The status of seabirds breeding in the Isles of Scilly 2015/16

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*** Amendment April 2020 - Mincarlo is part of the Norrard Rocks SSSI and included in the SPA, but was left out of some calculations in the previous draft. To resolve this mistake Appendix 7 and Table 41 have been corrected.**

Summary

This report presents the results of a comprehensive breeding survey of all the seabirds breeding in Scilly in 2015/16 and was carried out as part of the Isles of Scilly Seabird Recovery Project and Natural England's SSSI monitoring programme. The main objective was to obtain an accurate estimate of the population sizes and distribution of all the breeding seabirds in Scilly and to compare them with the 2006 Special Protection Area (SPA) count as well as with baseline data for the Isles of Scilly SPA and Sites of Special Scientific Interest (SSSIs). These figures can then be used to assess the condition (population size and variety) of the bird interest features within the SPA and SSSIs and to direct future conservation work in Scilly. In total 8,266 territories of 13 species of seabird were recorded from 55 rocks and islands, achieving complete coverage of all islands (see Map 1).

- A total of 7,969 seabird territories were recorded within the Isles of Scilly SPA (with 297 outside of the designated area), and a total of 7,997 seabird territories were recorded within the 26 Isles of Scilly SSSIs (with 269 recorded outside these designated sites).

- The archipelago supports important populations of a number of seabird species:

    - internationally important numbers of storm petrel and lesser black-backed gull

    - nationally important numbers of shag (possibly the largest colony in the UK) and great black-backed gull

    - regionally important numbers of fulmar, Manx shearwater, common tern, razorbill and puffin.

Though roseate tern has not been recorded breeding in Scilly since 1995, Scilly is still considered regionally important because the terns are a target species for re-establishment here.

- The overall number of seabirds breeding within the Isles of Scilly archipelago in 2015/16 (8266 pairs) has decreased by 9.8% in the last nine years. There has been a 14.2% decline in the SPA population since the SPA baseline and a 31.3% decrease in the size of the total seabird population since 1983 (the date of baseline data used for most SSSI notifications on Scilly in 1986) when 12,063 breeding pairs of seabird were recorded (see Figure 1 in section 3).

- The diversity of the seabird assemblage is almost unchanged since 2006 with all of the 13 species of seabird regularly breeding in Scilly still present in 2015/16. However, Sandwich and roseate terns, only intermittent breeders into the 1990s, have been lost and the numbers of eight of the 13 main species have shown a decrease in the last nine years (see Table 4).

- One of the greatest changes for seabirds in Scilly in the last nine years has been the removal of rats from St. Agnes and Gugh in 2013/14. This has resulted in successful breeding of Manx shearwaters on these islands with a minimum of 10 chicks fledged in 2014, 28 in 2015 and 32 in 2016.

- Also, in 2015, just two years after removal, storm petrels re-colonised both St. Agnes and Gugh and chicks were heard from burrows on both islands in August-October 2015 and 2016.

- Manx shearwaters have shown a massive increase in numbers across the islands in the last nine years; trebling from 171 pairs in 2006 to 523 in 2015. This is likely due to increases in regional shearwater populations following removal of rats from Lundy and slightly further afield in Wales.

- Since 2006 there has been a marked increase in the numbers of both razorbill and guillemots across the islands, whilst puffins have remained relatively stable.

- In addition to the success stories above, there have been many worrying declines of seabirds. These include:

    - Five species of seabirds across all the islands have declined in numbers by more than 20% in just the last nine years; lesser black-backed gull (-26%), herring gull (-22%), shag (-21%), common tern (-85%) and kittiwake (-72%). In particular kittiwake and common tern are now in danger of being lost as breeding species in Scilly.

    - In terms of overall numbers, four of the seven SSSIs listed for bird interest have shown declines (see Table 6a) in the last 9 years; St. Helen's group (-20%), Pentle Bay & Round Is. (-15%), Samson Group (-19%) and Annet (-12%).

    - Annet, which has long been recognised as the most important seabird island in Scilly both in terms of numbers and diversity, has shown a decline in numbers of 12% since 2006 and over 45% since designation in 1983.

- The trends in the numbers of the different species within the assemblage are mostly in line with national trends although, as these wider trends are based on the last national survey Seabird 2000, they may not represent the current situation.

- Although there is some good news, overall the 2015/16 survey provides an alarming assessment of the state of the SPA for seabirds – with very significant declines in the overall assemblage, individual species and within certain island groups. In particular the main declines relate to surface feeding gulls and terns suggesting that food availability is a major issue.

- The causes of decline are many and complex and many relate to wider changes around climate change and fishing policy which will need wider solutions. Further management, in particular continuation of the predator control programme as well as other habitat and people management as necessary is required to reverse these declines.
.
- A number of specific recommendations are given in the report.

Table 2 Summary of changes in SSSI Seabird Interest Features

SSSI notified specifically for seabird interest	SSSI seabird notified features	Breeding pairs 2015/16	Breeding pairs 2006	Breeding pairs 1983	% change since SSSI notification
Annet	Manx shearwater	229	89	123*	+86% Favourable
	Great black-backed gull	235	187	231	+2% Favourable
	Storm petrel	778	788	938*	-17% Favourable
	Puffin	31	50	67	-54% Unfavourable
	Common tern	2	1	5	-60% Unfavourable
	Lesser black-backed gull	1	281	898	-99% Unfavourable
St. Helen's (incl. Men-a-vaur)	Fulmar	24	21	16*	+50% Favourable
	Guillemot	110	95	117*	-6% Favourable
	Razorbill	88	90	101*	-13% Favourable
Samson	Common tern	10	59	44	-77% Unfavourable
Pentle Bay & Round Island	Storm petrel	172	251	183*	-6% Favourable
	Roseate tern	0	0	0*	Lost – Unfavourable
	Common tern	0	5	39*	Lost – Unfavourable
Chapel Down (St. Martin's)	Kittiwake	0	15	27*	Lost - Unfavourable
Norrard Rocks	Cormorant	0	18	27	Lost - Unfavourable
Western Rocks	Shag	350	392	466	-25% Unfavourable

- *Figures from Seabird 2000 are used as a proxy for 1983 (prior to 1999 counts could not be separated into component SSSIs or non-comparable methods were used – storm petrel and Manx shearwater)

1 Introduction

The Isles of Scilly comprise five inhabited islands and more than 300 uninhabited islands, islets and rocks, situated 40km west of the southwest tip of mainland Britain. They are the sole European example of a Lusitanian[1] semi-oceanic archipelago (UK Biodiversity Steering Group 1995).

The archipelago supports a greater diversity of seabirds than any other site in England, with over 8,000 pairs of 13 species of regularly breeding seabird. It supports internationally important populations of storm petrel and lesser black-backed gull, and nationally important populations of great black-backed gull and shag. It is one of only two sites in England where Manx shearwater and storm petrel breed (the other being Lundy). The UK supports more than 50% of the bio-geographical populations of Manx shearwater and lesser black-backed gull (*graellsii* subspecies), and over 30% of European shag, and so has a particular responsibility for their protection.

The Isles of Scilly are designated as a Special Protection Area, Ramsar site, Special Area of Conservation, Marine Conservation Zone and contain 26 component Sites of Special Scientific Interest in recognition of this international and national interest.

1.1 Objectives

- To present the results of the 2015/16 all-islands seabird count.
- To present comment on the status, distribution, population and trends of breeding seabirds in the Isles of Scilly, especially in relation to the condition of the bird interest features of designated sites and wider national trends.
- To help identify key areas of conservation action required to be included in the Isles of Scilly Seabird Conservation Strategy.

[1] Denoting flora or fauna characteristically found only in the warm, moist, west-facing coastal regions of Portugal, Spain, France and the west and southwest coasts of Great Britain and Ireland.

2 2015/16 Isles of Scilly seabirds survey

2.1 Background

It is important to maintain regular all-species population counts across the archipelago to meet both SPA and SSSI condition reporting requirements. The Isles of Scilly Seabird Conservation Strategy (St Pierre *et al.* 2014) recommends a complete seabird survey every six years to integrate with national survey cycles. The last full survey was carried out in 2006 and although this current survey represents a delay of three years in this cycle, it was proposed to fit into the national survey which may now be further delayed. This survey was carried out as part of the Isles of Scilly Seabird Recovery Project. It was part funded by Natural England (as *Isles of Scilly SPA (All islands) Seabird Survey 2015/16*, to assess the condition of the seabird features of the Isles of Scilly SPA and its component SSSIs), LIFE Nature and Heritage Lottery Fund.

2.2 Methods

Counting methods, as outlined in Gilbert, Gibbons and Walsh (1998) were followed and the results are therefore directly comparable with those of Seabird 2000 and the Isles of Scilly breeding seabird survey of 2006. Further details are given in Appendix 3, with special reference to the counting of auks, gulls and burrow nesting Manx shearwaters and storm petrels. To minimise errors with birds moving between sites, as occurs in Scilly between years, as far as possible all species were covered on all islands during May to July 2015. Unseasonably rough weather during the survey period in 2015 meant that, although we did access and fully survey the vast majority of islands and rocks, we did not land on four islands: Men-a-vaur, Scilly Rock, White and Puffin Island. In 2016 we were successfully able to land on and survey Men-a-vaur, White and Puffin Islands and these results are presented alongside the 2015 survey numbers in this report and reflected where relevant in updated tables, figures and maps. While we failed to land on Scilly Rock in 2015 and 2016, we were able to estimate numbers from the water (see Appendix 3 for details). Survey work in Scilly was co-ordinated by RSPB and completed by RSPB staff and volunteers.

2.3 Results

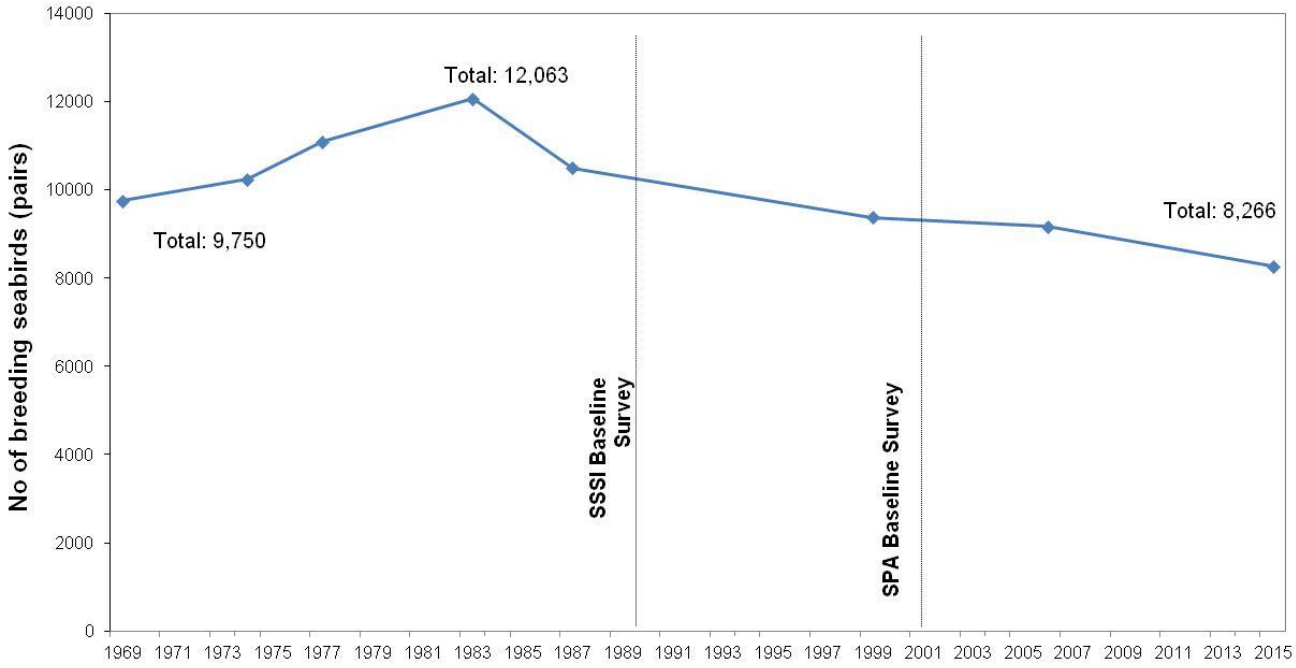
A total of 60 rocks and islands were visited or counted from the sea, achieving complete coverage of all islands believed to be occupied by seabirds in 2015/16. In total 8,266 territories of 13 species of seabird, were recorded across 55 islands. The full results are presented in Table 1 (Appendix 2) and in the individual species accounts. They are interpreted within the content of historical information and with reference to the qualifying interest of the islands' SPA and SSSIs.

3 Seabird diversity: an overview of seabirds breeding in Scilly

A total of 8,266 pairs of seabirds were recorded breeding in Scilly in 2015/16. This represents a decrease of 9.8% since the last full count in 2006 and over 20% in the last 25 years. For the Special Protection Area (SPA) the seabird assemblage (see Appendix 7) has declined by 14.2% since the baseline survey in 1999/2000.

Of the 13 species of seabird that regularly breed in Scilly, all are still present, though eight have decreased in numbers in the past nine years (with the largest decreases of 85% and 72% seen in common tern and kittiwake respectively).

Figure 1 Species assemblage total 1969-2015/16



3.1 Most abundant and most widespread seabird species

Table 3 ranks species according to their distribution and abundance during the 2015/16 all islands seabird survey. The most widespread species is the herring gull – present on 47 rocks and islands (86% of the 55 seabird occupied islands). The most abundant species is the lesser back-backed gull, with 2,485 pairs.

Table 3 The most abundant/widespread seabird species

ABUNDANCE		**DISTRIBUTION**	
Species	**No of pairs**	**Species**	**No of islands occupied**
Lesser black-backed gull	2,485	Herring gull	47
Storm petrel	1,335	Great black-backed gull	45
Shag	1,025	Shag	31
Great black-backed gull	984	Lesser black-backed gull	30
Herring gull	556	Fulmar	18
Manx shearwater	523	Razorbill	16
Razorbill	473	Storm petrel	14
Guillemot	291	Manx shearwater	10
Fulmar	287	Puffin	10
Puffin	167	Guillemot	5
Kittiwake	75	Cormorant	3
Cormorant	53	Common tern	2
Common tern	12	Kittiwake	1
Total	**8,266**	**Total Seabird Islands**	**55**

3.2 Important breeding seabird populations

Taking the definition for international or national importance as the population total exceeding 1% of the NW European or GB total respectively, and regional importance as exceeding 10% of the southwest total (based upon the previous national surveys covering the counties of Isles of Scilly, Cornwall, Devon, Dorset, Wiltshire, Bristol and Avon and Gloucestershire), Scilly supports important populations of a number of different seabirds:

- internationally important: storm petrel and lesser black-backed gull
- nationally important: shag and great black-backed gull
- regionally important: fulmar, Manx shearwater, common tern, razorbill and puffin.

3.3 Changes in the seabird breeding community

Fulmars first colonised the islands in 1951 and increased rapidly in line with national trends. Numbers have continued to increase in recent years to just under 300 pairs across the islands, though are showing signs of slowing down in line with elsewhere in the southwest and nationally.

This survey represents the third quantitative survey for storm petrels and Manx shearwater in Scilly so that we can start to get an idea of trends in numbers. Unfortunately, storm petrels appear to be declining slowly, with losses higher inside the SPA, although evidence of new breeding sites outside are a cause for optimism. However, Manx shearwaters have shown a population increase and this is in line with trends at other nearby island populations where rats have been removed (Lundy, Ramsey).

Numbers of cormorants have remained remarkably similar in Scilly between 50 and 60 pairs since records began in the 1940s. The number of shags breeding in Scilly has shown a general decline since a peak of 1,470 pairs in 1977. Although the 2006 count suggested an upturn, numbers are now at 1,025 pairs (12.4% of the assemblage total), more similar to the level recorded in the 1960s. Nationally cormorants have been increasing, whereas shags have shown large declines.

In line with national trends, all the large gull species increased in Scilly between the 1920s and 1980s and are now widespread throughout the islands. In line with national trends which show declines at most other SPAs, lesser black-backed gulls, for which Scilly is internationally important, have been in decline since a peak of 4,050 pairs in the early 1980s to the current total of 2,485 pairs (30.1% of the total assemblage). A sustained decline in the numbers of breeding herring gulls in the last 35 years is also of concern, although this reduction is also in line with national trends. Since a low of 808 pairs in 1999, the number of great black-backed gulls in the islands has increased steadily to the current total of just 984 pairs (now measuring 11.9% of the total assemblage). Kittiwakes returned to breed in Scilly in 1938 after an absence of nearly 40 years and increased steadily through the 1970s. Since the 1980s though, they declined steeply to just 75 pairs at a single site in 2015. This steep decline is mirrored across the region and much of the birds' British range.

Numbers of common terns have decreased steadily since a peak of 210 pairs in the early 1980s. In recent years they have started to breed intermittently, with only 12 pairs attempting to breed in 2015 (all failing in early incubation). It is possible they will be lost as a regular breeding species for Scilly in the near future. There have been no recent breeding records for roseate, Sandwich or Arctic terns in Scilly.

In contrast with most other groups, auks in Scilly appear to be doing relatively well. In line with regional trends, the numbers of razorbills have increased steadily in Scilly from the early 1980s and, despite a low count in 2006, guillemots are also increasing with a peak of 291 territories in 2015. Although numbers of puffins in Scilly were formerly huge, there were enormous losses between the 1920s and 1950s across the region. Numbers appeared to stabilise in Scilly through the 1970s and 1980s and have remained relatively stable around 170 pairs for the last 15 years. Across the region puffins have shown a 3% decline since Seabird 2000 (Porter, Brown & Lock 2010).

There has been a complex pattern of change in the seabird community in Scilly, so detailed accounts are presented here for the individual species. Most species have changed in line with national and regional trends, although there are some exceptions. The reasons for changes in numbers differ between species and relate to regional/global issues as well as more local factors operating on the breeding grounds in Scilly. These are examined in detail in the discussion.

Table 4 A brief summary of the status of the seabirds breeding in Scilly

Species	**Breeding pairs 2015/16**	**% Change since 2006**	**Long-term trends**
Manx shearwater	523	+206%	3-fold increase in the last nine years and new colonies found
Common guillemot	291	+88%	Increasing – population almost trebled since 1983
Razorbill	473	+38%	Steady increase – population more than doubled since 1983
Great black-backed gull	984*	+9%	General decline in 1980s (still down 31% on 1983), increasing since 1999
Fulmar	287	+3%	Large increases since first bred 1951, appears to be slowing now
Great cormorant	53	+6%	Generally stable at 50-60 pairs since the 1940s
Atlantic puffin	167	-4%	Generally stable since 1999, 45% increase since 1980s
European storm petrel	1,335*	-5%	Declining – down 12% since 2000
Herring gull	556	-22%	Continued steep decline – down 75% on peak of 2,249 pairs in 1974
European shag	1,025*	-21%	General decline since peak of 1,470 pairs in 1977
Lesser black-backed gull	2,485*	-26%	Continued decline- down 38% on peak of 4,050 pairs in 1983
Black-legged kittiwake	75	-72%	Continued steep decline – now just 9% of peak of 861 pairs in 1983
Common tern	12	-85%	Continued steep decline and intermittent breeding since peak of 210 pairs in 1983
Overall numbers	8,266	-9.8%	Steady decline since peak of 12,063 pairs in 1983. 31% decline since SSSI designation (1983 count); -12% since SPA designation (Seabird 2000 figures)

* Represents >10% of overall breeding assemblage.

3.4 Changes in the seabird interest features of the SSSIs

Of the 26 SSSIs in the Isles of Scilly, 17 supported breeding seabirds in 2015/16. However, only seven of these have seabirds as part of their qualifying interest – see Table 5.

