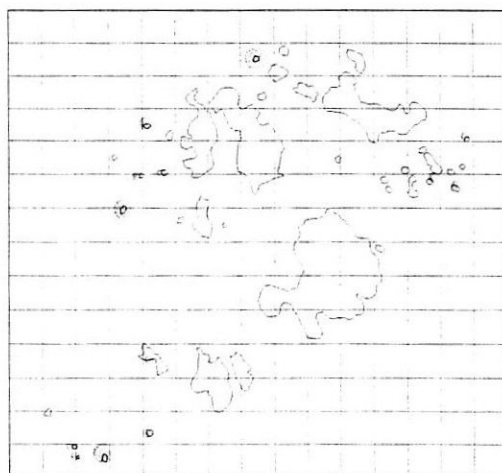
Few published accounts provide an insight into the whereabouts of this species in Scilly during the late 19th and early 20th centuries. The Reverend Smart (1885-86) noted that it bred 'in countless numbers' on various rocks, specifically naming Hanjague in the Eastern Isles, Men-a-Vaur in the Northern Isles and all the Western Isles. F W Frohawk described climbing 'one of the loftiest stacks' on 30th June 1909, and upon reaching the 140-feet (42-metre) summit found himself in the midst of a Razorbill colony (Chatfield 1987). From the description this sounds very much like lofty Men-a-Vaur, which remains a main Razorbill stronghold today. H W Robinson and Uren both included this species among lists of seabirds found breeding on Annet (Uren 1907; H W Robinson 1911a) and there is more recent mention of a few on Bryher's Shipman Head, though on Mincarlo in the Northern Isles it was said to occupy 'Every available crack and crevice' (CBWPSAR 7). Finally, hundreds, or more, were said to be breeding on Rosevear up until at least 1914 (H W Robinson 1923) and a mid-20th century account of birds breeding on Mincarlo comes from two mainland egg-collectors who visited in 1952 and saw both breeding Razorbills and Guillemots (Cole & Trobe 2000).

Penhallurick (1969) demonstrated that in mainland Cornwall Razorbill is almost exclusively a bird of the north coast, though occurring in similar numbers to Guillemot. This situation is noticeably different from Scilly, where Razorbill currently outnumbers it close relative by about 3:2, rather less than the earlier suggested ratio of 20:1 (C J King 1924). The Chart includes counts from all-island 20th century surveys, though it should be borne in mind that counting methods varied between surveys and that periodic single-year counts run the risk of encountering either successful or poor breeding seasons. Distribution is noticeably different from that of Guillemot, birds being recorded breeding on at least 14 islands in 1999, but with Men-a-Vaur, Mincarlo and Gorregan between them holding about 80%. No Razorbills are currently known to breed on any of the five inhabited islands.

Razorbills in Scilly breed exclusively beneath boulders and most sites are inaccessible, making it extremely difficult basing a survey on numbers of apparently occupied nest sites, and though chicks can be quite vocal, determining numbers of adults involved using this feature is fraught with difficulties. Most counts, then, are based either on numbers of birds exiting from below ground, or on numbers of birds in the immediate vicinity. As with Guillemot, the 1999 Razorbill count formed part of the Seabird 2000 national survey, and, like Guillemot, counts involved all birds leaving the breeding colonies but not adjacent 'roost' areas, multiplied by 0.67 to produce the figure shown, to the nearest pair (Walsh *et al.* 1995). The 1969 total of 400 pairs represented in the order of 25% of the southwest England population (Lloyd *et al.* 1991).

Parslow (1967a) recorded marked and widespread decreases at Razorbill colonies in southern and southwest England, commencing from about the early 1940s and continuing until at least the mid-1960s. Various writers have attributed these declines to oil pollution, but doubtless other factors, e.g. food availability, also played a part. More recently, populations appear to be increasing (Mead 1993), though the lack of previous all-island counts create difficulties deciding whether this is also the case in Scilly. Gantlett (1998) drew attention to the possibility of the slightly larger nominate *torda* occurring in coastal Britain during winter, pointing out that there were already a few ringing recoveries, mostly from Norway, in which case particular attention should perhaps be paid to tideline corpses in Scilly, as elsewhere.