Table 5 Summary of SSSI seabird notified features and seabird species present breeding

Site of Special Scientific Interest	SSSI seabird notified features	Species present and surveyed in 2015/16
Annet	Common tern, GBBG, LBBG, Manx shearwater, Puffin, Storm petrel	Common tern, GBBG, LBBG, Manx shearwater, Puffin, Storm petrel, Razorbill, Fulmar, Shag, HG (Kittiwake, Cormorant & Roseate tern not present)
Chapel Down (St. Martin's)	Kittiwake	Fulmar, Manx shearwater, LBBG, GBBG, HG, (Kittiwake not present)
Norrard Rocks	Cormorant	Storm petrel, LGGB, GBBG, Shag, Fulmar, HG, Guillemot, Razorbill, Puffin, (Cormorant not present)
Pentle Bay, Merrick & Round Island	Common tern, Roseate tern, Storm petrel	Fulmar, Manx shearwater, Shag, LBBG, GBBG, HG, Puffin, Storm petrel (Common tern, Roseate tern not present)
Samson (with Green, White, Puffin & Stony Islands)	Common tern	LBBG, GBBG, Shag, Fulmar, HG, Cormorant, Common tern (Storm petrel not present)
St. Helen's (with Norwethel, Men-a-vaur & Peasehopper)	Fulmar, Guillemot, Razorbill	Storm petrel, LBBG, GBBG, Shag, Manx shearwater, Puffin, HG, Fulmar, Guillemot, Razorbill
Western Rocks	Shag	Storm petrel, LBBG, GBBG, Cormorant, Fulmar, HG, Puffin, Razorbill, Guillemot, Shag
Big Pool & Browarth (St. Agnes)	None	HG
Castle Down (Tresco)	None	Manx shearwater
Eastern Isles	None	Fulmar, Manx shearwater, Cormorant, Shag, LBBG, GBBG, HG, Razorbill, Puffin
Gugh	None	Storm petrel, LBBG, GBBG, Manx shearwater, Fulmar, HG
Shipman Head & Down (Bryher)	none	Shag, LBBG, GBBG, Manx Shearwater, Fulmar, HG, Razorbill
Tean (with Pednbrose & Old Man)	none	LBBG, GBBG, HG (Shag not present)
White Island (St. Martin's)	none	LBBG, GBBG, Fulmar, HG (Kittiwake not present)
Peninnis Head (St. Mary's)	none	Manx shearwater
Wingletang Down (St. Agnes)	none	Manx shearwater, HG
Rushy Bay & Heathy Hill (Bryher)	none	LBBG, HG

GBBG = great black-backed gull
LBBG = lesser black-backed gull
HG = herring gull

The changes in seabird numbers (sum of all each species count unit) and diversity (no of species recorded) on these SSSIs over recent years and since their designation in 1986 are summarised in Tables 6a & 6b below.

Table 6a Changes in seabird numbers for SSSIs with a qualifying breeding seabird interest since SPA and SSSI designations

SSSI Name	No. of breeding species 2015/16	2015/16 total breeding pairs	% change since 2006	% change since SSSI designation[2]
Annet	10	1,443	-12% (from 1638) Loss of LBBG, HG and shags, but increase in fulmar, Manx shearwater and GBBG	-45%
Chapel Down (St. Martin's)	5	86	+8% (from 80) Manx shearwaters new to site, fulmars stable, kittiwakes lost	n/a
Norrard Rocks	9	884	+12% (from 787) Large increase in auks, decline of HG and shag, cormorants lost	n/a
Pentle Bay, Merrick & Round Island	8	315	-15% (from 372) Decline in storm petrels Round Island but more Manx shearwaters there	n/a
Samson (with Green, White, Puffin & Stony Islands)	7	1,325	-19% (from 1641) Decline in HG & LBBG and loss of kittiwakes, increasing shag and fulmar, terns nesting here	-45%
St. Helen's (with Norwethel, Men-a-vaur & Peasehopper)	10	961	-20% (from 1207) Large decline LBBG & HG, kittiwakes lost, increase in Manx shearwaters, auks stable on Men-a-vaur	n/a
Western Rocks	10	1,028	No change (from 1030) Increase in guillemots, but decrease shags, storm petrels and cormorants	-14%

[2] The individual SSSIs were designated in 1986 using 1983 census figures as a baseline. Unfortunately it is not possible to separate the data accurately into the component SSSIs for most of the counts prior to the Seabird 2000 survey. Also for Annet and the Western Rocks where comparable counts are not available for storm petrel and Manx shearwater in 1983, numbers are assumed to be the same as in Seabird 2000.

Table 6b Changes in seabird numbers and assemblage from 1999 to 2015/16 (since SPA designation) for SSSIs not specifically listed for their seabird interest features.

SSSI name	No of breeding species 2015/16	2015/16 total pairs	% change since 2006	Breeding species lost/ gained since 1999
Big Pool & Browarth (St. Agnes)	1	1	-97% (from 30)	Lesser black-backed gull & common tern lost
Castle Down (Tresco)	1	46	-73% (from 170)	Lesser black-backed, herring gull and kittiwake lost; Manx shearwater new
Eastern Isles	9	928	+46% (from 634)	Puffin & Manx shearwater new
Gugh	6	503	-66% (from 1,464)	Kittiwake lost; Storm petrel new
Shipman Head & Down (Bryher)	6	98	-4% (from 102)	Fulmar and razorbill new
Tean (with Pednbrose & Old Man)	3	221	+115% (from 103)	Common tern lost; Increase in gulls (from St. Helen's?)
White Island (St. Martin's)	4	130	+33% (from 98)	Increase in gulls
Peninnis Head (St. Mary's)	1	8	New site	Manx shearwater new
Wingletang Down (St. Agnes)	2	11	+120% (from 5)	Herring gull new
Rushy Bay & Heathy Hill (Bryher)	2	9	+800% (from 1)	Common tern lost; Lesser black-backed & herring gull new

The tables above show that, in terms of overall numbers, four of the seven SSSIs listed for bird interest have shown declines in the last nine years. In particular Annet, which has long been recognised as the most important seabird island in Scilly both in terms of numbers and diversity, has shown a decline in numbers of 12% since 2006 and over 45% since designation in 1983. Much of this loss is due to the complete abandonment of the lesser black-backed gull colony here which once numbered over 500 pairs. The population of shags is also declining steadily here as they are across most of Scilly.

Of the other SSSIs with seabird interest features, the main changes relate to the loss again of kittiwake, lesser black-backed and herring gull, particularly on St. Helen's, Samson and Gugh) and the declines in shag numbers (Western and Norrard Rocks, Eastern Isles), the loss of kittiwake sub-colonies (Gugh, St. Helen's, Samson, and Chapel Down) and of cormorants (Norrard & Western Rocks). The main increases, or offset of other losses, are due to more auks (Norrard & Western Rocks) and Manx shearwaters (Round Island, St. Helen's & Gugh). These changes at the individual SSSIs are examined in greater detail in Appendix 4.

4 Species accounts

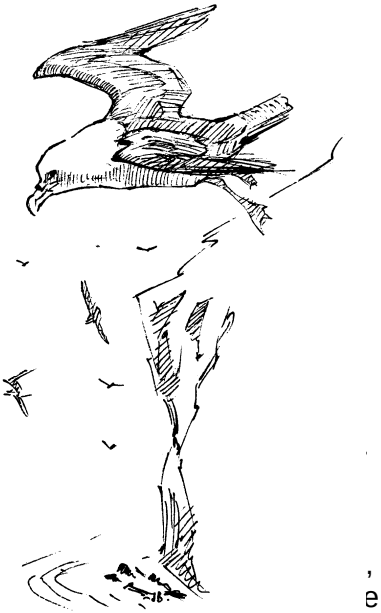
Species' conservation status is from *Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man (2015*), with the previous status from BoCC3 (2007) cited in square brackets.

The BoCC4 qualifying criteria and their values are set out below:

Red-list criteria:
IUCN: Globally Threatened (CR=Critically Endangered, EN=Endangered, VU=Vulnerable).
HD: historical decline in the breeding population.
$BDp^{1/2}$: severe breeding population decline over 25 years/longer term.
$WDp^{1/2}$: severe non-breeding population decline over 25 years/longer term.
$BDr^{1/2}$: severe breeding range decline over 25 years/longer term.
WDr^{1}: severe non-breeding range decline over 25 years.

Amber-list criteria:
ERLOB: Threatened in Europe (CR=Critically Endangered, EN=Endangered, VU=Vulnerable).
HDrec: historical decline – recovery.
$BDMp^{1/2}$: moderate breeding population decline over 25 years/longer term.
$WDMp^{1/2}$: moderate non-breeding population decline over 25 years/longer term.
$BDMr^{1/2}$: moderate breeding range decline over 25 years/longer term.
$WDMr^{1}$: moderate non-breeding range decline over 25 years.
BR/WR: breeding/non-breeding rarity.
BL/WL: breeding/non-breeding localisation.
BI/WI: breeding/non-breeding international importance.

4.1 Northern fulmar *Fulmarus glacialis*



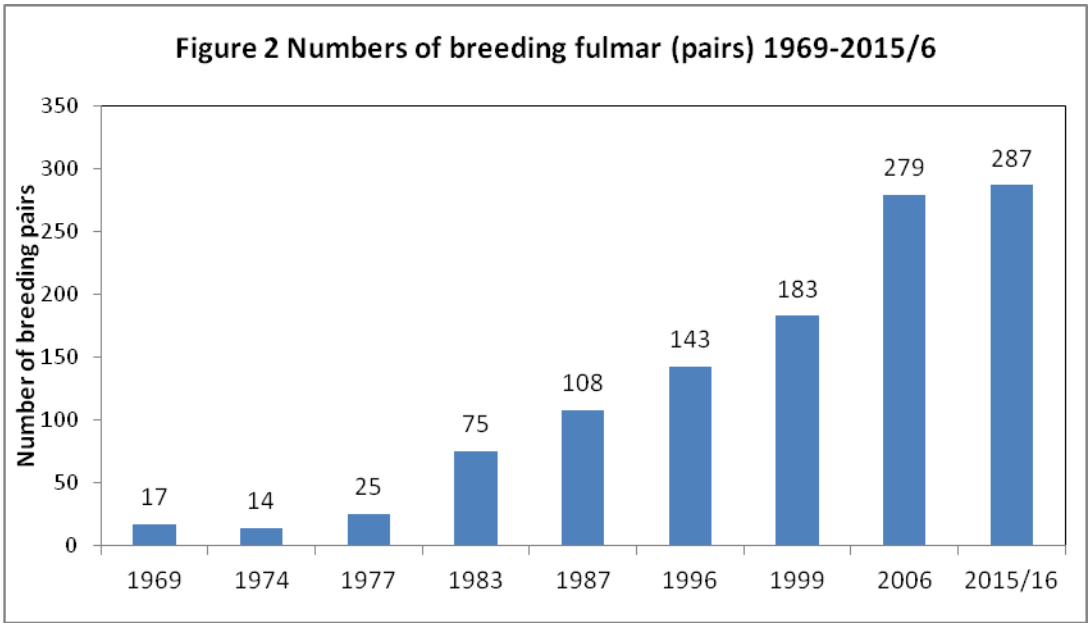
Conservation status: **Amber** (ERLOB - EN, BL)

[BoCC3: Amber]

Population: 287 Apparently Occupied Sites
(= pairs) on 18 islands
(see Table 1 and Map 2)

Fulmars first bred in Scilly in 1944 (Penhallurick 1969), b
at least the late 1960s (Robinson 2003). Figure 2 charts
recorded since 1969, which only seems to be slowing dc
pairs in 2015/16. This represents a 3% increase in numb
The breeding pairs are spread fairly evenly through the a
colonies to be found on Menawethan, Annet and the Da
the pattern of population change in Scilly has been varie
Eastern Isles, Round Island and Bryher being compensated by increases in birds nesting on Annet, Samson and the Western Rocks.

Figure 2 Numbers of breeding fulmar (pairs) 1969-2015/6



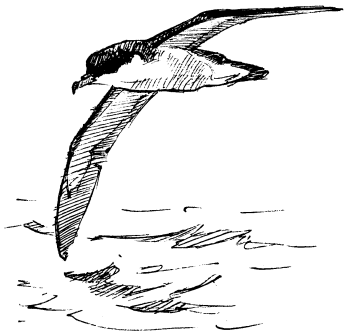
The spectacular rise recorded in the number of fulmars breeding in Scilly is in line with national trends. Although by 2000, the rate of increase of birds nesting in England as a whole had begun to slow and nationally numbers declined by 3% between 1985 and 2000 (Mitchell *at al*. 2004), it seems that the growth of the Scilly population may now be slowing in accordance.

The 2015/16 total of 287 pairs in Scilly represents less than 1% of the UK total fulmar population, but 4.5% of the English total and 11.7% of the southwest population (Mitchell *at al*. 2004), and is therefore of regional importance.

Table 7 Change in number of breeding pairs of fulmar 2006-2015/16

Island Group	1999	2006	2015/16	% Change since 2006
Eastern Isles (Great Arthur, Menawethan, Great Innisvouls, Hanjague, Great Ganilly)	43	77	63	-18% Lost from Great Ganilly & Hanjague
Annet	21	37	57	54%
St. Martin's (Daymark)	32	46	46	No change
Norrard Rocks (Mincarlo & Castle Bryher, Gweal)	28	37	36	-3% New to Gweal (2 prs)
Men-a-vaur	16	20	19	-5%
Western Rocks (Gorregan, Rosevean)	2	6	16	+167% New to Rosevean (4 prs)
Samson	2	5	15	200%
Round Island	32	28	11	-61%
White Island (St. Martin's)	5	6	8	33%
Shipman Head & Down (Bryher)	0	13	6	-54% Lost from Shipman Head Down
St. Helen's	0	1	5	400%
Castle Vean (St. Agnes)	0	0	4	New site
Kittern Rock (Gugh)	2	3	1	-67%
Total	**183**	**279**	**287**	**+3% overall**

4.2 Manx shearwater *Puffinus puffinus*



Conservation status: **Amber** (BDMr[2], BL, BI)

[BoCC3: Amber]

Population: 523 Apparently Occupied Burrows (= pairs) on 10 islands
(see Table 1 and Map 3)

The first comprehensive survey of the distribution and abundance of Manx shearwaters in Scilly using diurnal tape playback was conducted in 2000. This survey represents the third comparable count so that we can start to get an idea of trends. Although the count in 2006 suggested a 15% decrease in the number of apparently occupied burrows, this 2015 count documents a trebling of the population (see Table 8). In addition to increases at all the sites where birds had previously been recorded breeding, colonies were located at five new sites in 2015, most notably at the north ends of both Tresco and St. Martin's. Although historically Manx shearwater breeding had been suspected at both at Castle Down and around the Daymark, previous surveys of these areas in 2000 and 2006 failed to produce evidence of breeding. It is to some extent possible that a small number of burrows were overlooked in previous years or that birds simply didn't respond to playback. However, around the north of Tresco in particular, the large area of burrows discovered, many with plenty of fresh digging, couldn't have been missed. It is also notable that on Gugh and Bryher areas with occupied burrows that have been studied in detail over the last three years showed a much higher occupancy rate and evidence of new burrows in 2015, supporting a genuine increase in new breeders.

This spectacular increase in breeding birds also coincides with record numbers of shearwaters seen rafting on evening trips around St. Agnes and Annet (1,000+ birds) in 2015, as well as the novel records of birds seen in good numbers between St. Agnes and St. Mary's during the daytime (W. Wagstaff & J Peacock *pers. comm & pers. obs*.)

The only other site in England where Manx shearwater breed is Lundy which has seen a tenfold increase in numbers following rat removal in 2002-04 here (Booker & Price 2014).

The 2015 count for Scilly represents less than 1% of the UK total Manx shearwater population, but 13% of the English and southwest totals (Booker & Price 2014) and is therefore regarded as regionally important.

Table 8 Change in number of breeding pairs of Manx shearwater 2000-2015

Island	**2000**	**2006**	**2015**	**% Change since 2006**
Annet	123	89	229	+157%
Round Island	34	43	78	+81%
Castle Down (Tresco)	0	0	46	New site
Gugh	22	9	45	+400%
Shipman Head Down (Bryher)	12	13	39	+200%
St. Helen's	5	9	36	+300%
Chapel Down (St. Martin's)	0	0	26	Recolonised – historical site
St. Agnes	5	8	12	+50% New sites at Troytown & Castle Vean
St. Mary's	0	0	11	New to Peninnis (2010), Carn Morval & Giant's Castle (2015)
Great Ganilly	0	0	1	New site
Total	**201**	**171**	**523**	**+206%**

4.3 European storm petrel *Hydrobates pelagicus*

Conservation status: **Amber** (BL)

[BoCC3: Amber]

Population: 1,335 Apparently Occupied Sites (= pairs) on 14 islands
(see Table 1 and Map 4)

As with Manx shearwater this is only the third comparable systematic all islands survey; prior to this estimates of the numbers of storm petrels breeding in Scilly were vague, ranging in the 'thousands' and differences in methods used made it hard to draw any conclusions. Using diurnal call playback to elicit responses from incubating birds underground we estimated a total of 1,335 pairs (see Appendix 3 for further details) representing sustained decline of 5% in the last nine years and 10% since the first count in 2000.

This 2015/16 count of storm petrels represents 5.2% of the UK population of this Annex 1 species and is therefore of international importance (Mitchell *et al.* 2004). At the time of the last count in 2006, Scilly was the only known breeding site for storm petrels in England. Following the removal of rats from Lundy 2002-04 a few storm petrel chicks have been recorded fledging there too in 2014 and 2015.

Table 9 Change in number of breeding pairs of storm petrel 2000-2015/16

Island	2000	2006	2015/16	% Change since 2006
Annet	938	788	778	-1% (rat incursion 2004)
Round Island	183	251	172	-32%
Rosevear	57	129	112	-13%
Melledgan	140	69	97	+41%
Gorregan	49	37	32	-14%
Rosevean	37	46	26	-44%
Scilly Rock	14	23	21	-9%
Men-a-vaur	20	20	14	-30%
Burnt Island	0	0	11	New site
Mincarlo	17	20	9	-55%
Illiswilgig	3	9	52	+478%
Castle Bryher	17	6	3	-50%
St. Agnes	0	0	6	New site
Gugh	0	0	2	New site
Total	**1,475**	**1,398**	**1,335**	**-5%**

4.4 Great cormorant *Phalacrocorax carbo*

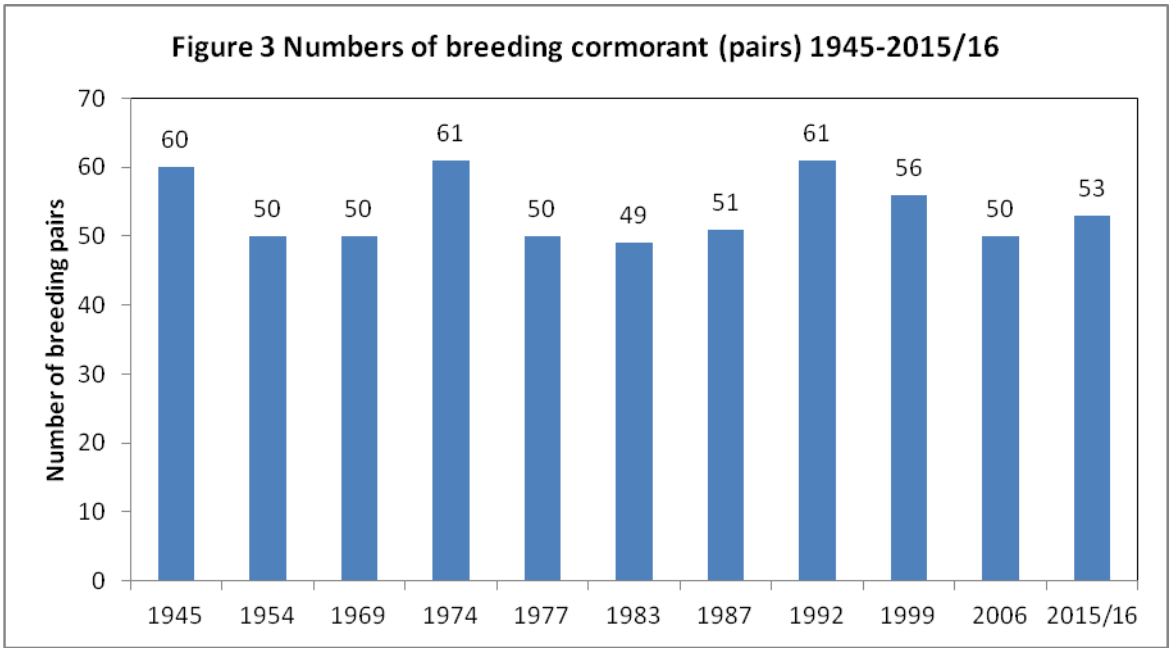
Conservation status: **Green**

[BoCC3: Green]

Population: 53 Apparently Occupied Nests (= pairs) on three islands (see Table 1 and Map 5)

Counts since 1945 suggest that the number of cormorants breeding in Scilly has remained remarkably stable at between 49-61 pairs (see Figure 3). In addition, the spread of sub-colonies, though traditionally transient in their location with at least eight other islands having supported breeding birds in the past (Robinson 2003), has reduced from five sites in 1999, to four in 2006 and just three in 2015/16.

Figure 3 Numbers of breeding cormorant (pairs) 1945-2015/16



The population of cormorants breeding in England and the UK as a whole increased by 8% and 10% respectively between 1985 and 2000 (Mitchell *at al*. 2004). This 2015/16 Scilly population count now represents less than 2% of the UK and English totals and just 3.9% of the southwest population (Mitchell *et al*. 2004) so that numbers are not considered to be of regional importance.

Table 10 Change in number of breeding pairs of cormorant 1999-2015/16

Island	**1999**	**2006**	**2015/16**	**% change since 1999 & notes**
White Island (Samson)	1	9	38	+3700% Mincarlo birds moved here?
Melledgan	16	13	10	-23%
Great Ganinnick	0	0	5	New site
Mincarlo	25	18	0	Site abandoned - last recorded nests 2013
Ragged Island	12	10	0	Site abandoned
Great Innisvouls	2	0	0	Site abandoned
Total	**56**	**50**	**53**	**+6%**

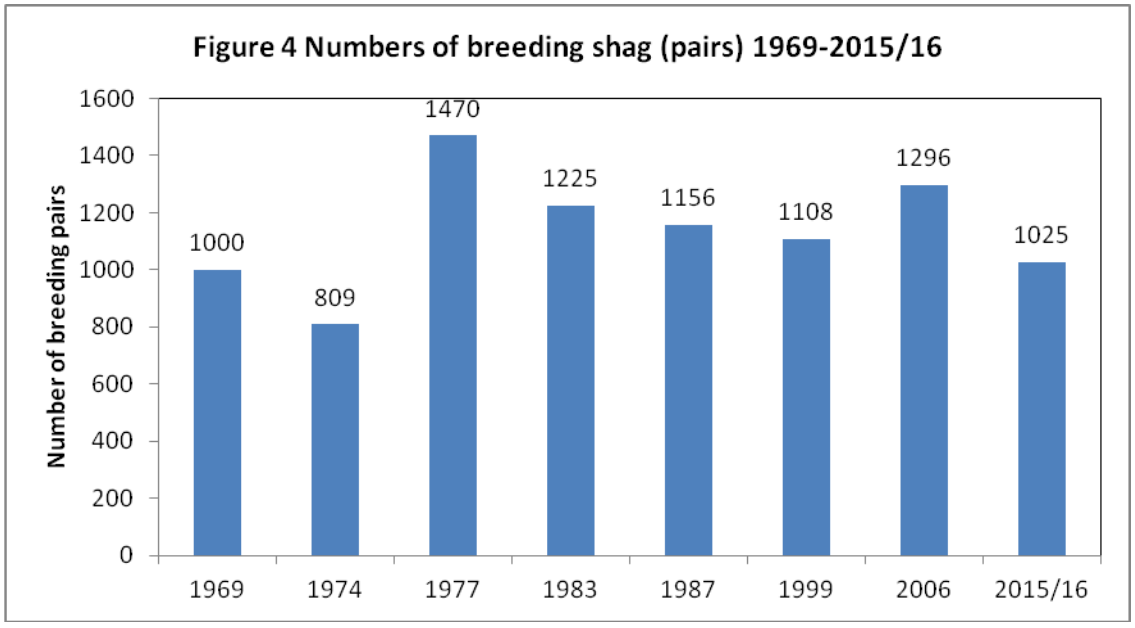
4.5 European shag *Phalacrocorax aristotelis*

Conservation status: **Red** (BDp[1]),
Also **Amber** (BDMp[2], BI)

[BoCC3: Amber]

Population: 1,025 Apparently Occupied Nests (= pairs) on 31 islands
(see Table 1 and Map 6)

The first systematic 'all islands' survey of shags was conducted in 1969 as part of Operation Seafarer. Since then counts have fluctuated around 1,100 pairs, with a particularly low count in 1974 (see Figure 4). Following a 7% increase in numbers between 1999 and 2006, this latest count represents a 21% decrease in the numbers of breeding shags in Scilly. Losses are spread across a number of sites, notably the Western and Norrard Rocks, the Eastern Isles and Annet. Annual counts of birds nesting on Annet in the last nine years (see Appendix 5) suggest that the decline there has been gradual.



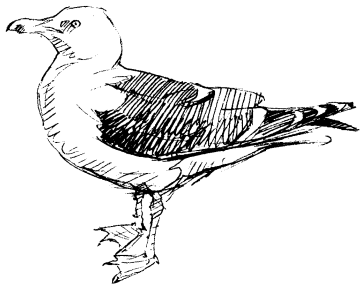
The southwest region as a whole recorded a 4% decline in numbers of shag between 2000 and 2006 (Porter, Brown & Lock 2010) and wider trends in the UK record larger declines of 27% between 1985 and 2000 (Mitchell *et al*. 2004).

The 2015/16 total for Scilly represents 3.9% of the UK total, 26.6% of the English total and 41% of the Southwest population of shags (Mitchell *et al*. 2004). Scilly is the fourth largest colony in the UK and Ireland, behind Foula (Shetland), Farnes and Lambay Island (Co. Dublin) and is considered as nationally important.

Table 11 Change in number of breeding pairs of shag 1999-2015/16

Island	1999	2006	2015/16	% Change since 2006
Western Rocks	331	392	350	-11%
Eastern Isles	221	330	276	-16%
Norrard Rocks	273	312	188	-40%
Annet	209	177	85	-52%
St. Helen's (incl. Men-a-vaur)	24	38	31	-18%
Samson (Incl. White & Puffin Is.)	43	35	49	+40%
Round Island	2	7	16	+129%
St. Martin's satellites (Pernagie & Guther's Is.)	1	1	11	New to Pernagie, increased Guther's
Shipman Head (Bryher)	4	4	19	+375%
Total	**1,108**	**1,296**	**1,025**	**-21%**

4.6 Lesser black-backed gull *Larus fuscus*



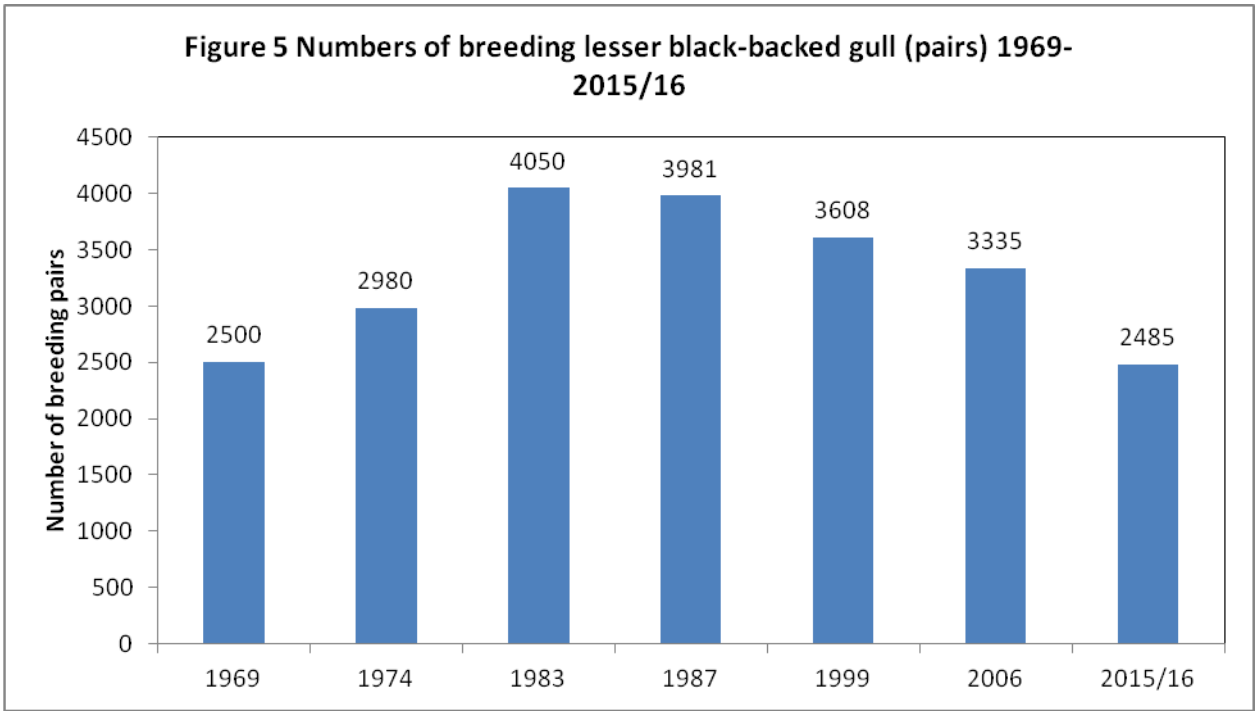
Conservation status: **Amber** (BL, BI)

[BoCC3: Amber]

Population: 2,485 Apparently Occupied Nests (= pairs) on 30 islands
(see Table 1 and Map 7)

Since the first systematic count in 1969 the number of lesser black-backed gulls nesting in Scilly increased to a peak of 4,050 pairs in 1983 but has declined steadily ever since. This 2015/16 count represents a continuation of this trend with a loss of 26% of breeding pairs in the last nine years. The three largest sub-colonies on Samson, St. Helen's and Gugh have all declined dramatically since 2006 and the sub-colony on Annet has been lost altogether. Outside the main sites lesser black-backed gulls are spread widely across 30 islands and some islands, notably Norwethel, Tean and a couple of Eastern Isles, may have picked up some of the birds lost elsewhere.

Figure 5 Numbers of breeding lesser black-backed gull (pairs) 1969-2015/16



This decline in breeding numbers found in Scilly in recent years is in line with national trends. Populations in the UK increased by as much as 40% between 1985 and 2000, with main increases within SPAs e.g. 132% increase at Bowland and 95% increase at Walney, but with huge declines since. Regional counts for this species in coastal areas showed a 9% decline in numbers between 2000 and 2006 (Porter, Brown & Lock 2010).

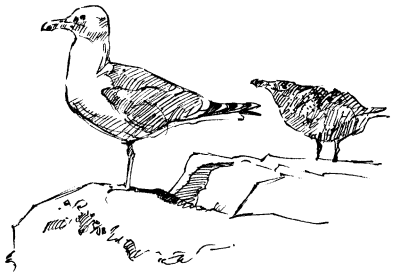
The 2015/16 total for Scilly represents 2.0% of the GB total, 3.6% of the English total and 33.3% of the southwest population of lesser black-backed gull (Mitchell *et al*. 2004).

It is a key species in the SPA designation of the archipelago representing 31% of the total assemblage. The current population is 1.38% of the biogeographic population and still meets the international importance threshold which is 1,830 or 1% of the biogeographic population of *Graelsii.* Great Britain supports about 65% of the world population of the subspecies.

Table 12 Change in number of breeding pairs of lesser black-backed gull 1999-2015/16

Island	**1999**	**2006**	**2015/16**	**% Change since 2006**
Samson (Incl. White & Puffin Is.)	1,197	1,223	1,027	-16%
St. Helen's (incl. Men-a-vaur, Norwethel & Crow's)	543	722	553	-23%
Gugh	1,123	875	419	-52%
Eastern Isles	19	14	159	+1,036% Large increases Great Ganilly & Great Arthur
Tean (incl. Pednbrose & Old Man)	24	5	136	+2,620%
White Island (St. Martin's)	28	187	106	-43%
Norrard Rocks	13	6	37	+517% Increase Gweal
Bryher	50	8	17	+113%
Western Rocks	4	1	5	+400%
Chapel Down (St. Martin's) & Satellites (Guther's)	58	8	8	No change
Annet	517	281	1	-99%
Tresco	29	4	1	-75% Gimble Porth abandoned
St. Agnes	2	0	14	New settlement below Turk's Head
Round Island	1	1	2	+100%
Total	**3,608**	**3,335**	**2,485**	**-26%**

4.7 Herring gull *Larus argentatus*



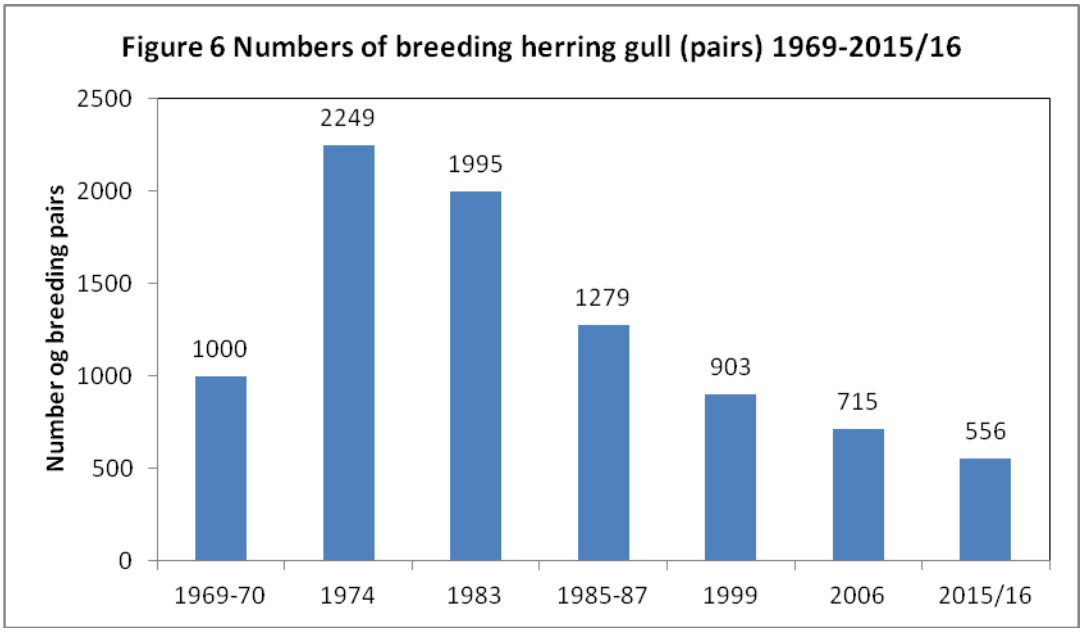
Conservation status: **Red** (BDp[2], WDp[1])
Also **Amber** (WI)

[BoCC3: Red]

Population: 556 Apparently Occupied Nests (= pairs) on 47 islands
(see Table 1 and Map 8)

Herring gulls are the most widespread breeding seabirds in Scilly, found on 47 islands; however, most islands support only a few pairs (see Map 8 and Table 1). Since a peak of 2,249 pairs in 1974 herring gull numbers have been declining steadily to the current count of just 556 pairs in 2015/16, representing a loss of 22% in the last nine years and 38% since SPA designation. In particular since 2006 the entire mixed colony of gulls and kittiwakes on Gimble Porth, Tresco, has been abandoned. The only sites to show an increase in pairs in 2015/16 are in the Eastern Isles, Tean and Bryher but the numbers are relatively small and do not offset the large losses on Samson, Gugh, Tresco and St. Helen's. The only other increase in breeding pairs is to be found on the rooftops of Hugh Town, St. Mary's (15 pairs in 2015 cf 3 in 2006).

Figure 6 Numbers of breeding herring gull (pairs) 1969-2015/16



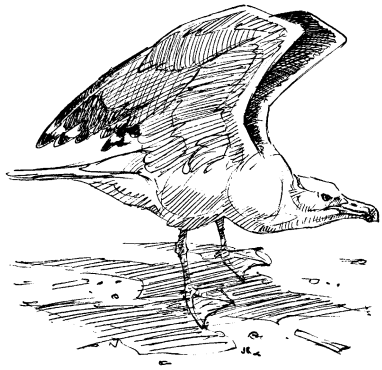
Between 1985 and 2000, although the numbers of herring gull nesting in England increased by 59%, there was a decrease in numbers of 13% across the UK as a whole (Mitchell *et al.* 2004).

The 2015/16 count for Scilly represents less than 1% of the UK and English totals of herring gull, and just 3.3% of the southwest population so is not considered of regional importance (Mitchell *et al.* 2004).

Table 13 Change in number of breeding pairs of herring gull 1999-2015/16

Island	**1999**	**2006**	**2015/16**	**% Change since 2006**
Samson (Incl. White & Puffin Is.)	230	189	144	-24%
Eastern Isles	49	34	73	+115%
St. Helen's (incl. Men-a-vaur, Norwethel & Crow's Is.)	82	116	59	-49%
Tean (incl. Pednbrose & Old Man)	62	51	57	+12%
Bryher	23	25	53	+112%
St. Martin's & Satellites (incl. Guther's)	42	37	32	-14%
Gugh	159	69	30	-57% Lost from the eastern beaches
Tresco	102	87	25	-72% Lost from Gimble Porth
Annet	42	24	20	-17%
White Island (St. Martin's)	34	32	15	-53%
Norrard Rocks (incl. Gweal)	41	19	15	-21%
St. Mary's	2	3	15	+400% HughTown
St. Agnes	25	15	11	-27%
Western Rocks	2	11	5	-55%
Round Island	8	3	2	-33%
Total	**903**	**715**	**556**	**-22%**

4.8 Great black-backed gull *Larus marinus*



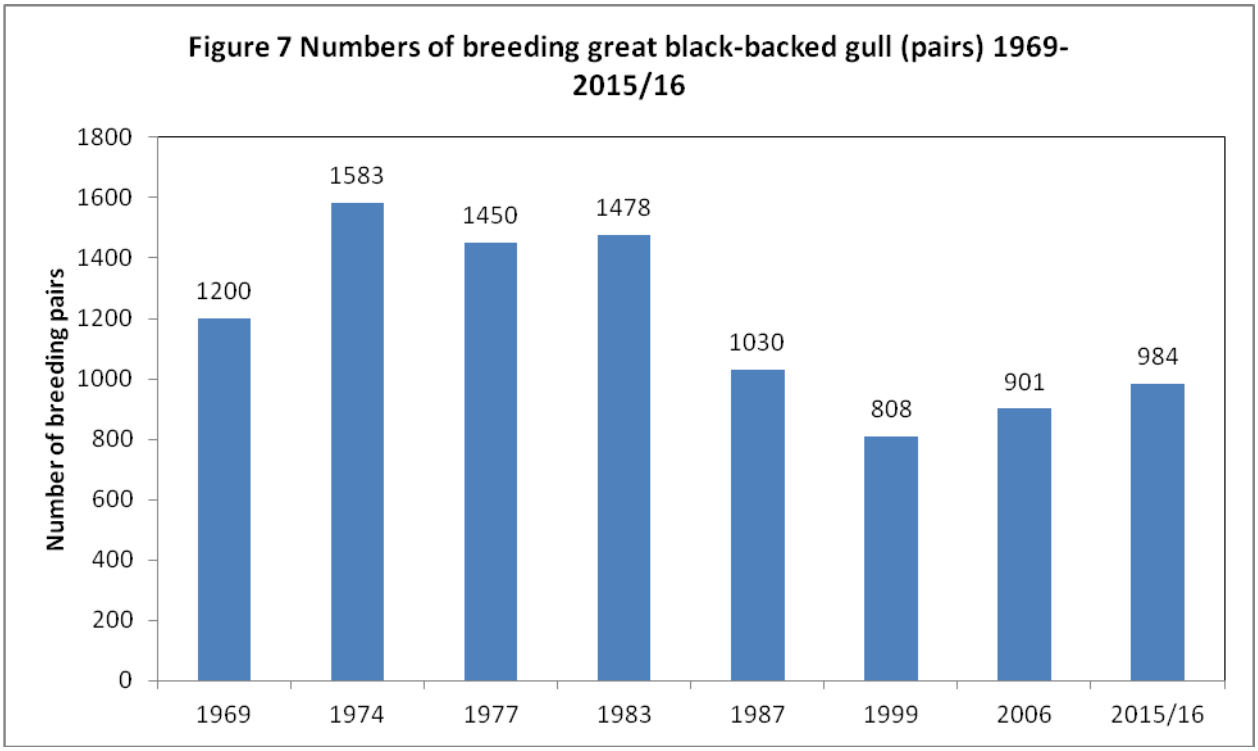
Conservation status: **Amber** (BDMp[2], WDMp[1])

[BoCC3: Green]

Population: 984 Apparently Occupied Nests (= pairs) on 45 islands
(see Table 1 and Map 9)

After a peak of 1,583 pairs in 1974, after which numbers were controlled by the Nature Conservancy Council, the number of great black-backed gulls breeding in Scilly declined to a low of 808 pairs in 1999 (see Figure 7). Since then, numbers have begun increasing again with this current 2015/16 count of 984 pairs representing a 9% increase in numbers in the last nine years. The birds are widespread across 45 islands with most holding a few pairs and a few islands supporting larger colonies, notably Annet, Gweal, Rosevear and the Eastern Isles, all of which are increasing.