Birds of the Isles of Scilly

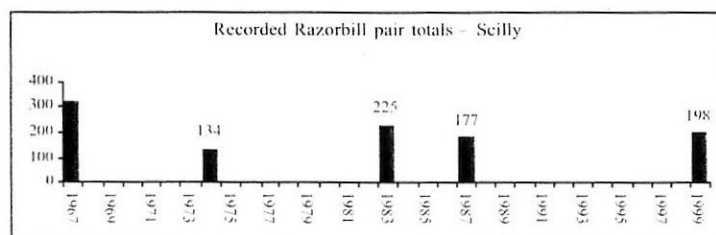


Razorbill Breeding Distribution - 1999 (data Seabird 2000)

Island	Nests/Pairs
Annet	3 (4)
Melledgan	4 (6)
Gorregan	43 (64)
Rosevean	3 (4)
Rosevear	7 (11)
Mincarlo	47 (70)
Illiswilgig	5 (7)
Castle Bryher	3 (4)
Scilly Rock	15 (22)
Men-a-Vaur	68 (101)
Ragged Island	1 (1)
Menawethan	1 (1)
Hanjague	1 (1)

Distribution of 201 Razorbill Pairs - 1999
(Seabird 2000 data [adjusted figures, full-count data in brackets])

A total of 298 Razorbills had been ringed in Scilly up to the end of 1999, 243 prior to 1970. Of the eight recaptures, at least four were recorded as oiled and perhaps as many as six died from this cause. The bird recovered in Norway is notable, partly because it was shot but more importantly because it was so far north, though long-range displacements are not unusual in first-year Razorbills of the southern *islandica* form (Cramp *et al.* 1977-94). Significantly, the mean age of the seven Scillonian recoveries was three years and seven months, unlike Guillemot where the mean age of the four recoveries was just one year and eight months - or just over three months if the single long-lived individual was discounted. However, as Cramp *et al.* point out, this and other Alcidæ may be under-represented by ringing data in the southern parts of their range and over-represented in areas where they are still shot, or entangled in fishing nets. It comes as no surprise, therefore, to find the majority of first-year Razorbills winter south as far as coastal Morocco and the western Mediterranean, most remaining well south of Britain during their first summer; whereas most adults remain close to the breeding areas during winter (Wernham *et al.* 2002).



Data sources: 1967 = Parslow 1967b; 1974 = Allen 1974-77; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1999 = Seabird 2000 - unpublished data

Controls

AT84988 Ad 4th July 1962 Skomer, Pembrokeshire Ol Tresco 5th February 1963

Recoveries

AT69151 Pul Annet 22nd June 1961

SH Scotting Lighthouse, Hordaland, Norway 5th October 1962

AT69150 Ad Annet 18th June 1961

Ol Pendower, Verran, Cornwall 16th February 1964

3 Pul Men-a-Vaur 4th July 1958

FD Siouville, Manche, Normandy, France 20th June 1964

AT69186 Ad Annet 9th July 1961

: Ad Annet 30th June 1960

M82451 Ad Mincarlo 13th June 1996

M82455 Ad Gorregan 17th June 1996

FD Katwijk, Zuid-Holland, Netherlands
7th February 1965FD Muzillac, Morbihan, Brittany, France
17th September 1966OI Chesil Beach, Weymouth, Dorset
21st February 1997OI Sarzeau, Morbihan, France
31st December 1999

Razorbill Ringing Recaptures

Great Auk

Pinguinus impennis B

Now extinct, may have bred historically.

Occurred boreal to subtropical latitudes in east and west Atlantic, breeding Newfoundland, Iceland, Scotland (St Kilda, possibly Orkney) and probably Faeroes, possibly Calé of Man; extinct since c. 1844. Prehistoric evidence of presence south to Mediterranean and coastal Florida probably indicates limit of winter range. Last British record probably 1840 on St Kilda (Fisher & Lockley 1954; Cramp *et al.* 1977-94).

Some 12 or so bones from among 105 excavated from the Halangy Down archaeological site, St Mary's, were identified as from this species, having been uncovered between 1950 and 1977 (Ashbee 1999). The Halangy Down site comprises a cluster of stone structures on a steep, west-facing slope at the northwest corner of St Mary's, it being deemed largely impossible to attribute bones and other artefacts to particular historical periods owing to the unstratified nature of the material under examination. However, the site dates from before 400 BC and a third of the bones were from 3rd century AD midden deposits, with the remaining 70% from disturbed levels. Great Auk remains appeared to originate from at least two individuals, one of which was only just full-grown. Similarly, an as yet unidentified large avian bone excavated on Samson during 1970-71, perhaps involving a 6th to 9th century AD site (Turk 1973), could conceivably be of this species.

Although the discovery of a past Great Auk presence in Scilly was a surprise, it ought not to have been wholly unexpected given Scilly's position 45 km out into the Atlantic. In addition, of course, there would have been an obvious incentive for early island occupants to exploit whatever resources were available locally. It seems generally accepted that the last sighting of this species within the British Isles came from St Kilda in 1840 (reputedly killed as a witch!) and there are reports prior to that of birds in Ireland in 1834 (Irish Rare Birds Committee 1998). Yet these are still very recent compared with the bones found on Scilly and the fact that the latter now represent the most southerly British and Irish records should pose no barrier to their acceptance, particularly as Great Auk remains have been found even into the Mediterranean (Fisher & Lockley 1954). However, not too much can be read into the apparent recent fledging of one of the Halangy birds, mainly because young Great Auks most probably left the nest site early in the fledging process, as with Guillemots *Uria aalge* and Razorbill *Alca torda* still. Therefore, a quite recently fledged young Great Auk off Scilly could have originated from a site further north; Fisher and Lockley thought that the most southerly former breeding site may have been the Calé of Man, though there is nothing to prevent us believing that Great Auk may once have bred in Scilly. Another explanation, however, was given by Ashbee who raised the possibility of carcasses or bones having been brought to the islands in connection with trade.

Black Guillemot

Cephus grylle A

Extremely rare migrant or winter visitor.

1947 One St Mary's & Eastern Isles 4th March to 4th June CBWPSAR 17

1976 One St Martin's 14th April

1994 Two (summer plumage) St Agnes 6th April

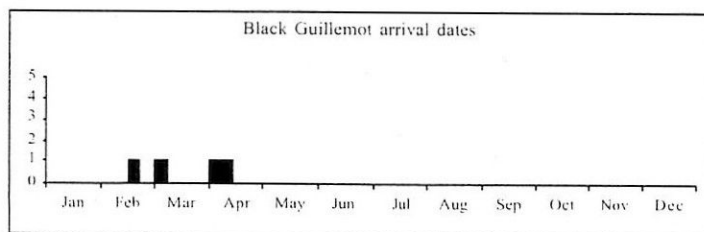
2001 One (summer plumage) south of Samson 20th February

Circumpolar, breeds coastal northern latitudes south in West Palearctic to northern England, Ireland and Denmark. Less dispersive and less oceanic than other Palearctic Alcidae, with northerly populations showing

Birds of the Isles of Scilly

most movement. Polytypic: nominate *grylle* occurs Baltic Sea; *arcticus* North America, southern Greenland, British Isles, Sweden, Denmark, Norway and White Sea; *faeroensis* Faeroes; *islandicus* Iceland; *mandtii* arctic North America, west and east Greenland, and remaining Arctic islands east to Siberia and northern Alaska. Amber-listed in UK: unfavourable European conservation status (Gregory *et al.* 2002).

This remains a prime requirement species for most birder's Scilly list, just four records ever demonstrating the extreme rarity of this species so far south. The presence of the 1947 individual, plus its unexpected three-month stay, may well have been connected with the exceptionally cold European weather during early 1947, which had obvious profound effects on so many bird species throughout Cornwall and Scilly (CBWPSAR 17). We know little about the 1976 individual other than it was seen off St Martin's on 14th April. The third arrival involved a surprising two together in summer plumage off Horse Point, St Agnes, on 6th April 1994. More recently, a summer-plumaged individual, the fifth for Scilly, surfaced briefly next to the boat during a crossing to Samson in early 2001 (pers. obs.).



These four sightings (of five individuals) represent extreme movements of this relatively sedentary species, the British and Irish population being least inclined to move among those in the West Palearctic (Cramp *et al.* 1977-94). Wernham *et al.* (2002) showed a small number of Fair Isle and Irish ringing recoveries to have moved south as far as Essex and southern Ireland. However, fewer birds from Iceland or the Faeroes seem likely to have been ringed and these areas may be under-represented among ringing data. As Gantlett (1998) suggested, *islandicus* and *faeroensis*, both of which are smaller than *arcticus*, might be expected to occur off the British Isles in winter but it seems unwise to speculate on where these Scillonian records may have originated.