Figure 7 Numbers of breeding great black-backed gull (pairs) 1969-2015/16

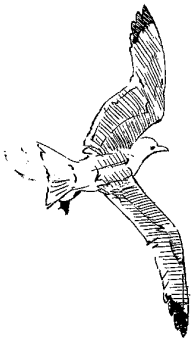


This pattern of general decline since the 1970s followed by an upturn in recent years reflects regional trends for this species (Porter, Brown & Lock 2010) but is somewhat in contrast with national trends which showed a decrease of 4% in the numbers of great black-backed gulls breeding in the UK as a whole between 1985 and 2000 (Mitchell *et al*. 2004).

The 2015/16 total for Scilly represents 5.9% of the UK total, 64.4% of the English total and 68.3% of the Southwest population of great black-backed gull (Mitchell *et al.* 2004) and is therefore at least nationally important.

Table 14 Change in number of breeding pairs of great black-backed gull 1999-2015/16

Island	**1999**	**2006**	**2015/16**	**% Change since 2006**
Eastern Isles	286	265	310	+17% Mostly Menawethan, Great Arthur & Innisvouls
Annet	137	187	235	+26% Large colony at Carn Irish
Western Rocks	124	157	136	-13% Decline on Rosevear
Norrard Rocks (incl. Gweal)	101	106	125	+18% Increase Gweal
Samson (Incl. White & Puffin Is.)	46	73	42	-43%
St. Martin's & Satellites (incl. Guther's & White Is.)	47	46	43	-7%
St. Helen's (incl. Men-a-vaur, Norwethel & Crow's Is.)	30	28	31	+11%
Tean (incl. Pednbrose & Old Man)	16	18	28	+56%
Round Island	5	9	20	+122%
Gugh	3	4	6	+50%
Bryher	13	7	5	-29%
St. Agnes	0	1	2	+100%
Tresco	0	0	1	New site Merrick Island
Total	**808**	**901**	**984**	**+9%**



4.9 Black-legged kittiwake *Rissa tridactyla*

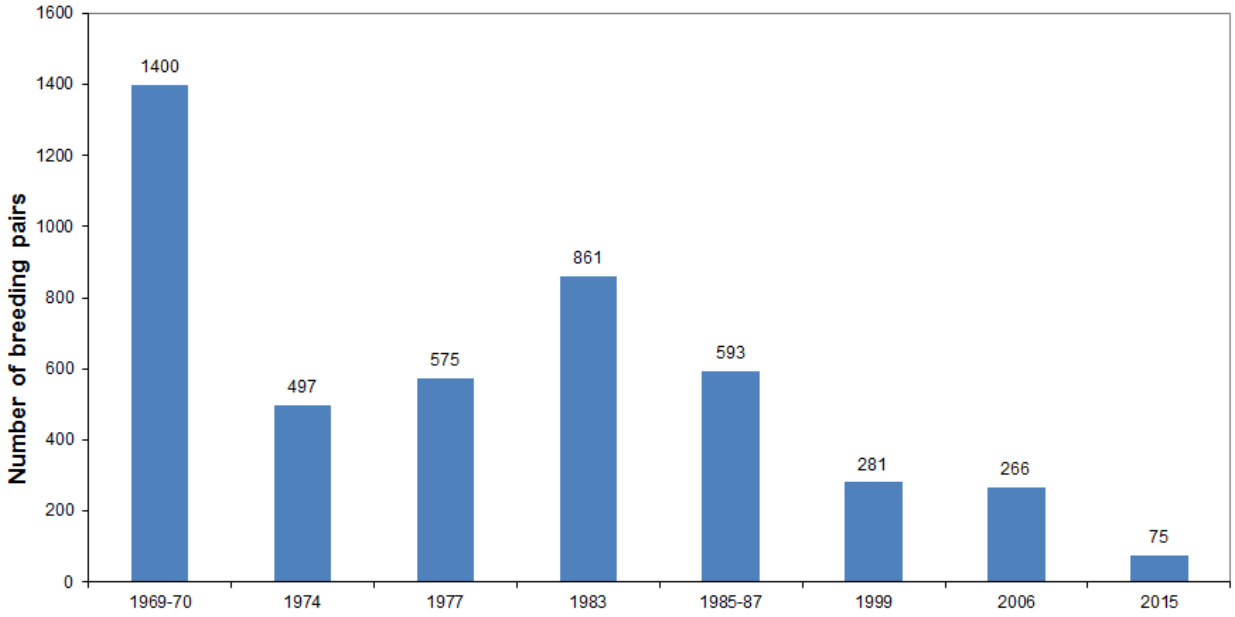
Conservation status: **Red** (BDp[1], BDp[2])
Also **Amber** (ERLOB - VU)

[BoCC3: Amber]

Population: 75 Apparently Occupied Sites (= pairs) on one island
(see Table 1 and Map 10)

After increasing to a peak of 861 pairs in 1983, the number of kittiwakes breeding in Scilly has declined steadily. The current 2015 count of just 75 pairs represents a particularly rapid drop of 72% in just the last nine years. In addition, the division of birds into a number of sub-colonies appears to have been abandoned as the numbers have fallen. In 2015 all 75 pairs nested at just one location on the low 'cliffs' between the Turk's Head pub and the Gugh Bar on St. Agnes.

Figure 8 Numbers of breeding kittiwake (pairs) 1969-2015



These population trends seen in Scilly reflect those at a national scale with considerable increases in the first half of the 20th century giving way to large declines, with the kittiwake population in England declining by as much as 39% between 1985 and 2000 (Mitchell *et al.* 2004) and by a further 66% across the southwest between 2000 and 2006 (Porter, Brown & Lock 2010).

The 2015 total for Scilly now represents less than 1% of the UK and English total and just 2.2% of the Southwest population of kittiwake (Mitchell *et al.* 2004) and is not considered regionally important.

Table 15 Change in number of breeding pairs of kittiwake 1999-2015

Colony site	1999	2006	2015	% Change since 2006
Turk's Head (St. Agnes)	0	0	75	New site, first colonised in 2009
Daymark (St. Martin's)	27	15	0	Site abandoned 2014
Gugh	155	131	0	Site abandoned 2011
Gimble Porth (Tresco)	54	37	0	Site abandoned 2010
St. Helen's	7	36	0	Site abandoned 2011
Samson North Hill	28	25	0	Site abandoned 2010
Samson South Hill	10	22	0	Site abandoned 2009
Total	**281**	**266**	**75**	**-72%**

4.10 Common tern *Sterna hirundo*

Conservation status: **Amber** (BL)

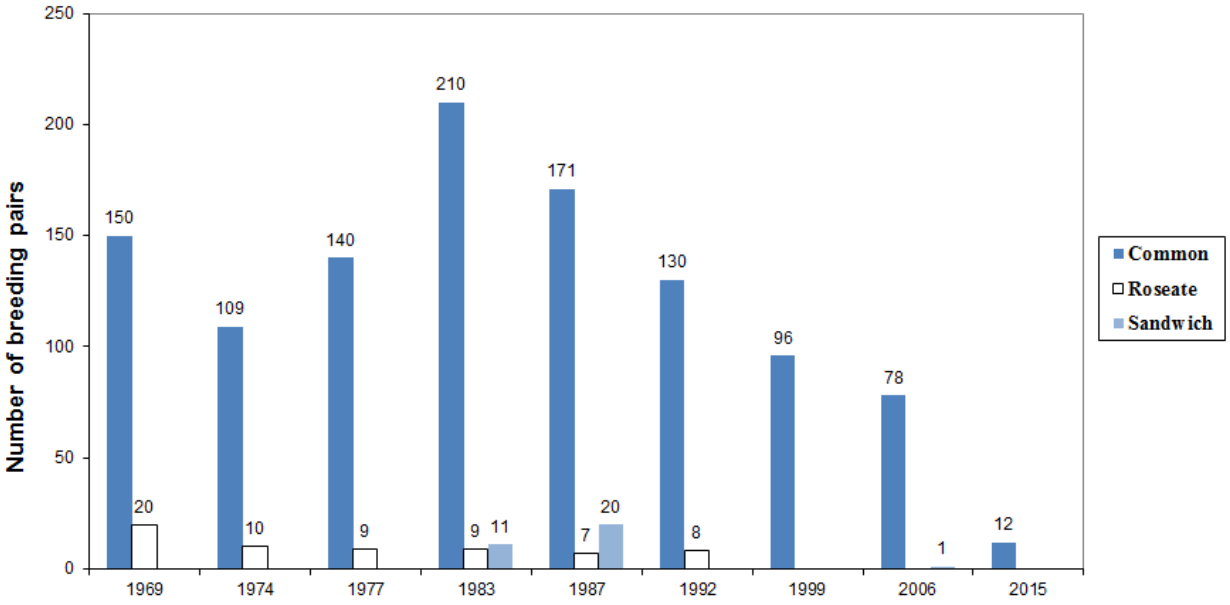
[BoCC3: Amber]

Population: 12 Apparently Occupied Nests (= pairs) on two islands
(see Table 1 and Map 11)

Numbers of common terns breeding in Scilly can be quite erratic (see Figure 9) but have shown a clear and sustained decline since a maximum of count of 210 pairs in 1983. In the last nine years common terns have been arriving to the islands later each year and showing low interest in breeding with no breeding attempts at all recorded in 2010 and 2014 (Heaney 2014, W Wagstaff *pers. comm*.). Also, the breeding attempts are not as spread as prior to 2006 with the birds showing a particular preference for nesting on the low-lying Green Island (Samson). In 2015 as in 2014 the main breeding site was on the north hill of Samson.

In the past, up to four species of tern have bred in Scilly usually all in association with the most numerous common terns. At the periphery of their global range, Sandwich terns are intermittent breeders. A maximum of 18-22 pairs was recorded in 1998, but since then only single pairs have been recorded in 1998 and 2006-8. No breeding attempts by Sandwich terns were recorded in 2015. Roseate terns have also been recorded in small numbers in Scilly, from a maximum of 20 pairs in 1969 to the last recorded attempt in 1995. Arctic terns have also been recorded in Scilly, most recently in 1995, but again no record of this species breeding was made in 2015.

Figure 9 Numbers of breeding tern (pairs) 1969-2015

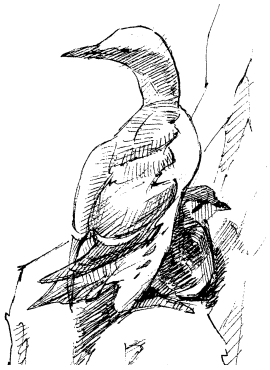


In the period between Operation Seafarer and Seabird 2000, the common tern population in the UK declined by 9% despite remaining relatively stable across England. Across the southwest numbers have been increasing with a rise of 9% between 2000 and 2006 (Porter, Brown & Lock 2010).

The 2015 total for Scilly now represents less than 1% of the UK and English total (Mitchell *et al.* 2004) and just 3.2% of the Southwest population of common terns (Porter, Brown & Lock 2010). However, as one of only three common tern breeding sites in the southwest and a previous site for roseate terns, Scilly is still considered regionally important.

Table 16 Change in number of breeding pairs of common tern 1999-2015

Colony site	**1999**	**2006**	**2015**	**% Change since 2006**
North Hill, Samson	11	3	10	+233%
Annet	1	1	2	+100%
Green Island (Samson)	7	56	0	Regular site - last used 2013
Peasehopper Island	1	13	0	Site abandoned 2008
Green Island (Tresco)	1	4	0	Site abandoned
Merrick Island (Tresco)	0	1	0	Site abandoned
Merrick Island (Bryher)	13	0	0	Site abandoned
Appletree Banks, Tresco	39	0	0	Site abandoned
Castle Down, Tresco	13	0	0	Site abandoned
Great Cheese Rock	5	0	0	Site abandoned
Browarth, St. Agnes	3	0	0	Site abandoned
Colvel Rock, Bryher	1	0	0	Site abandoned
Tean	1	0	0	Site abandoned
Total	**97**	**78**	**12**	**-85%**



4.11 Common guillemot *Uria aalge*

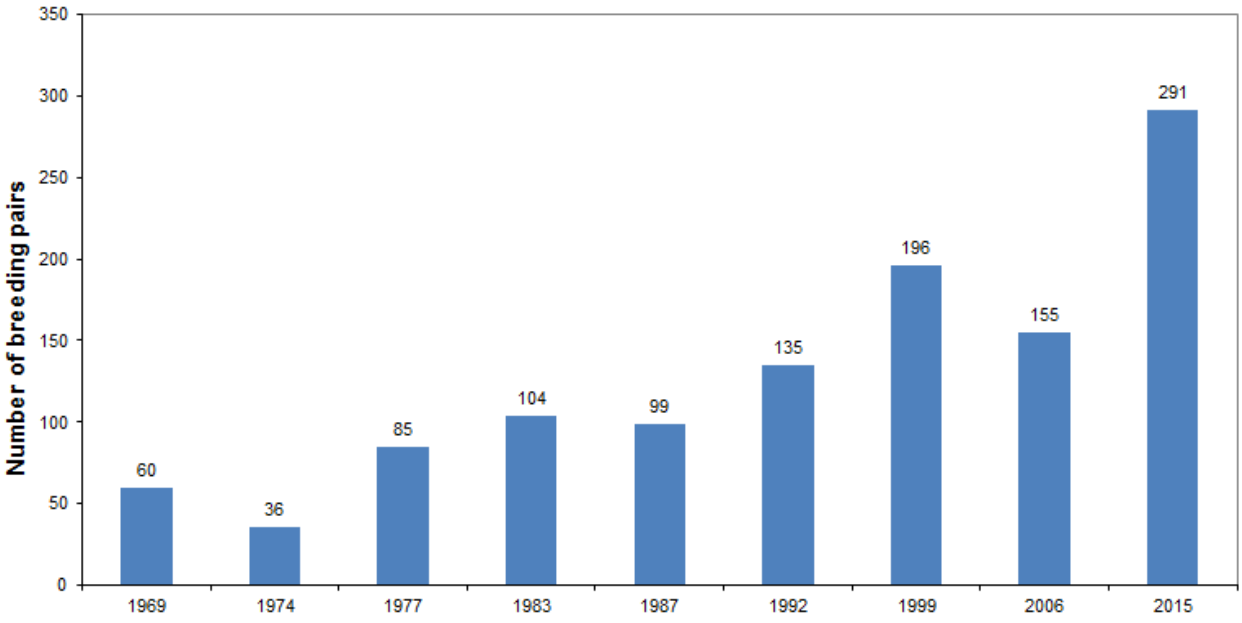
Conservation status: **Amber** (BL, BI)

[BoCC3: Amber]

Population: 291 pairs recorded at five sites (see Table 1 and Map 12)

All islands counts of guillemot breeding in Scilly since 1969, shown in Figure 10, reveal a general increase in numbers with the 2015 count representing a maximum in recent years of 291 pairs; an increase of 88% since the low count of 155 pairs in 2006. As in previous years the birds were found to be breeding in concealed nest sites under boulders and on ledges in cavities, a trend possibly related to high avian predation pressure (Robinson 1993, Swann 2003) as well as the absence of their preferred cliff ledge sites (Chown & Lock 2002). These boulder colonies are hard to survey accurately and, when coupled with the fact that they are located on the most inaccessible outer rocks (see Map 12), means that counts of guillemots and auks in general in Scilly can be difficult to make (see Appendix 3). Nevertheless, this 2015 count appears to represent a definite increase in guillemot numbers in Scilly with the number of pairs at the three main sites increasing as well as new pairs at Melledgan and Mincarlo (see Table 17).

Figure 10 Numbers of breeding guillemot (pairs) 1969-2015



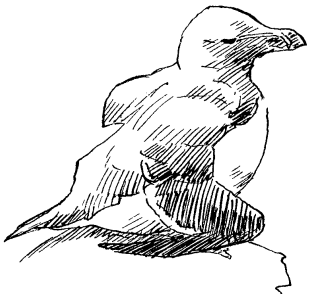
The trends seen in Scilly follow the national pattern with the number of breeding pairs of guillemot in Britain and Ireland increasing substantially between 1969 and 2006, especially in the small southern colonies (Mitchell *et al.* 2004, Porter, Brown & Lock 2010).

The 2015 total for Scilly represents less than 1% of the UK and English total and 4.5% of the Southwest population of common guillemot (Mitchell *et al.* 2004), so is not of regional importance.

Table 17 Change in number of breeding pairs of guillemot 1999-2015

Colony Site	**1999**	**2006**	**2015**	**% Change since 2006**
Men-a-vaur	117	95	110	+16%
Gorregan	39	31	99	+200%
Scilly Rock	39	29	60	+161%
Mincarlo	1	0	20	Re-colonised
Melledgan	0	0	2	New site
Total	**196**	**155**	**291**	**+88%**

4.12 Razorbill *Alca torda*

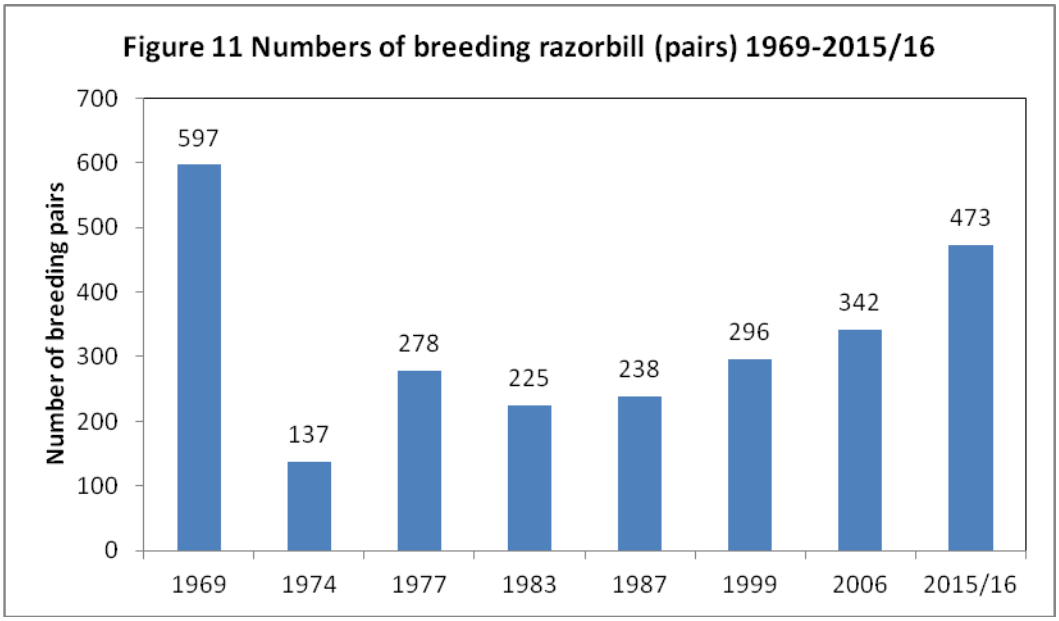


Conservation status: **Amber** (BL, BI)

[BoCC3: Amber]

Population: 473 pairs recorded at 16 sites
(see Table 1 and Map 13)

As with guillemots, razorbills in Scilly nest exclusively under boulders making accurate assessment of breeding numbers and comparison of counts difficult (see Appendix 3). After a low count of 137 pairs in 1974 (possibly as a result of high mortality and low recruitment following the Torrey Canyon oil spill), numbers have shown a gradual increase to the current count of 473 pairs. Found at 16 sites, razorbills are the most abundant and widespread of the three auk species found breeding in Scilly (see Map 13). The bulk of pairs nest on four islands; Mincarlo, Men-a-vaur, Scilly Rock and Gorregan. Over the last nine years the number of pairs breeding in Scilly has increased by 38% with large increases in birds at Mincarlo and Melledgan and new sites colonised in the Norrard Rocks, the Eastern Isles (Gweal and Little Ganinnick respectively) and at Shipman Head.



Despite difficulties in comparing methodologies, the number of razorbills across the UK appeared to increase from 1969 to 2006 as seen in Scilly (Mitchell *et al.* 2004, Porter, Brown & Lock 2010).

The 2015/16 total for Scilly now represents less than 1% of the UK total, 4.1% of the English total and 24.9% of the Southwest population of razorbill (Mitchell *et al.* 2004), so is considered of regional importance.

Table 18 Change in number of breeding pairs of razorbill 1999-2015/16

Colony Site	**1999**	**2006**	**2015/16**	**% Change since 2006**
Norrard Rocks	103	129	232	+80% New to Gweal (8 pairs)
Western Rocks	85	107	109	+2%
Men-a-vaur	101	90	88	-2%
Eastern Isles	3	12	37	+208% New to Little Ganinnick, lost from Hanjague
Annet	4	4	5	+25%
Shipman Head, Bryher	0	0	2	New site
Total	**296**	**342**	**473**	**+38%**

4.13 Atlantic puffin *Fratercula arctica*

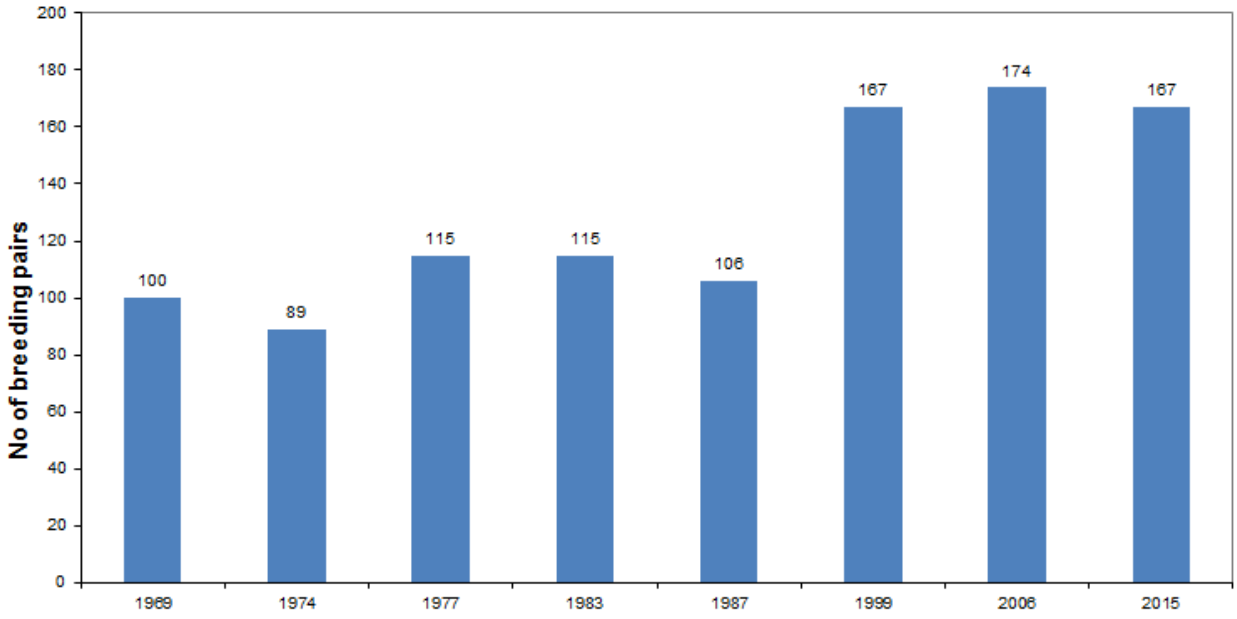
Conservation status: **Red** (IUCN - VU),
Also **Amber** (BDMr[2], ERLOB – EN, BL)

[BoCC3: Amber]

Population: 167 pairs recorded at 10 sites (see Table 1 and Map 14)

Although historical records suggest 1000s of pairs of puffins once bred in Scilly, comprehensive counts from 1969 onwards record much lower numbers (see Figure 12). The last three counts suggest a slight upturn in numbers with numbers fluctuating around 170 pairs. Although spread across 10 sites, there are three main sub-colonies of puffins in Scilly; Mincarlo, Annet and Scilly Rock (see Table 19). In the last nine years a drop in the number of pairs breeding on Annet appears to have been compensated by an increase in pairs at Mincarlo, this movement of birds between nearby sites has been recorded in other colonies (Breton *et al*. 2006). Of interest in 2015 was the record of a few pairs at Menawethan in the Eastern Isles. Although puffins were recorded here in the past, this is the first time in recent memory that they have been seen here.

Figure 12 Numbers of breeding puffin (pairs) 1969-2015



Puffins declined across the UK in the first half of the 20th century, with losses occurring first and being most severe in the southernmost colonies. More recent declines on breeding numbers have led to the puffin being red listed in October 2015. Continuing declines seen in many small southern colonies in Devon, Cornwall and the Channel

Islands (Wanless *et al.* 2003, Mitchell *et al.* 2004, Porter, Brown & Lock 2010) make it all the more important that we continue to monitor and protect our Scilly birds.

The 2015 total for Scilly represents less than 1% of the UK and English totals but is of regional importance.

Table 19 Change in number of breeding pairs of puffin 1999-2015

Colony Site	**1999**	**2006**	**2015**	**% Change since 2006**
Mincarlo	53	38	51	+34%
Annet	47	50	31	-38%
Scilly Rock	25	36	35	-3%
Rosevear	3	14	14	No change
St. Helen's	11	13	11	-15%
Melledgan	2	13	13	No change
Men-a-vaur	25	6	5	-17%
Rosevean	0	4	0	Site abandoned
Gorregan	1	0	2	Site re-colonised
Menawethan	0	0	4	New site
Round Island	0	0	1	New site
Total	**167**	**174**	**167**	**-4%**

5 Site accounts

The specific objective of this 2015/16 survey was to assess the status of the Isles of Scilly Special Protection Area and of its constituent Sites of Special Scientific Interest for seabirds. The survey also makes possible an assessment of the status of seabirds on the other SSSIs not specifically designated for seabird interest and across other areas in Scilly that lie outside designations.

5.1 The status of seabirds in the Isles of Scilly SPA

The Isles of Scilly SPA (see maps in Appendix 1) was classifed in August 2001 and data from the Seabird 2000 census (collected in 1999 and 2000) were used to support the classification. The site qualifies under Article 4.1 of Directive 79/409 for its breeding population of storm petrel (based on 1999 estimate of 5,406-8,798 pairs, some 6.4-10.4% of the GB population) and under Article 4.2 for its breeding population of lesser black-backed gulls (based on 1999 figure of 3,608 pairs, some 2.9% of the race *graellsii*). It also qualifies under article 4.2 by supporting a population of at least 20,000 waterbirds, specifically 26,478 seabirds in 1999.

Accurate storm petrel counts using diurnal call playback since 2000 fall short of the 1999 estimate on which SPA designation was based and the total number of seabirds estimated to be breeding in Scilly now falls short of the 20,000 birds threshold for which the SPA was designated. Nevertheless, the 2015/16 estimate of 1,335 pairs of breeding storm petrel in the Scilly SPA is still of international importance. The 2015/16 count estimated 8,266 breeding pairs – 16,532 seabirds supported by the archipelago, a fall of 9.8% in the last 9 years and 37.6% since SPA designation. It should be noted that this figure includes the high storm petrel population estimate obtained using methods which are not directly comparable to these obtained since. Using the Seabird 2000 figures including the playback surveys of storm petrel and Manx shearwater the decline in numbers since 1999/2000 is nearer 11.9%, see Figure 1.

The 2015/16 results show that the islands still support internationally important numbers of storm petrel and lesser black-backed gull as well as nationally important numbers of shag and great black-backed gull.

All-island seabird count figures are used in this report because boundary anomalies mean that features of the SPA move in and out of the SPA but still occur within the archipelago. Therefore, it is more meaningful to present the figures for all the islands as more representative of the state of features of the SPA.

Appendix 7 provides an analysis of the numbers of seabirds recorded breeding within the SPA boundary in 2015/16.

5.2 The status of seabirds in the Isles of Scilly seabird SSSIs

Table 5 gives a summary of the seabird notified features and seabird species present breeding in each of the 26 SSSIs in the Isles of Scilly. Of these, 17 supported breeding seabirds in 2015/16; however, only seven are notified in whole or part recognition of their qualifying seabird interest. Tables 6a and 6b provide a breakdown of the numbers of each seabird species present in each of the SSSIs in the Scilly archipelago from 1999 to 2015/16.

Since the designation of SSSIs in 1986 the number of seabirds breeding in three of the seven SSSIs designated for their seabird interest has declined by as much as 45%. (Comparative data are not available for four of these 'seabird' SSSIs, as it is not possible to allocate individual island counts to SSSIs for surveys prior to 1999). Table 2 details the condition of these SSSIs according to the individual seabird interest features and Appendix 4 gives more detail on the changes at each of the individual Scilly SSSIs.

6 Discussion

This report presents the detailed findings of the third comprehensive 'all species, all islands' seabird survey in the Isles of Scilly (prior to 2000, methods for counting burrow-nesters varied). It is clear from the survey that, whilst a few species have increased or remained relatively stable, many have declined, particularly the surface feeding gulls and terns, and there has been a significant and worrying overall decline in the total number of seabirds nesting in the islands.

With the data from the three comprehensive surveys as well as data from previous and intervening years both for Scilly and elsewhere, we have a detailed historical and geographical context within which to interpret the changes observed. In addition, the constituent islands of the Isles of Scilly archipelago differ considerably from each other in their size, habitation by man, vegetation and management history, predator populations and recreational use and the numbers of seabirds they support, thus providing an opportunity for further insight into the factors driving change in seabirds in Scilly.

6.1 Recent changes in seabird distribution and numbers in Scilly

6.1.1 The condition of the Isles of Scilly SPA

The qualifying species for the SPA classification in 2001 were storm petrel and lesser black-backed gull, and the assemblage of seabirds in the breeding season including storm petrel, shag, lesser black-backed gull and great black-backed gull. Common terns and roseate terns are included on the SPA classification citation as non-qualifying species of interest (both are Annex 1 species).

There have clearly been some significant changes in seabird numbers since classification of the Isles of Scilly SPA. Whilst the numbers of Manx shearwater, guillemot, razorbill and great black-backed gull have increased, over half the species present have declined in numbers. The most significant concerns with respect to the condition of this international site are:

- a 9.8% decline in overall numbers of seabirds in the last nine years to just 8,266 pairs.
- a 5% decline in the number of breeding storm petrels since 2006
- a 26% decline in the number of lesser black-backed gull pairs since 2006
- the continued presence of brown rats on several key nesting islands threaten burrow nesting birds
- the complete failure of kittiwakes and common terns to raise any young in 2015 gives further cause for concern about the condition of the SPA
- Also of concern is the complete loss of Sandwich and roseate terns from the islands.

6.1.2 The condition of the seabird SSSIs in the Isles of Scilly

Of the 26 Scilly SSSIs (see maps in Appendix 1), seven are notified in whole or in part for their seabird interest. The changes in numbers of the seabird notified features is given in Table 2 in the Summary and the most significant concerns with

respect to these numbers and the condition of these SSSIs are:

- the loss of common terns from Pentle Bay and Round Island and a reduction of 60% on Annet and 77% on Samson since designation
- the loss of kittiwake from Chapel Down and cormorant from the Norrard Rocks since 2006
- the almost total loss of the lesser black-backed gull colony on Annet which numbered 898 pairs at designation
- the 54% loss of puffins from Annet and the 25% loss of shags from the Western Rocks since designation
- the presence of rats on Samson, Gweal, Pentle Bay, Chapel Down and St. Helen's (despite concerted efforts to remove the incursion here in winter 2014/15)

Although not specifically notified for their seabird interest features, we have similar concerns for a number of other SSSIs that support significant numbers of seabirds (and are listed for their breeding seabirds in the SPA citation). The most significant concerns are:

- the presence of rats and feral cats at Castle Down and Shipman Head and Down SSSIs, both of which have been found to support relatively large populations of Manx shearwater
- a decline of 16% of shags breeding on the Eastern Isles since 2006
- a decline of 81% herring gulls and 63% lesser black-backed gulls on Gugh since designation
- the loss of kittiwakes as a breeding species on Gugh since designation
- the recent incursions of rats onto Tean and Pednbrose SSSI

6.2 Factors driving change in seabird numbers in Scilly

In order to look at the factors driving changes in seabird numbers in Scilly, it is important to analyse the trends within a national perspective to see where changes seen in Scilly match and/or differ from those seen at a wider scale. As noted before, in the absence of a more recent national seabird survey, the national trends are in the main part based on Seabird 2000 figures, so may not be representative of the current situation.

Table 20 Summary of changes in Scilly in relation to national trends and their causes

Species	2015/16 numbers & importance	Change since 2006 & trend in Scilly	National Trends*	Main factors thought to affect National Trends
Fulmar	287 – Regional	+3% Massive increases since first bred 1951, slowing now	Across UK -3% England +5%	Reduction in fisheries discards, increased marine plastics ingestion (plastics studies in North Sea)
Manx shearwater	523 Regional	+206% 3-fold increase in last 9 years and new sub-colonies found	Ten-fold increase on Lundy since rat removal 2004	Predation – introduced rats mainly. *Puffinosis* and burrow flooding
Storm petrel	1,335 International	-5% Declining – down 9.5% since first playback survey in 2000	Breeding Lundy 2014 & 2015	Predation – introduced rats mainly but also native avian predators
Cormorant	53	+6% Generally stable at 50-60 pairs since 1940s	Across UK +10% England +8%	Increase in inland tree nesting colonies
Shag	1,025 National	-21% General decline since peak of 1,470 pairs 1977	Across UK +27% Massive recent declines - now red-listed BOCC4***	Climate change – increased storminess particularly in spring causing mortality/ wrecks, reduced food availability, By-catch
Lesser black-backed gull	2485 International	-26% Continued decline – down 39% on peak of 4,050 pairs 1983	Across UK +40% Increasing at urban rooftop colonies; coastal colonies declining	Reduction in fisheries discards and better waste management. Urban colonies access to year-round food; increase in swimming crabs in North Sea
Herring gull	556	-22% Continued steep decline – down 75% on peak of 2,249 pairs 1974	Across UK -13% Declining – Red listed	Reduction in fisheries discards and better waste management; Botulism; Organochloride load in Baltic
Great black-backed gull	984 National	+9% General decline in 1980s (still down 34% on 1983), increasing since 1999	Across UK -4% England -4%	Reduction in fisheries discards and better waste management. Turn to seabird prey under food stress

contd

Species	2015/16 numbers and importance	Change since 2006 & trend in Scilly	National Trends*	Main factors thought to affect National Trends
Kittiwake	75	-72% Continued steep decline – now just 9% of peak 861 pairs 1983	Across UK -25% England -39% Massive recent declines, now red-listed BOCC4***	As a specialist inshore surface feeder, particularly vulnerable to climate change induced effects on plankton and sand-eel availability – studies based on North Sea system
Common tern	12 Regional	-85% Continued steep decline and recent intermittent breeding since peak of 210 pairs 1983	Across UK -9% England stable; 9% increase across southwest since Seabird 2000**	Problems with ground predators (e.g. fox - not present in Scilly); declines in North Sea linked to reduced food supply
Sandwich tern	0	Intermittent breeders, max 18-22 pairs 1998, last bred 2008 (1 pair)	Across UK -15% England -8%	Recreational disturbance
Roseate tern	0 Regional	Historical site, max 20 pairs 1969, last bred 1995	Across UK -83% England +6%	Trapping in wintering grounds, nest predators
Guillemot	291	+88% Increasing – population almost trebled since 1983	Across UK +35% England +51%	By-catch in inshore fixed gill nets; winter wrecks; oil pollution; large declines Norway linked to reduced food availability
Razorbill	473 Regional	+38% Steady increase – population more than doubled since 1983	Across UK +21% England +10%	By-catch in gill nets; winter wrecks; oil pollution; show some ability to shift foraging strategies to buffer effects of climate change on food
Puffin	167 Regional	-4% Generally stable since 1999, 45% increase since 1980s	Declining – Red Listed Oct 2015; 3% decline in SW since Seabird 2000**	Increased storminess & wrecks; by-catch & oil pollution

*National trends based on changes between Seabird Colony Register (1985-87) and Seabird 2000 counts unless stated otherwise (Mitchell *et al*. 2004).
** Porter, Brown & Lock 2010.
***Birds of Conservation Concern 4 (December 2015).

Rather than run through the details of factors known to be operating at a national level, the following sections deal with the major factors in turn with particular reference to the situation and species assemblage in Scilly.

6.2.1 Mammalian predators

The only species of mammal indigenous to Scilly are the lesser white-toothed shrew and pipistrelle bat, neither of which is known as a threat to seabirds. However, a number of other mammals are also present in Scilly – brown rats, red squirrels (Tresco only), cats and dogs (inhabited islands only), rabbits (all inhabited islands, Annet and Great Ganilly) and hedgehogs (currently St. Mary's only) - all of which to some extent pose a predation risk to seabirds, their eggs and young.

Introduced mammalian predators, and brown rats in particular, are known to be the overriding factor constraining the suitability of offshore islands for seabirds throughout the world (Atkinson 1985, Brown & Grice 2005). Since 1993 an intensive rat control programme has been operated by the Isles of Scilly Wildlife Trust with the support of a number of wildlife conservation organisations (Isles of Scilly Seabird Conservation Strategy, St Pierre *et al*. 2014). Over the years this has targeted selected island groups for eradication and responded to new incursions which are facilitated by the proximity of the seabird islands to burgeoning rat populations on the larger inhabited islands (Varnham 2004). The small outer rocks and islands of the Western and Norrard Rocks are regularly inundated by winter tides and have never been known to support rats. However, the discovery of an established rat population on Annet in summer 2004, previously assumed to be 'rat free', emphasized the need to maintain observations at presumed rat-free outer islands.

In the nine years since the last full island seabird survey, this rat control effort has been taken up a level with the complete removal of rats from St. Agnes and Gugh over the winter of 2013/14 by the Isles of Scilly Seabird Recovery Project (http://ios-seabirds.org.uk). As well as protecting the seabirds breeding on St. Agnes and Gugh, this also helps to ensure that Annet is much less vulnerable to another incursion. Although to some extent all seabirds are vulnerable to rat predation (Prieto *et al*. 2003, Latorre *et al*. 2013), the biggest effect is to be found on populations of burrow nesters, in particular storm petrels. Their small size and burrow nesting make them extremely vulnerable to rat predation both of adults, eggs and chicks. Accordingly, by far the biggest influence on storm petrel breeding distribution and success across island groups is the presence or absence of rats (de Leon *et al*. 2006, Ruffino *et al.* 2009). This is also true of Scilly, with storm petrels only breeding on the rat-free outer islands, which by their nature and landing restrictions are rarely visited or disturbed. Although storm petrel numbers appear to be in slow decline in Scilly, they were recorded nesting successfully at three new sites in 2015 and 2016. These were Burnt Island, St. Agnes and Gugh, representing a rapid response to the removal of rats from these islands.