Little Auk

Alle alle A

Scarce winter migrant or vagrant, full written description required by the SRP.

High-arctic species breeding Greenland, Arctic islands north of Eurasia and Ellesmere Island. Migratory and dispersive, regular south to British Isles in small numbers but more during major irruptions, perhaps then reaching western Mediterranean. Polytypic: nominate *alle* occurs Ellesmere Island, Greenland, Iceland, Jan Mayen, Bear Island, Spitsbegan and Novaya Zemlya; *polaris*, or 'Franz Josef Land Little Auk' Franz Josef Land. Racial identity of birds in northeast Asia and North Pacific unclear.

E H Rodd mentioned Little Auk as a winter visitor to Cornwall in parties of ten or so, which soon broke up and dispersed, single individuals then finding their way into harbours and estuaries. The same authority noted that birds were occasionally picked up some distance from the sea after strong winds, though he made no specific mention of Scilly (Rodd 1880). However, James Clark and Rodd's nephew Francis mentioned Little Auk in their subsequent *Zoologist* review of 'The Birds of Scilly', drawing attention to a single record of a bird found dead on St Agnes in midwinter 1900, though they thought the species perhaps overlooked in the islands (Clark & Rodd 1906).

The next mention of Little Auk in Scilly apparently came in 1963 and involved one picked up unharmed in a St Agnes garden on 20th December; the bird was ringed and then released. Following this, the very obvious pattern was of either no birds at all or only one to three per year through until the 1990s, though reasons for the apparent dramatic increase in records from that time are perhaps difficult to explain. Part of any explanation may be that earlier Bird Reports were often quite selective in what they contained, the auk species sometimes getting no mention at all in some years. In addition, of course, some earlier reports dealt only with St Agnes and its surrounds and in any event there were then fewer observers. However, quite a

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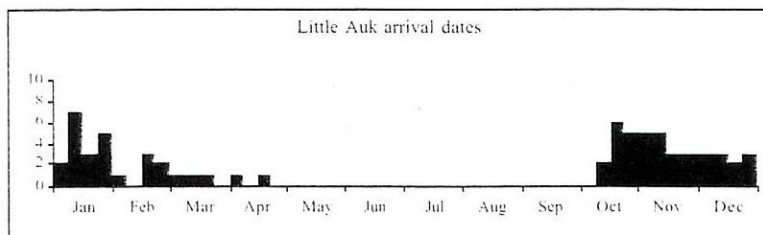
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few Little Auks came to attention because of the unusual circumstances involved, like the bird in a garden in Hugh Town in February 1973, or one swimming in a puddle at Porthloo, St Mary's, in February 1988. Some too were found dead, or discovered in an emaciated condition and died later, though one record that stands out is the summer-plumaged individual found long dead on Tresco in June 1972.



The years 1991, 1996, 1997 and 1998 were especially productive, particularly the last with 12 sightings of up to 42 individuals, including one flock of 17. Examination of all published records shows a broad spread of first-sighting dates spanning the winter period, the earliest during the second week of October but with most birds having departed by early March, though two lingered into April. Given the normally quite severe winter weather and the limited amount of pre-arranged inter-island boat movement at that time of year, a surprisingly high percentage of sightings fell in the period November–February, though it nevertheless seems reasonable to suggest that many more went unrecorded. In addition, there may also be a more recent bias towards October sightings resulting from the increased interest in autumn birdwatching on Scilly. The Chart shows all recorded annual first-sighting dates. Cantlett (1998) suggested paying attention to tideline corpses in case individuals can be attributed to the larger *polaris*, or ‘Franz Josef Land Little Auk’.

Puffin (Atlantic Puffin)

Fratercula arctica A

Summer visitor breeding on eight or so uninhabited islands, in the range 100–200 pairs.

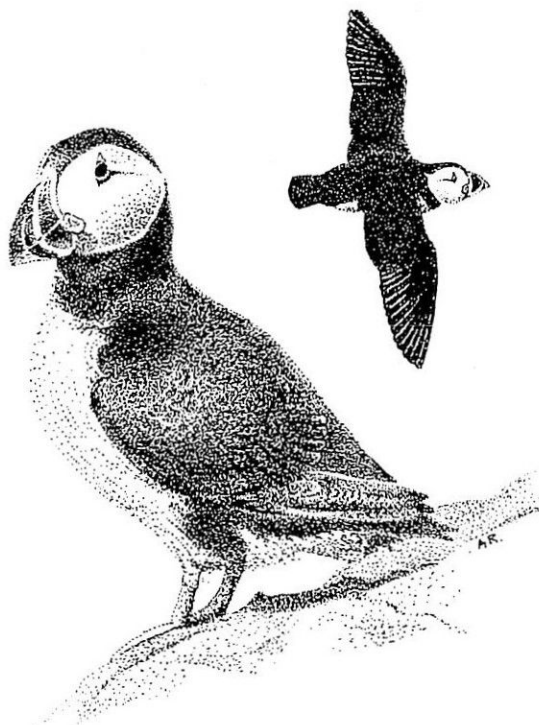
Breeds northern North Atlantic, from France, Britain and Ireland north and west through Norway, Novaya Zemlya, Spitsbergen, Iceland, Greenland, Newfoundland and Nova Scotia. Dispersive, in eastern Atlantic wintering south to Azores, Canary Islands and western Mediterranean. Polytypic: nominate *arctica*, or ‘Northern Puffin’ occurs Iceland, central and northern Norway, Bear Island, southern Novaya Zemlya, southwest Greenland and northeast North America; *grabae* France, southern Norway, Britain, Ireland and Faeroes; *naumanni* Spitsbergen, northwest and eastern Greenland and northern Novaya Zemlya. Amber-listed in UK: 50% or more of breeding population at ten or fewer sites; unfavourable European conservation status (Gregory *et al.* 2002).

Scilly holds the distinction of being the first recorded Puffin breeding site in Britain. Gurney (1921) suggested that earliest mention was in 1337, when the islands were leased by Edward III (as Earl of Cornwall) to Abbot Ranulphus of Beaulieu, for the costly amount of six shillings and eight pence, or 300 ‘Puffins’. Suffern (1939), however, drew attention to another reference, also for 1337 or thereabouts (to Edward III) and contained in the Public Records Offices’ *Descriptive Catalogue of Ancient Deeds*. This document apparently witnesses the subletting by Ranulph de Beaulieu (presumably the same Abbot Ranulphus) of all or most of Scilly to John de Allet, by way of ‘knight-service and by service of keeping Ranulphus castle in the said Isles for a certain time’. However, the agreement appears to have gone even further, for we also find that ‘the said Ranulph has released and quitclaimed for self and heirs, to John and his heirs the service of keeping the said castle for ever’.

For his part, John appears to have negotiated a rent of thirteen shillings and four pence, or 150 puffins ‘pufforum’ in the event of his default, whilst also being granted the right to take puffins (‘poffonis’) at a rate of one penny for three. Payment of land rental in the carcasses of young seabirds, generally referred to as ‘puffins’, was quite commonplace as early as the 2nd century AD. More recently, entries such as these have been interpreted as referring to the Common or Atlantic Puffin *Fratercula arctica*, whereas the truth is that the term ‘puffin, or ‘puffling’ was originally used to describe cured carcasses of young Manx

Birds of the Isles of Scilly

Shearwaters *Puffinus puffinus* (Lockwood 1984), a considered delicacy up until as late as the 18th century; supplies coming from Scilly and the Calf of Man, in particular. As evidence of the origin of the word 'puffin', Lockwood cites the shearwater's scientific name *Puffinus*, the name Puffin only later being attached to *Fratercula arctica*, perhaps through the close association of both species at breeding sites such as Annet, where both frequently occupy the same burrow (Walpole Bond 1937). However, there may be some doubt over the exact timing of the above historical events as Penhallurick (1969) described an official inquiry of 30th November 1300 (during the reign of Edward I) concerning rent of six shillings and eight pence, or 300 'puffions' payable by Scillonian tenants to Launceston Castle on mainland Cornwall. However, Penhallurick (1973) thought it reasonable to assume that such rents had been paid to all the earls of Cornwall beginning with Richard in 1225, or as early even as a Richard de Dunstanville in 1141.