Manx shearwaters, also extremely vulnerable to rat predation, have shown a threefold increase in breeding numbers in the last nine years as well as an expansion in distribution on both islands with rats (Tresco, St. Mary's and St. Martin's) as well as to islands previously cleared of rats (Great Ganilly in the Eastern Isles). The removal of rats has resulted in the first shearwater chicks successfully fledged from St. Agnes and Gugh in living memory and in 2015 a total of 28, and in 2016 32, chicks were observed fledging here. However, with Manx shearwaters taking 5 or 6 years to recruit into the breeding population, these results are too recent to explain the large increase in birds seen at this site and across the archipelago. In other studies of new and rapidly increasing seabird colonies, immigration is found to strongly affect population growth rate with immigrants attracted by local pre-breeders and recruits (Szostek *et al*. 2014). The only other site in England where shearwaters breed is Lundy. In 2002-04 rats were removed from Lundy and since then a tenfold

increase in the numbers of Manx shearwater has been recorded (Booker & Price 2014) and it seems likely that a number of the new breeders to Scilly may have recruited from here, Skomer or Ramsey (where rats were also removed) where the population has also increased.

No sign of cat predation was recorded at any colonies in 2015, however feral cats were a problem on Gugh in 2007 taking adult lesser black-backed gulls on a few occasions. Cats have been shown to be a serious impact on seabirds on islands worldwide (Ringler *et al.* 2014) and their possible impacts on Scilly should not be overlooked. Continued evidence of extensive dog diggings at shearwater burrows were recorded on both Gugh and Bryher. In the past, adult shearwaters have been dug up and killed by dogs on St. Mary's and on Bryher. The influence of rabbit presence on outer islands in Scilly (Annet and Great Ganilly) should also not be overlooked as a number of studies have shown that they can destroy habitat and compete with hole nesting birds (McChesney & Tershy 1998, Courchamp *et al.* 2000).

6.2.2 Climate change and food availability

Small-bodied inshore surface feeders such as kittiwakes are particularly sensitive to changes in food availability (Furness & Tasker 2000, Daunt *et al*. 2002, Markones, Dierschke & Garthe 2010), and reduced food availability would appear to be a key factor in the decline of kittiwake numbers in Scilly. Over the last nine years the productivity of kittiwakes has been studied and includes complete breeding failures in 2006-8, 2012, 2015 and 2016, with chicks raised per pair ranging from 0.01 to 0.73 in the intervening years (Heaney 2016). Observations of nest failure show that most took place in the critical first week or two of chick life, with chicks failing to grow and then disappearing suggesting an issue with food supply and secondary predation (Suryan *et al*. 2002). This fits with studies that suggest that breeding failure is a non-linear process characterised by a threshold beyond which individuals face an energy trade-off and can no longer sustain high reproductive and self-maintenance efforts (Ponchon *et al.* 2014). This sustained low productivity is probably sufficient to explain the decline in the breeding population before any further effects of stress on adult winter survival is considered (Kitaysky *et al*. 2010).

In recent years the terns have been very late to return to the islands and show any interest in breeding, with hatching observed well into July in both 2016 and 2017. Although in both these years a few chicks fledged, numbers were low and the lateness likely to affect post-fledging survival adversely. Research has shown that sandeels are taking progressively longer to reach threshold 0-group size and this may be related to climate driven changes in the zooplankton community. As sea temperatures increase the cold water adapted copepod species *C. finmarchicus* shift north and *C. heligolandicus* become more abundant. Whilst providing alternative food for developing sandeels this species has a lower lipid content and a later spring burst which does not coincide with the hatching of sandeel eggs (Green *et al. in prep.*) These studies have also shown that sprat may become more abundant as water temperatures rise. However, the relative abundance of sprats off Scilly as an alternative food source is not known.

In addition to increases in temperature, another prediction of climate change is increased storminess to which island nesting species will be particularly vulnerable (Bonter *et al.* 2014, Newell *et al.* 2015). In Scilly, the seabirds most likely to be impacted by this predicted change in storm frequency and intensity include:

- Common tern – one of the main preferred breeding sites in the last nine years has been the low-lying Green Island (Samson) where nests have been completely inundated by high tides three times since 2006.

- Storm petrel - The severe winter storms of 2013/14 all but destroyed much of the petrels' preferred deep boulder beaches on the south-eastern coast of Annet.

- Shag - partially waterproof feathers mean that these birds are particularly vulnerable to reduced survival in rough winter weather (Frederiksen *et al.* 2008) and that the smaller and lighter females have to work particularly hard to find food in turbulent water (Lewis *et al.* 2015). Although winter beached bird counts recorded high incidences of shags in the winter of 2014/15 (J Askins *pers. comm*.), annual counts of birds nesting on Annet in the last nine years (see Appendix 5) suggest that the decline there has been gradual, rather than sporadic as could be expected if the declines were due to wrecked birds in the severe storms of the last two winters.

- Puffin – major wrecks in the winter storms of 2013/14 have been linked to a 25% reduction in breeding numbers on Skomer and Skokholm (Wood 2015) as well as reductions at Alderney, Channel Islands (R. Gauvain *pers. comm*.).

6.2.3 Avian predators

A number of avian predators occur naturally in the Isles of Silly including raptors, herons, large gulls, corvids and some waders that may opportunistically take eggs. Numbers of most of these species are low and they are unlikely to take seabirds in numbers sufficient to affect seabird population size. Scilly, does, however, support both lesser and great black-backed gulls in large numbers, such that they are considered as of conservation importance in their own right, and are amongst the interest features of several of the Scillonian SSSIs, the SPA and the Ramsar site designation.

That great black-backed gulls predate other seabirds is not of doubt and the presence of numerous 'feather' pellets and predated carcasses (particularly on Annet) confirm that storm petrels and shearwaters among other birds are taken. The nocturnal breeding activities of storm petrels and shearwaters are likely an adaptation to minimise this predation (Ainley *et al*. 1974).

It does not necessarily follow though that predation by great black-backed gulls in particular will be having a population level effect on their prey:

- predation by gulls on burrow nesters such as petrels and shearwaters tends to focus on prospecting non-breeders and fledglings, with birds being taken in the air or on the ground and breeding adults tending to fly quickly to and from colonies, spending little time on the ground (Brooke 1990);

- predation on other birds tends to be carried out only by a proportion of specialist gulls, so it is behaviour rather than abundance which is important with the size of the colony not directly influencing the levels of predation (Furness 2003, Votier *et al.* 2004, Oro *et al*. 2005);

- Current population levels of great black-backed gull across the archipelago, though increasing, are still over a third less than recorded in the 1970s, at a time

when detailed studies concluded that levels of predation did not have a significant impact on the populations of shearwater, storm petrel or shag (Allen 1974).

In 2015 a peregrine nest was found on Annet for the first time. It was probably a young pair as this is a new site and only two eggs were laid. Although the birds attended the nest well into June, at least one of the eggs was addled and they both failed to hatch. A large number of storm petrel and Manx shearwater wings were found in the vicinity of the nest on Annet and also at a plucking post on the nearby Burnt Island. In addition to this one, three other peregrine nesting attempts were discovered across the islands in 2015 of which two successfully fledged chicks.

That shags in Scilly nest almost exclusively under boulders or in caves at the back of beaches, suggests predation pressure may be a significant issue for these birds also. There is reasonable correlative evidence for a localised effect of great black-backed gull predation on shag numbers, with shag populations decreasing in the last nine years where gull numbers have increased (see Table 21 below). This pattern is seen at the vast majority of islands with both these species present (save a few exceptions to the trend - see the last four islands in Table 21), however, the correlation may be a result of unrelated overall population trends for these species.

Table 21 Population changes in shag and great black-backed gull 2006 to 2015/16

Island	**Great black-backed gull numbers**		**Shag numbers**	
	2006	**2015/16**	**2006**	**2015/16**
Annet	187	235 (+26%)	177	85 (-52%)
Gweal	50	72 (+44%)	116	61 (-47%)
Mincarlo	28	33 (+18%)	102	58 (-43%)
Ragged Island	19	27 (+42%)	48	30 (-38%)
Menawethan	51	66 (+29%)	79	38 (-52%)
Great Ganinnick	22	11 (-50%)	23	10 (-57%)
Little Innisvouls	14	15 (+7%)	38	46 (+21%)
Samson	8	7 (-12%)	11	27 (+46%)
White Island	60	31 (-48%)	19	7 (-63%)

Kittiwake numbers have been declining steadily in Scilly since the early 1980s and in recent years have suffered predation of eggs and chicks at their nesting sites. There is some anecdotal evidence that corvids were implicated in the loss of nests at the Daymark and on Gugh (2012-13 and 2009-10 respectively) and in 2015 one pair of great black-backed gulls with chicks was seen to systematically predate nests at the sole Turk's Head colony, and within a period of a week and a half it was deserted.

There is an argument for employing non-lethal displacement or discouragement techniques for a specialist pair of predatory gulls such as seen in 2015 at the Turks Head colony. However, it is not an easy task (Donehower *et al.* 2007) and as discussed above may not solve the problem especially as other birds may just move in to fill the vacant niche (Votier *et al.* 2004). More importantly, predation is not likely to be the underlying reason for the loss of numbers. As the numbers of birds decrease, even when all concentrated at one site, they will begin to fall below a critical density needed to collectively fight off unwanted attention. Research at kittiwake colonies at other sites has shown that colonies with fewer nests are more

likely to be attacked by gulls and less likely to fledge young (Massaro *et al*. 2001). Coupled with apparent problems with food supply causing lower nest attendance (Chivers *et al.* 2012), avian predation, although significant, is only the proximate cause of failure of the colony.

Human activities have greatly modified predator-prey dynamics within seabird communities, with waste and fisheries discards favouring a rapid increase in density of large predatory gulls. To counteract this subsidized growth conservation agencies have performed numerous control programmes (e.g. to remove gulls competing for space with terns - Thomas 1972, Cavanagh & Griffin 1993, Kress 1997, Andersen & Devlin 1999). However the control of gulls, which may themselves be declining, in order to protect smaller seabirds, is no longer supported, and in many cases is not successful in restoring the original predator-prey relationship (Anderson & Devlin 1999, Oro & Martinez-Abrain 2007, Sanz-Aguilar *et al.* 2009).

6.2.4 Habitat change

Changes in grazing management and the introduction of non-native invasive plant species can cause habitat degradation and influence breeding seabirds directly by reducing the amount of suitable nesting habitat or indirectly by providing attractive habitat for predators. In turn, through trampling and manuring, ground-nesting seabirds themselves can induce significant habitat changes both on vegetation cover and soil composition and erosion (Cadiou *et al*. 2010, Baumberger *et al.* 2012, Ellis *et al*. 2005, Bancroft *et al.* 2005).

Although egg predation from aerial predators is one of the most important threats to ground-nesting seabirds, few populations conceal their nests under vegetation, with most opting for a variety of cover nearby. The most obvious seabird to be affected by vegetation cover in Scilly is the lesser black-backed gull. The majority of this species nest in three main colonies (Samson, St. Helen's and Gugh) inland above beach areas amongst relatively dense ground cover. Previous studies have recorded decreases in the number of birds nesting where vegetation is suppressed and favouring areas where vegetation has increased (Robinson 1993 & 2003, Heaney *et al*. 2007). The changes in distribution and abundance of lesser black-backed gulls don't so clearly fit this pattern over the last nine years. Since 2006 numbers at all the main sub-colonies have decreased including a total loss of the sub-colony on Annet and birds appear to have spread about a bit more with smaller yet significant colonies of 70-130 pairs settling on a number of smaller off-islands e.g. Tean, Norwethel, Great Ganilly, Great Arthur, all with variable levels of cover.

The relationship between vegetation cover and gull settlement and success is somewhat complicated. Tall vegetation around gull nests has been shown to reduce predation (Brouwer & Spaans 1994, Skorka *et al*. 2011, Kazama 2007) and provide a sheltered microclimate (Calladine 1997, Kim & Monaghan 2005, Chil 2006). However, there is a trade-off between concealment and visibility, with sparser cover allowing early detection of predators (Gotmark *et al.* 1995, Borboroglu & Yorio 2004). Furthermore when cover becomes too thick, nesting is precluded (Skorka *et al.* 2006, Borboroglu & Yorio 2004). This would appear to be the case in areas of Scilly, where dense honeysuckle and woody bramble shoots deny access to adults and chicks are unable to manoeuvre (*pers. obs.* Samson). In addition, the non-native shrub/tree *Pittosporum crassifolium* is starting to get a real hold on areas of St. Helen's, Gugh, Norwethel and some Eastern Isles.

Another important function of cover in the dense gull colonies is for chick shelter from conspecific adult attacks. Many studies have found that adjacent natural screens, such as rock or vegetation (<30cm tall) is ideal for reducing conspecific aggression (Ellis & Good 2006, Good 2002, Bukacinska & Bukacinska 1993, Brouwer & Spaans 1994) and this is seen in the small-scale distribution of lesser black-backed gull nests in Scilly too.

Terns tend to nest on much more open ground than lesser black-backed gulls, but can also benefit from shelter nearby to reduce conspecific adult attacks toward unfamiliar chicks as well as predation (Villanueva-Gomila *et al*. 2009, Colcherc *et al*. 2010). The main site in Scilly in 2015 was on rocks on the edge of an open area of heather but with dense bramble adjacent.

6.2.5 Human disturbance

Tourism consists as much as 85% of the local economy in Scilly and focuses in particular on the natural and cultural environment. Local recreational use of the coast is high and many locals own small boats. Although there is a no landing policy in place for the most important seabird islands during the summer months, it is not particularly well known. Also, the islands are currently being marketed as a 'dog friendly' destination where dogs can enjoy the wide-open spaces. Despite an extensive review which suggests that many colonial waterbirds, terns and gulls in particular, can become extremely tolerant of repeated human disturbance (Nisbet 2000), other studies warn of negative effects from disturbance and a trade-off between potential costs and benefits of public access on a site and species-specific basis (Rodgers & Schwikert 2002, Blumstein *et al*. 2003, Watson, Bolton & Monaghan 2014).

One of the most obvious sites vulnerable to human disturbance is the tern breeding site on the north hill of Samson. This site, safe from tidal inundation, should be encouraged with access managed using disturbance awareness signs which appeared to be quite successful in 2015.

The large declines in herring and lesser black backed gulls observed in Scilly are in line with rapid declines at natural sites across the UK. However, between 1999 and 2006 some of the largest losses of gulls were recorded from the more accessible inhabited islands (e.g. St. Martin's & Bryher, Heaney *et al*. 2007) suggesting that disturbance may be an issue. Lesser black backed gull populations overall in Devon and Cornwall though are increasing owing mainly to an expansion in rooftop nesting and year-round residence in urban areas (Mitchell *et al*. 2004). In Scilly no rooftop nesting has been observed in these birds and they appear in large part to still adopt more traditional coastal foraging and southern migration in winter. It is in fact herring gulls that have adopted roof nesting in Scilly, increasing from just one pair in 1995 to 15 pairs in 2015. The breeding success of these birds appears to be consistently high (ranging between 1.22-2.25 chicks per pair 2008-2014, Heaney 2016) compared with other sites across the islands (e.g. Samson 0.30-0.68 chicks per pair 2008-14, Heaney 2016), more than supporting their increase in number over the last 20 years. However, the availability of suitable roof space is a likely barrier to further expansion of this sub-colony.

6.2.6 Changes in fisheries discards, agriculture and the management of waste

The Scillonian fishery has never been large, taking mainly shellfish and just one set of towed gear working out of St. Martin's. The Scilly MCZ also includes voluntary bans on sand-eel fishing and seaweed harvesting. However, a large fishing fleet is

based at Newlyn within foraging range of birds from Scilly and it is possible that changes here (reduced discards etc.) will have influenced numbers in Scilly. These large gull species have a foraging range of +120km so changes to their food availability would need to be assessed to determine any impacts beyond the islands.

Most of Scilly's waste is incinerated and this practice has not changed during the main period of herring and lesser black-backed gull declines. However, the reduced availability of fisheries discards has in many cases led gulls to feed more on waste tips increasing the incidence of mortality due to botulism and poisoning. No studies have been conducted into the causes of death in gulls in Scilly and the possible influence of botulism should not be overlooked.

6.2.7 Pollution, disease and fisheries by-catch

A number of diseases and natural toxins can affect seabirds. Avian botulism in gulls (Lloyd *et al.* 1976, Neimanis *et al.* 2007), puffinosis in Manx shearwater chicks (Brooke 1990) and red tide toxins in shags and kittiwakes (Potts *et al.* 1980, Coulson & Strowger 1999) can all cause significant mortality. However, none of these have been recorded in Scilly. Apart from large disasters such as the wreck of the Torrey Canyon oil tanker in 1967, which may have affected auk populations in Scilly, man-made toxins such as oil and organochlorides also do not appear to be a significant ongoing problem in Scilly. Floating plastic marine debris is an increasing problem in our seas and data from the southern North Sea and Svalbard reveal high levels of ingestion of this waste by fulmars (van Franeker & Law 2015, Trevail *et al*. 2015, van Franeker *et al*. 2011). It is likely that this may be a problem for fulmars breeding in Scilly too.

Inshore fixed gill nets can be a source of considerable mortality for pursuit-diving seabirds, especially if set close to large breeding colonies (Piatt & Nettleship 1987, Regular *et al.* 2010) but, as discussed before, the local Scilly fishery is small and unlikely to cause any changes at a population level. Due to the large foraging ranges and seasonal movements of some of the seabirds, bycatch may be an issue for some species in their breeding foraging ranges or non breeding areas.

7 Recommended action to safeguard and enhance seabird populations in the Isles of Scilly

7.1 Amendments to the terrestrial & marine boundaries of designated sites

The Isles of Scilly has a number of designations for its seabird assemblage and species interest features; Special Protection Area, 26 Sites of Special Scientific Interest (of which seven are recognised for their seabirds), it is a Ramsar site and in 2013 a Marine Conservation Zone was established consisting of 11 distinct marine areas around the islands. Lastly the entire archipelago lies within a Special Area of Conservation.

Looking in detail at the location of breeding seabirds on the various islands of Scilly in 2015/16, 269 seabird territories (3.3% of the total assemblage), supporting eight different species including storm petrel, Manx shearwater and kittiwake, are located at sites which have no protection under either SSSI or SPA designation (see Table 39 Appendix 4 for details). The seven SSSIs cited for their seabird interest features support 6,042 seabird territories between them (73.1% of the total assemblage), although only 2,030 of these nesting sites are of the seabird interest feature species actually notified.

- **Review of the SSSI and SPA boundaries and species interest features supported to ensure that the island's seabird populations are appropriately protected and meet obligations as part of the Isles of Scilly Seabird Recovery Project LIFE funding**

  Until now Marine Protected Areas have most often been designated to protect benthic habitats and their biota and this indeed was the basis for the selection of the 11 constituent sites of the Isles of Scilly MCZ. Increasingly there is a need and a desire to account for the more mobile pelagic taxa as well. In order to protect seabirds, it is important not only to consider their land-based breeding colonies but to extend protective measures into the marine feeding areas they depend on during both the breeding and non-breeding seasons. This will need to take into account the waters near breeding colonies but also offshore foraging areas and movement corridors, inshore habitats for wintering species and migratory bottlenecks (Louzao *et al.* 2006, Thaxter *et al.* 2012). Studies to investigate foraging range and distribution using land-based observations, radio-tagging and aerial photography, will all be useful in determining the best plan for marine extension of the Isles of Scilly SPA to take into account the waters that our seabirds depend upon (Thaxter *et al.* 2012, Bogdanova *et al.* 2014).

- **Use national guidelines as well as recent studies of foraging distribution in Scilly (NE shag aerial photos; Exeter University shag studies; FAME tracking data for shag and kittiwake) to inform recommendations for seaward extension of the SPA.**

- **Feed this data into the MCZ process.**

7.2 Monitoring change in seabird distribution, numbers and productivity

The development, funding and implementation of a robust seabird monitoring programme is essential to inform an effective conservation programme (Green & Hirons 1991, Ratcliffe *in* Mitchell *et al*. 2004). A jointly agreed Seabird Conservation Strategy for the islands has been developed to inform conservation and research

work for seabirds across the archipelago (St. Pierre *et al.* 2014). Key in its recommendations are a cycle of six yearly 'all seabirds on all islands' and annual counts of key species at key sites (notably on Annet) and of annual productivity monitoring for selected species. Species for which there is a national productivity recording scheme have been targeted. Since 2006 productivity has been recorded for fulmar (Menawethan and Daymark), kittiwake (all sites), common tern (all sites), herring gull (Hugh Town and selected beaches Samson) and for Manx shearwater and lesser black-backed gull on Gugh and St. Agnes since 2012 (Heaney 2016).