Earliest physical evidence of Puffin in Scilly is contained among bone remains unearthed from the Bronze Age to Early Christian period at archaeological sites on Nornour in the Eastern Isles and at May's Hill on nearby St Martins (Turk 1984a, 1984b). Unusually among British archaeological sites, Razorbill *Alca torda*, Guillemot *Uria nauf* and Puffin were the three most frequently encountered species (in that order) among Scillonian bone deposits (Turk 1984a). Penhallurick (1969) speculated on when the culture of eating seabirds may have ended on Scilly, pointing out that an 1818 inquiry into the hardships of off-island life revealed no evidence of it continuing.

Given what has already been said about this species in Scilly during the 14th century, it comes as no surprise to find a large amount of early historical information available. In his writings of about 1470, Botoner noted its present on Treco (Botoner 1478), and around 1533 Leland (Hearne 1710) thought it abundant about the islands, whilst, interestingly, in the 18th century, Heath (1750) was perhaps mistaken in listing it among species occurring in Scilly during winter. Borlase visited Scilly in 1752 and recorded the Puffin situation in considerable detail (Borlase 1756), noting they were 'very numerous', that they 'build upon the deserted rocks, and are of a fishy taste', though he personally saw 'but few' and assumed they were 'hatching or attending their young'. He also remarked, logically, that as Crown Rent had been paid in Puffins from as early as Edward I there must have 'been great numbers of them formerly, and very easily

to be got at', though he was perhaps wrong in assuming they were valued more for their feathers than their flesh.

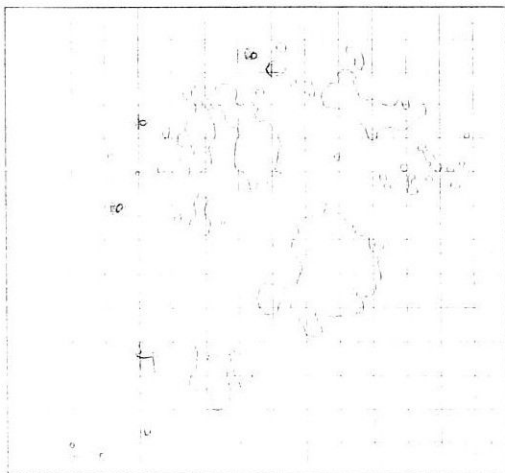
One hundred years later, E H Rodd thought it only occasionally observed on the Land's End cliffs in west Cornwall, pointing out that its favourite haunts were what he described as some of the precipitous rocks of Scilly (Rodd 1880). Predictably, the early 20th century *Zoologist* account of 'The Birds of Scilly' by James Clark and Rodd's nephew Francis paints the clearest picture (Clark & Rodd 1906), stating that on Annet it bred in 'thousands' alongside Manx Shearwaters and providing a graphic account of an island so riddled with burrows of both species 'that in walking across one sinks to the knee every two or three steps through the caving in of the roofs'. Clark & Rodd also pointed out that on Scilly Rock in the Northern Isles and on Men-a-Vaur in the Eastern Isles, it normally laid its egg on the bare rock. In addition, they also listed a number of other sites where Puffin bred up until at least the late 19th century, i.e. Rosevear and Melledgan in the Western Isles, Mincarlo, Castle Bryher and Round Island in the Northern Isles and Great Ganinnick and one or other of the Innisvouls in the Eastern Isles. Others noting the presence and abundance of Puffins around this time, but particularly on Annet, include F A Walker (1871), Uren (1907) and H W Robinson (1911a).

Numbers of Puffins declined dramatically in Britain during the early to mid-20th century, greatest reductions occurring in England during the period 1920–50. Parslow (1967a) considered the Annet decline in the range of from 100,000 birds in 1908 to below 100 by the mid-1960s. This same situation was reflected in other areas, e.g. on Lundy Island in North Devon they decreased from 'incredible numbers' in 1890 to just 93 pairs by 1962. Parslow blamed introduction of Brown Rats *Rattus norvegicus* for much of the British decline, particularly at island colonies, though he thought oil pollution and increased gull *Larus* predation also partly responsible, whilst other authorities thought reductions in food availability may have played a major role. Certainly in Scilly, the huge numbers of pilchards *Sardinops* formerly caught inshore during the 1880s were no longer apparent by the early to mid-1920s, though the timing of their decline may have preceded that of Scillonian Puffins.