- **Continuation of yearly counts on Annet and as far as possible 6-yearly cycle of 'all seabirds, all islands' count.**

- **Continuation of current productivity monitoring programme and review of overall findings.**

- **Identify a new study beach on Annet for recording annual storm petrel settlement (boulder beach monitored since 2010 destroyed in winter storms 2013/14).**

- **Look into feasibility of including shag and puffin in the productivity monitoring programme.**

- **Other studies as recommended in the Seabird Conservation Strategy, including initiation of a herring and lesser black-backed gull colour-ringing programme.**

7.3 Avian predators

As discussed earlier, although corvid and gull predation has affected productivity in kittiwakes and possibly common terns also, the underlying causes of declines in numbers are likely to be food availability at a wider scale. It is also not clear how effective removing any specialist great black-backed gull pairs would be. However, the possibility of discouraging any great black-backed nests within the kittiwake colony, could be investigated. The provision of artificial nest boxes has been used in the past in Scilly with varying degrees of success (Lascelles 2005) and these may be worth trying again following their success elsewhere. Artificial nesting boxes have also been shown to be helpful in reducing gull predation of storm petrel (Libois *et al.* 2012), with the added bonus of facilitating nest monitoring.

- **Provision of nesting boxes and/ or chick shelters at common tern nesting sites.**

- **Provision of storm petrel nesting boxes.**

7.4 Non-native predators

The key species affected by rat predation are Manx shearwater and storm petrel (Scilly supports internationally important numbers of storm petrel). Other birds of particular conservation concern that can be susceptible to rat predation are common terns (85% decline in the last nine years in Scilly) and puffin (regionally important numbers in Scilly and recently UK Red Listed). In addition, Scilly holds internationally important numbers of lesser black-backed gulls and although they are not known to be particularly at risk from rats, studies have shown a negative effect on productivity. The decline of storm petrel by over 18% within the SPA since the baseline and the

loss of SPA European storm petrel habitat due to storms is of concern and any further decline may trigger the requirement for conservation action. There is significant apparently otherwise suitable habitat on the islands which is currently occupied by rats which could provide replacement habitat if rat removal was undertaken. Appendix 6 includes a table detailing for each island group, the history of rat presence and control, the current level of protection, the species present, including those that are most vulnerable and the trends in their numbers since 1999. Further detail is given in the appendix but the suggested priorities are as follows;

- **St. Agnes & Gugh – highest priority vigilance and awareness to guard against re-incursion.**

- **Islands currently highest priority but believed to be rat free and unlikely to suffer incursion - Western & Norrard Rocks, Annet and Round Island – maintain vigilance.**

- **St. Helen's - high priority to clear of rats – Manx shearwater, puffin and lesser black-backed gulls present, possible stepping stone to Men-a-vaur and Round Island.**

- **Eastern Isles - high priority to maintain rat-free by concentrating on stepping stone islands – recent return of puffin and Manx shearwater as well as good numbers of gulls.**

- **Samson - medium priority - suffers annual incursion but supports 39% of lesser black-backed gull population and is one of the main breeding sites for common tern.**

- **23% of current Manx shearwater AOBs on inhabited islands of Tresco, Bryher, St. Martin's and St. Mary's, as well as their function as sources of rats, raises the impetus for exploring a wider archipelago solution to rat control. Approximately 160 ha of otherwise suitable habitat for Manx shearwater and European storm petrel is currently occupied by rats on Bryher, Tresco and St Martins.**

- **Investigate possible impact of cat predation.**

7.5 Vegetation and habitat management

Currently there is no evidence that vegetation change is causing declines in seabirds on the islands. The declines caused mainly by other factors (e.g. lack of available food) could have resulted in vegetation changing due to a lack of seabirds controlling the vegetation in some places (and in some cases by, or in-combination with abandonment from farming). This could place pressure on the remaining birds by providing habitat that is not in optimum condition unless management is in place. The vegetation cover of many of the islands has changed considerably over the years and a review of historical change on key islands would be useful. An experimental study of the effects of vegetation patch clearance on the settlement patterns and productivity of gulls on key islands could also be helpful, especially given the precipitous decline of both lesser black-backed and herring gulls across the archipelago. However, vegetative habitats and specific vascular plants are notified features on many SSSIs and usually require management (e.g. grazing) to maintain open conditions, particularly for many of the rare and small plants. Management

needs to be tailored and targeted to provide suitable conditions for the SSSI seabirds and plants.

As well as chick and nest shelters, a number of other management measures were trialled in the early 2000s to try to support terns breeding in Scilly. Solar powered CD lures and dummy terns were used to try and encourage breeding on the North Hill of Samson with limited success, as well adding sand to low-lying islands favoured by the terns. However, this did not offer much protection for the chicks and the nests were still vulnerable to high tide inundation (Lascelles 2005).

- **Experimental clearance of thick woody scrub from isolated areas with irregular 'fingers' to maximise sheltered edge habitat on Samson and St. Helen's.**

- **Continuation of IOSWT programme to help direct activity on uninhabited off-islands away from sensitive areas using selective path clearance.**

- **Review of historical vegetation control and management in Scilly (particularly Samson, St. Helen's, Tean, Norwethel, Eastern Isles and Annet).**

- **Investigate possible measures to improve breeding habitat for terns.**

7.6 Food availability

Most of the studies investigating the relationship between climate change and food availability for seabirds have been done in the North Sea and as the assemblage differs around Scilly it is entirely possible that the mechanisms and effects of change differ here too. There has been some work by the Plymouth Marine Laboratory to investigate the effects of unsettled spring weather in weakening fronts where cold and warm water mix and previously predictable seasonal prey abundances are reduced (Miller *et al. in press*). Climate change itself is clearly a global issue. As many seabirds have large foraging ranges a better understanding of the impact that fisheries are having on the prey species within the ranges of the islands' seabirds needs further investigation.

- **Further investigation into changes in food availability in southwest waters and the factors influencing this**

- **Review of personal and organisational resource and energy use as well as dietary choices, travel and carbon footprint.**

- **Study into possible impact of botulism in gull mortality.**

7.7 Recreational disturbance

The impact of recreational disturbance on birds is becoming more widely appreciated, with the trade-off between potential costs and benefits of public access to a site being species and site specific (Rodgers & Schwikert 2002, Blumstein *et al.* 2003, Drewitt 2007, Watson *et al*. 2014). This is especially relevant to Scilly with its thriving tourism industry heavily based on appreciation of the seabirds and wildlife found here. There is a programme of restricted or controlled access to prevent disturbance to seabird colonies and grey seals which is documented on OS Maps and in various seabird leaflets. However, further awareness raising work with island

residents and visitors alike is needed, and where appropriate, action to enforce legislation should be taken.

- **Raise awareness of the restricted island access system and of the potential impacts of disturbance amongst the general public.**

- **Use disturbance reporting mechanisms of Cornwall Marine and Coastal Code Group and encourage marine recreational businesses in Scilly to join Cornwall Outdoor Charter Group and to follow *WiSe* guidelines (UK standard for commercial marine wildlife watching http://www.wisescheme.org/).**

- **Erect disturbance signs (asking people not to linger and to keep dogs on a lead) at the tern nesting site on Samson and also at the main shearwater nesting sites particularly on Gugh.**

- **Conduct a sensitivity mapping exercise to help identify where the most sensitive locations are within the islands.**

7.8 Use of seabirds as indicators

Included as one of the 13 indicators of sustainable development in the UK, the Government recognises the importance of wild birds to our general quality of life and experience. The use of seabirds, particularly those such as kittiwakes that are more constrained in their dietary and energy budgets, as sentinels of the condition of aquatic ecosystems has been well established. They can provide valuable information on the extent of marine plastics, the health of fish stocks and ecosystems and the effects of climactic change (Mallory 2006, Einoder 2009, Mallory *et al.* 2010; Parsons *et al.* 2008; Furness 2007, Jennings *et al.* 2012). Birds and seabirds in particular are a key visitor attraction to Scilly and, as much of the islands' prosperity is founded on tourism, an index of the health of the archipelagos seabird populations (based on numbers and productivity) could provide a useful indicator of the islands' attractiveness both to birds and people and of its suitability for seabirds.

- **Raise awareness across the islands and further afield of the importance and changing fortunes of Scilly's Seabird Heritage.**

- **Review of economic factors around seabird assemblage in Scilly.**

- **Inform the AONB management plan on the status of seabirds on the islands**

8 Conclusion

There has been a complex pattern of change within the seabird community in Scilly in the last nine years – with individual species and islands showing some contrasting patterns.

The main aim of this survey was to assess the current state of the Isles of Scilly SPA and constituent SSSIs for seabirds. It is clear that overall numbers and in particular numbers of some species have declined markedly across the SPA as a whole and at the various SSSIs where a number of notified seabird interest features have been lost altogether. The report highlights particular management issues which need to be addressed if the fortunes of seabirds are to be reversed. The removal of rats has been a great success and possible extension of the programme now needs to be considered, and supported by other habitat and people management as necessary. The Isles of Scilly Seabird Conservation Strategy sets out a prioritised work pattern based upon island groups. This latest report will help inform the work priorities for the strategy.

The continuation of a robust seabird monitoring programme is essential to inform the conservation programme.

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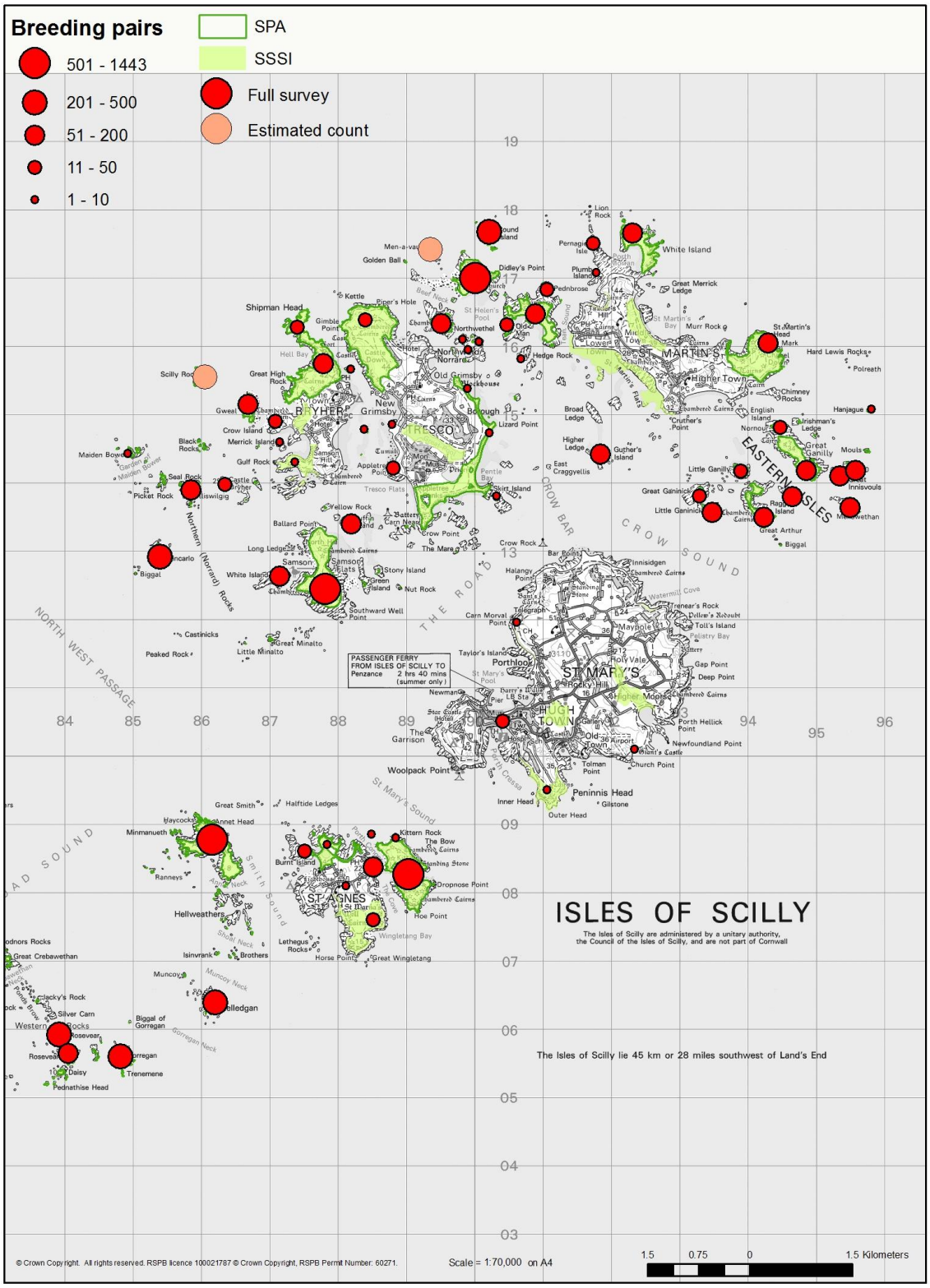
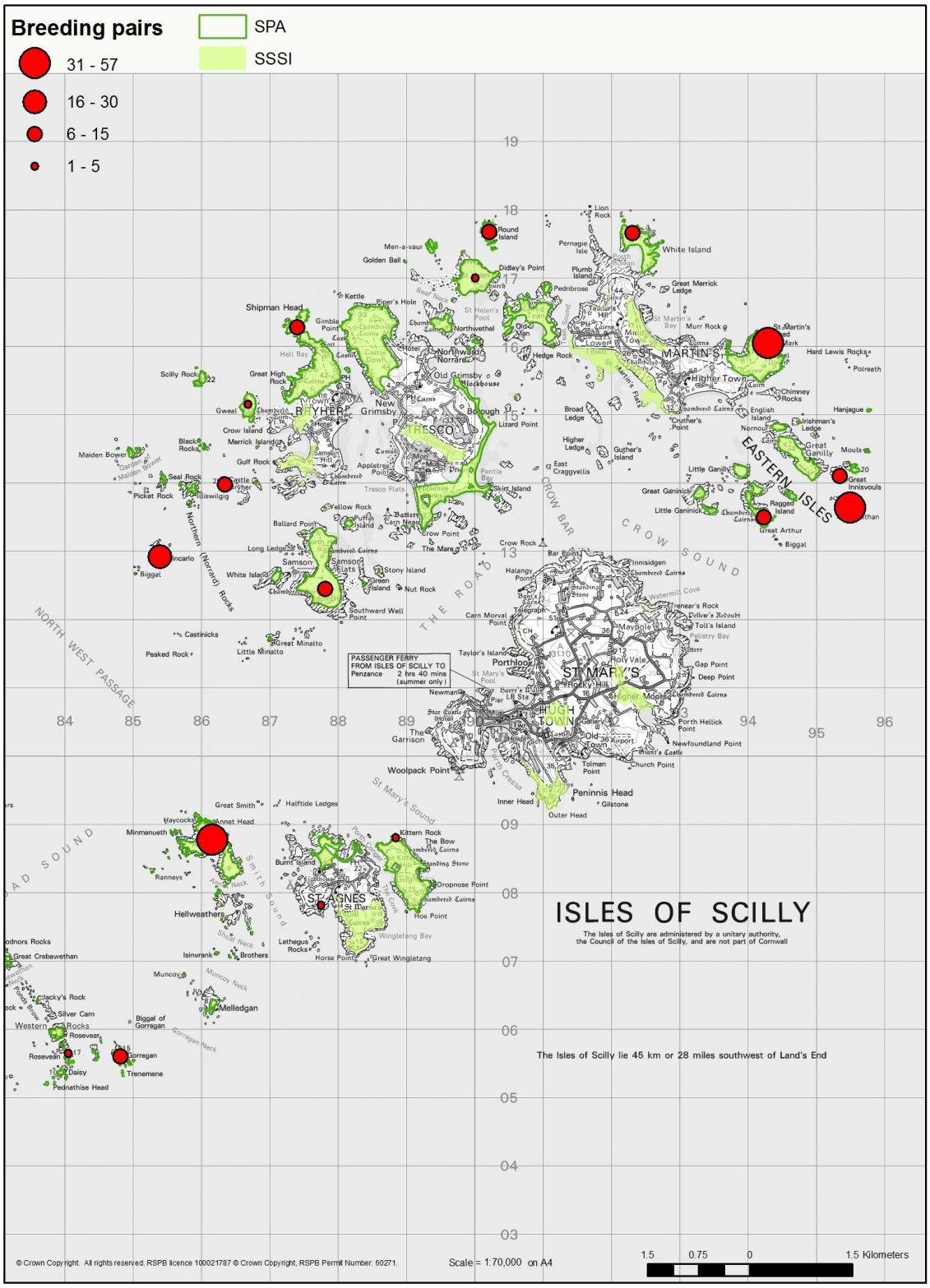
Appendix 1
Maps

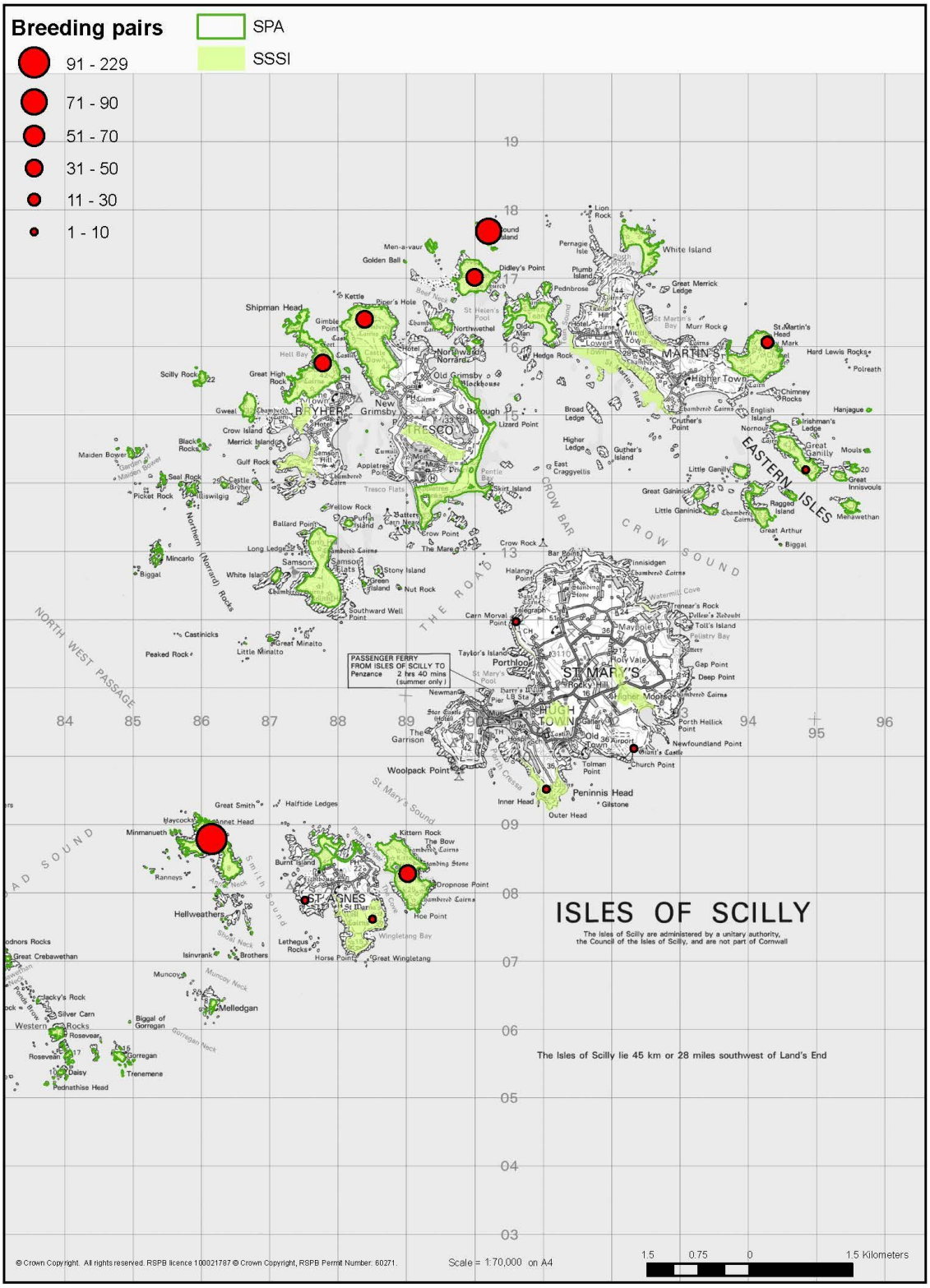
Map 1 Distribution of breeding seabirds in 2015/16