According to various reports, numbers of Puffins varied during the early to mid-20th century, one account being the 1938 mention of breeding pairs on Annet, Mincarlo and Men-a-Vaur, though only in 'small numbers' (CBWPSAR 8), an estimated 20 pairs being present on the first of these three islands seven years later (Blair 1945). However, by 1946 it was being described as 'greatly diminished', with a 'small colony' still on Annet but only one or two pairs on Men-a-Vaur. Nevertheless, by 1959 'good numbers' were reportedly evident around Annet, and during June and July could be seen sitting in rows at their burrow entrances, several also breeding in the Eastern Isles. By 1961 numbers in the islands were 'well maintained' and for the first time we hear of an increasing colony on St Helen's, whereas their recent absence from Round Island was thought attributable to the presence of one or more lighthouse cats *Felis catus*.

Particularly helpful is the 1965 account of 'a few pairs' of Puffins breeding on Menawethan and Great Innisvouls in the Eastern Isles and on Castle Bryher, Mincarlo and St Helen's in the Northern Isles, though the Annet colony allegedly amounted to more than all of these put together.

Following closely behind the 1967 wreck of the MV *Torrey Canyon*, just to the east of Scilly, came the results of the first structured all-island Puffin survey, which confirmed between 90 and 140 pairs on nine islands (Parslow 1967b). The lack of precise earlier data created difficulties deciding whether spilled oil from the *Torrey Canyon* caused further local Puffin reductions, but Parslow thought 1967 numbers may have been down by 10–20% on past years. However, no local birds were proved to have died as a result of the oil spill and 1967 could conceivably have been a naturally poor breeding season.



Puffin Breeding Distribution – 1999 (data Seabird 2000)

Birds of the Isles of Scilly

Western Isles	1967	1974	1983	1987	1999*
Annet	50-100	53-57	55-79	60	47
Rosevear	1	3	2-4	3	3
Melledgan			1	1	2
Gorregan					1
Northern Isles					
Castle Bryher	2	2	2	2	
Mincarlo	12	11	10-20	4	53
Scilly Rock	4	2	6-10	4	25
Men-a-Vaur	1	6	6-10	6	25
St Helen's	8	8	9-14	12	11
Eastern Isles					
Great Innisvoulis	5				
Menawethan	8	2	2		
Total Pairs	91-141	87-91	93-142	92	167

Recorded Puffin Pair Totals - Scilly (Seabird 2000 data)

The Table shows estimated numbers of Puffin pairs from main all-island surveys and it should be noted that the species no longer breeds in the Eastern Isles, Harvey's suggestion that Brown Rats were primarily responsible (P Harvey 1983) perhaps being borne out by more recent work (pers. obs.). As a consequence, an eradication programme is now in place on Menawethan and several other islands in the eastern group. There is some suggestion of an increase in overall numbers in Scilly since 1974, though the 1999 Seabird 2000 count (see Table and Map) probably coincided with one of the recent best breeding seasons. Nevertheless, it seems Annet may now have been replaced by Mincarlo as the main Puffin breeding site in Scilly, with apparent substantial increases also on Scilly Rock and Men-a-Vaur. Lack of data from other sites creates difficulties assessing the regional importance of the Scillonian population, though the islands recently appear to have held 50% or more of the southwest's Puffins (Lloyd *et al.* 1991).

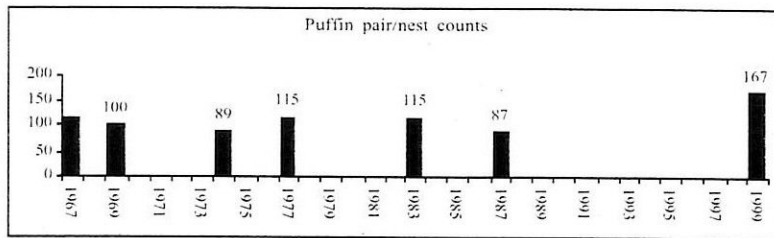
Of the eight islands holding breeding Puffins in 1999, all but St Helen's are known to be naturally rat-free, birds on this last island being confined to a group of six to ten holes in a vertical low earth cliff. Some of these holes may be inaccessible to rats but others are clearly not, and in an attempt to improve productivity a series of new holes were recently manufactured in the sheer face, at least some of which are now in use, whilst a St Helen's rat-clearance programme is also in place.

Some observers, e.g. A A Dorrien-Smith (CBWPSAR 16), blamed early 20th century Scillonian Puffin and Manx Shearwater declines on the concomitant increase in Great Black-backed Gulls *Larus marinus*. However, more recent declines in other species, e.g. Herring Gull *L. argentatus* have been matched by reductions in Great Black-backed Gulls, and direct evidence that this species caused declines in any other species in Scilly is lacking still. Early observers may have failed to differentiate between good and bad breeding seasons, and the report of an evening raft of 95 Puffins off Annet in July 1950 suggested that there were perhaps greater than 20 pairs (CBWPSAR 20), birds also being noted that year on Men-a-Vaur after an alleged absence the previous season. One additional factor worth considering in relation to Annet's Puffins is the likely impact of the wreck of the SS *Castleford* on nearby Crebawethan on 8th June 1887, when, according to reports, at least 250 out of 500 head of cattle on board were rescued and temporarily landed on Annet. Although reportedly these animals only remained on the island for some ten days 'They trampled everything to pieces, broke in all the Shearwaters' holes, probably destroying many birds, and made a ruin of everything' (Gurney 1889). Undoubtedly, Puffins would have been similarly affected and, interestingly, unlike other writers, Gurney suggested that all 500 or so cattle were landed on Annet.

Limited information is available on Puffin return dates, but an early report from the Bishop Rock Lighthouse recorded them as first noted from 3rd March in 1886 (Harvie-Brown *et al.* 1887), and, similarly, in 1911 they were recorded returning to their nesting grounds from 22nd March (Ogilvie-Grant 1912c). During most of the ten years from 1990, first birds were present from between 19th and 28th March, last colony sightings occurring between 25th July and 8th August. Sightings outside the breeding season

Sandgrouse

during this same period were restricted to a handful of October observations and the even more occasional winter report, e.g. one off St Mary's Quay on 27th December 1993. The slightly larger *arctica* occurs in Britain during winter but is mainly identified from tideline remains, and therefore attention should be paid to any dead individuals found in Scilly. As much as anything, the seven Puffins ringed in Scilly up until the end of 1999 testify to the level of 20th century reductions in the Scillonian population, with five of these having been ringed prior to 1970. There are few recaptures, the only notable record involving a bird from northern France found apparently breeding on Annet during May 1936.



Data sources: 1967* = Parslow 1967b; 1969 = Lloyd *et al.* 1991; 1974* = Allen 1974-77; 1977 = IOSBR 1977; 1983 = P Harvey 1983; 1987 = Birkin & Smith 1987; 1999 = Seabird 2000 – unpublished data
* averaged total

Controls

D2682 Ad Sept Illes, Core du Nord, France 6th July 1934 BR Annet May 1936

Puffin Ringing Recaptures

Pallas's Sandgrouse

Syrhaptus paradoxus A BBRC 0%

Extremely rare vagrant, full written description required by the BBRC.

- 1863 One (dead male) St Agnes 23rd June Rodd 1863c; Rodd 1880; Clark & Rodd 1906
- 1863 Small flock Scilly June 1863 Rodd 1863c
- 1888 Eight to ten St Martin's 15th May Clark & Rodd 1906

Breeds central Asia, from Kazakhstan east to Manchuria and China. Mainly sedentary but subject to irregular migration and irruptions, sometimes of considerable magnitude, reaching western Europe and sometimes leading to temporary range extensions. Northern populations more inclined to migrate, probably in response to extent of winter snow. Monotypic.

A dead male of this highly irruptive and extremely attractive species was found on St Agnes on 23rd June 1863 and described by E H Rodd in the *Zoologist* (Rodd 1863c). Its discovery coincided with the appearance of a small flock in Scilly (Clark & Rodd 1906), which presumably formed part of the big invasion of Britain that year (Newton 1864; Rodd 1880). The skin of the St Agnes male was preserved by Penzance taxidermist Vingoe, who reported that it was in 'a highly developed condition'. Rodd also recorded a female shot near Land's End, Cornwall, in the second week of June the same year, this too being sent to Vingoe for preservation. This bird was also in good condition and had a well-developed ovary, from which