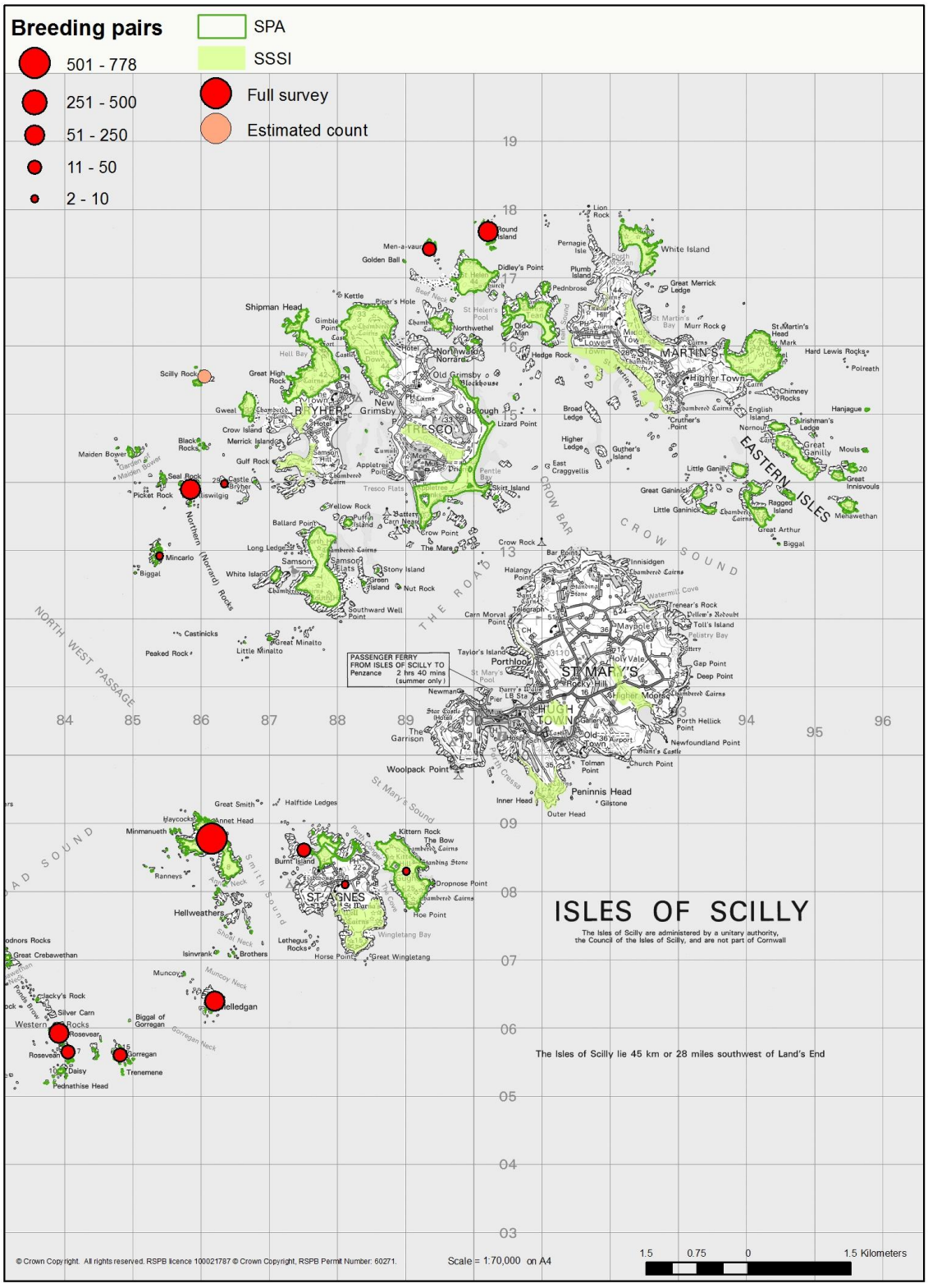
Map 2 Distribution of breeding fulmar 2015/16



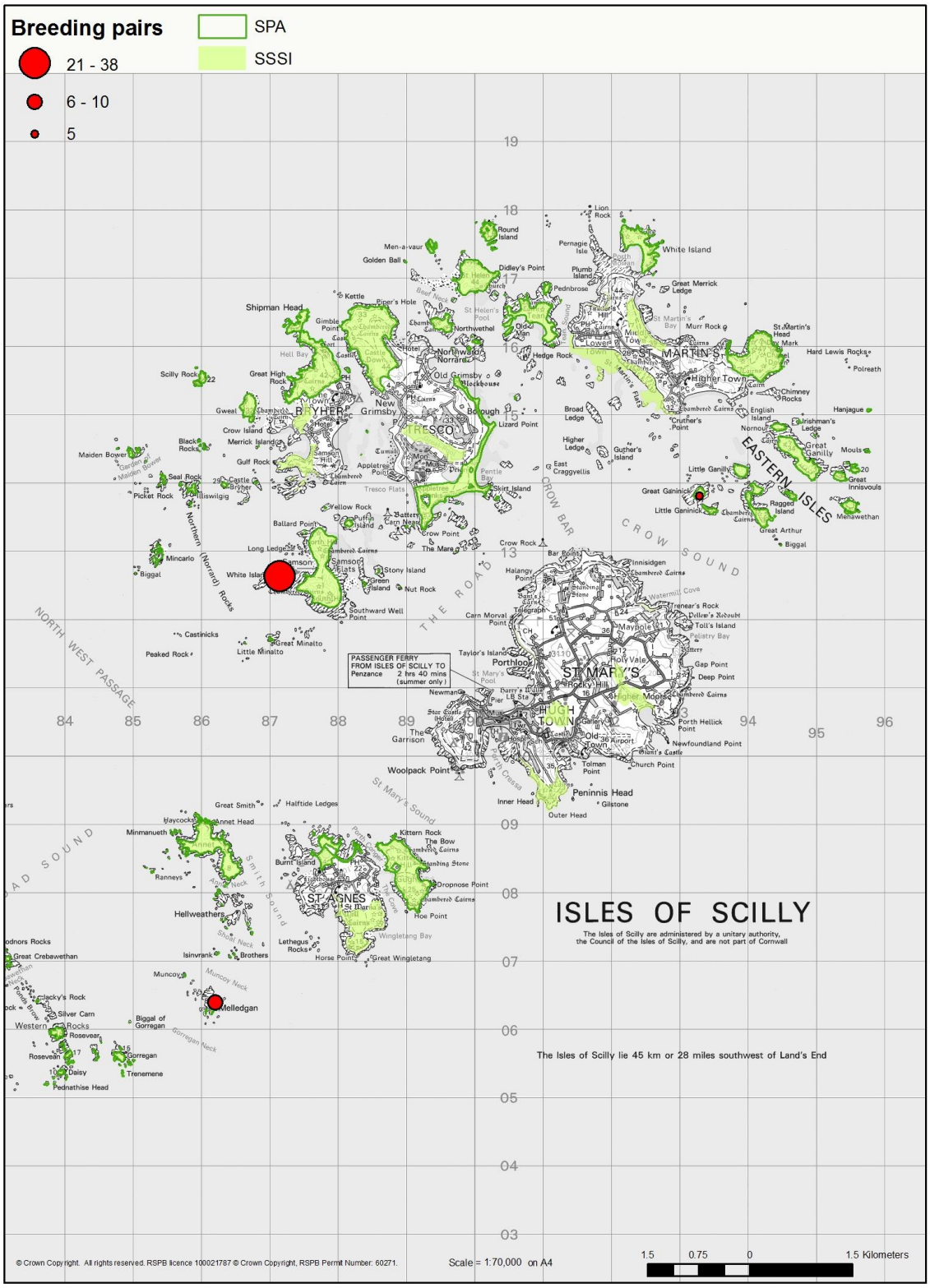
Map 3 Distribution of breeding Manx shearwater 2015



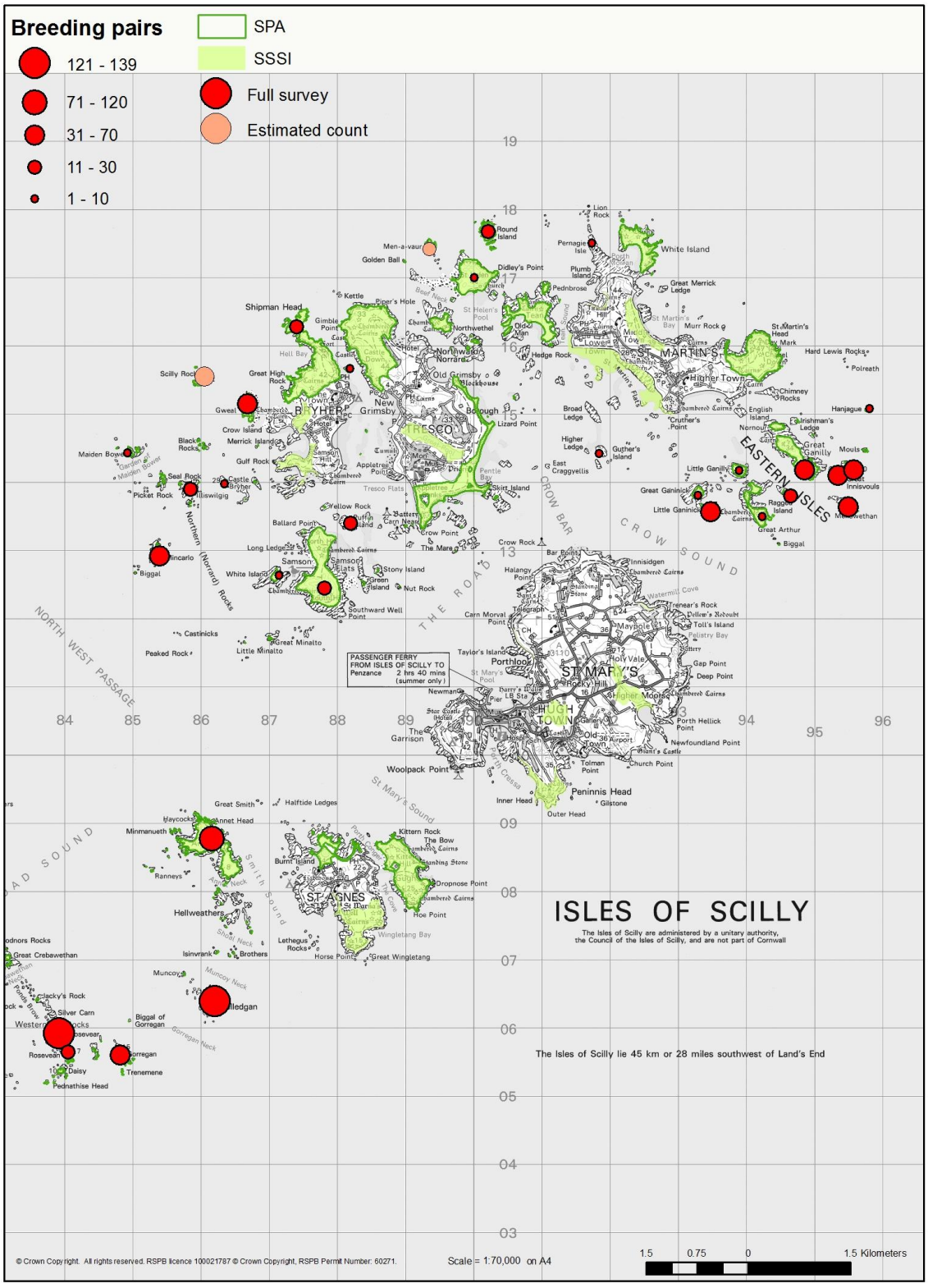
Map 4 Distribution of breeding storm petrel 2015/16



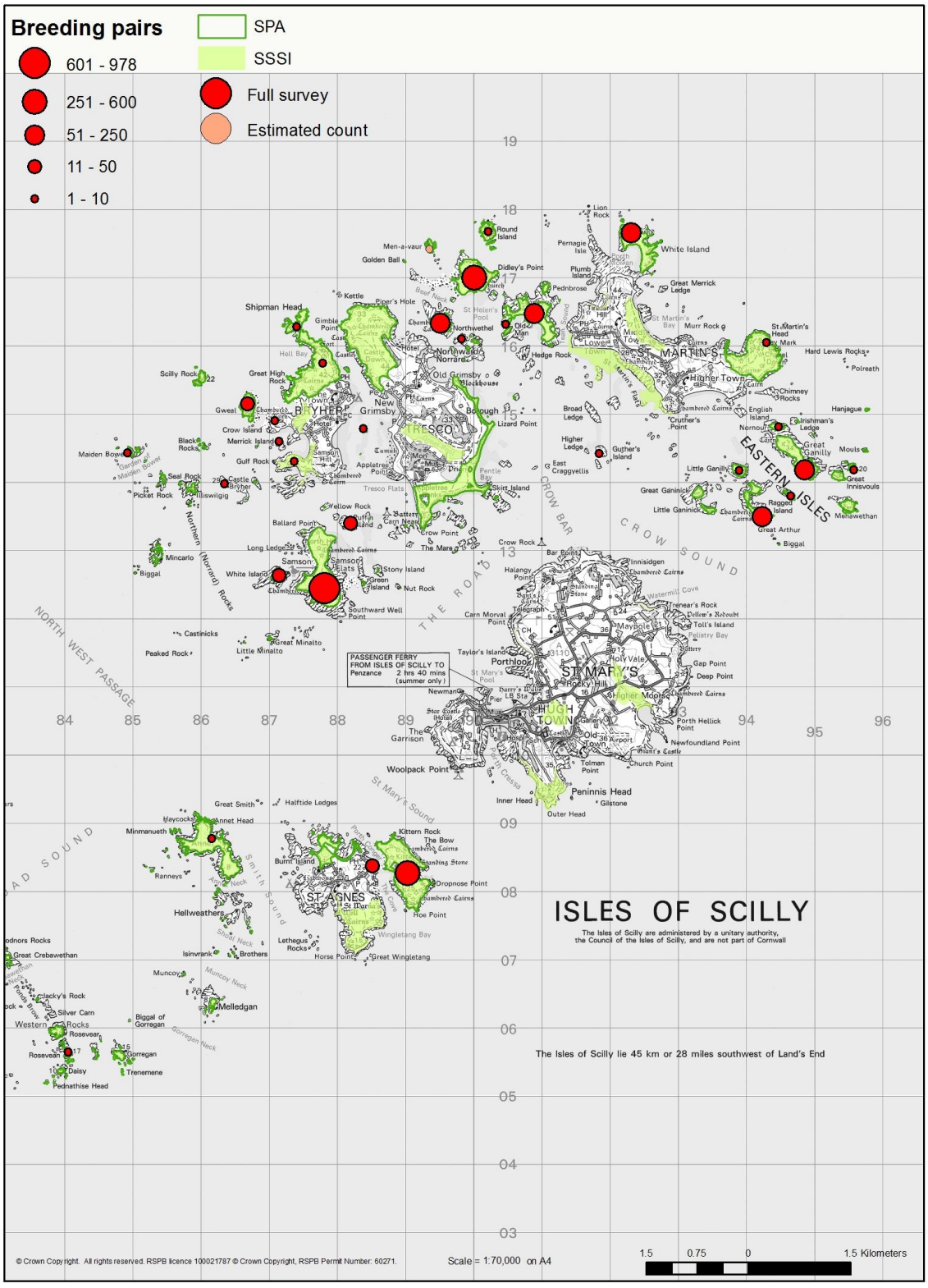
Map 5 Distribution of breeding cormorant 2015/16



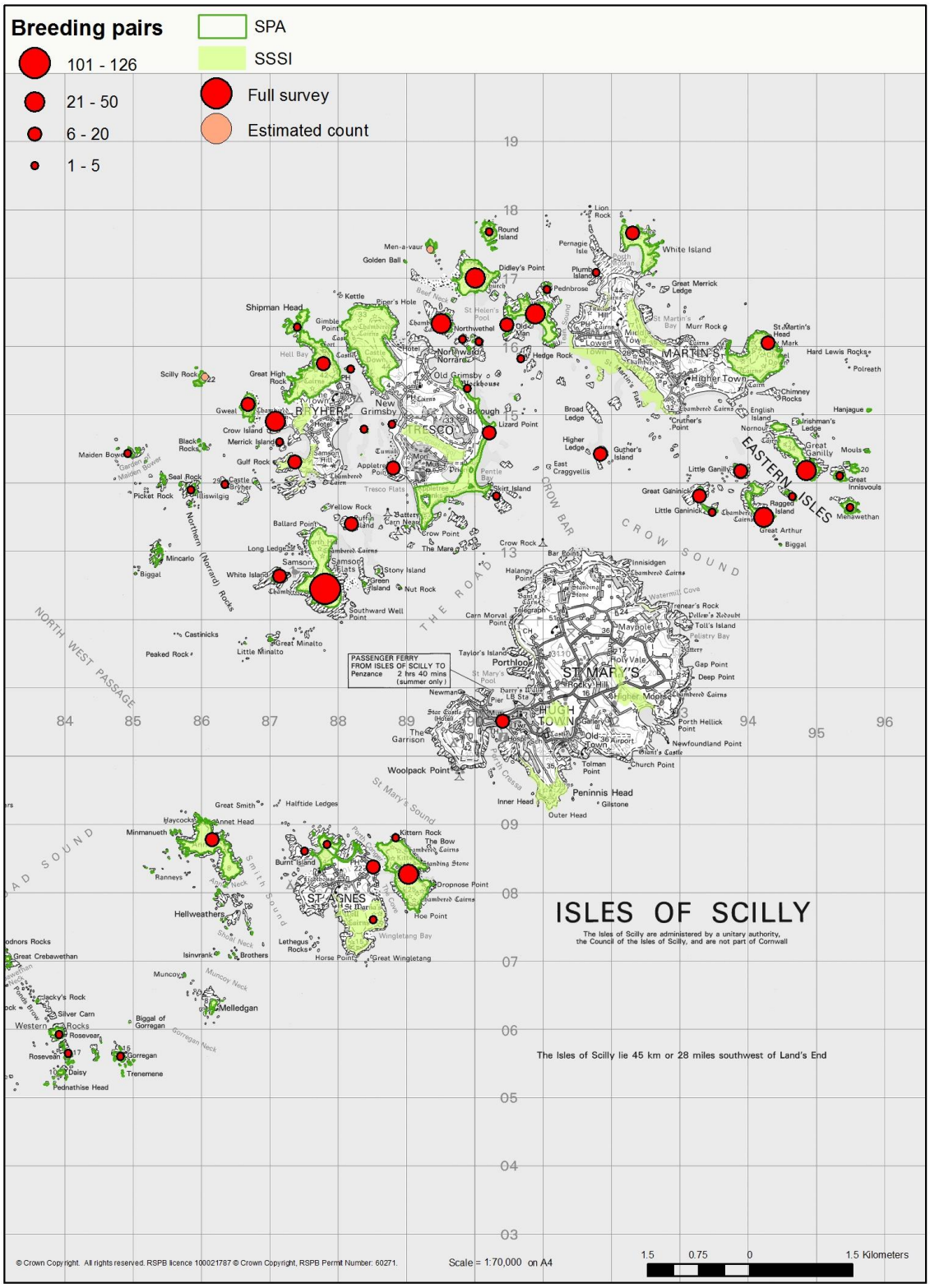
Map 6 Distribution of breeding shag 2015/16



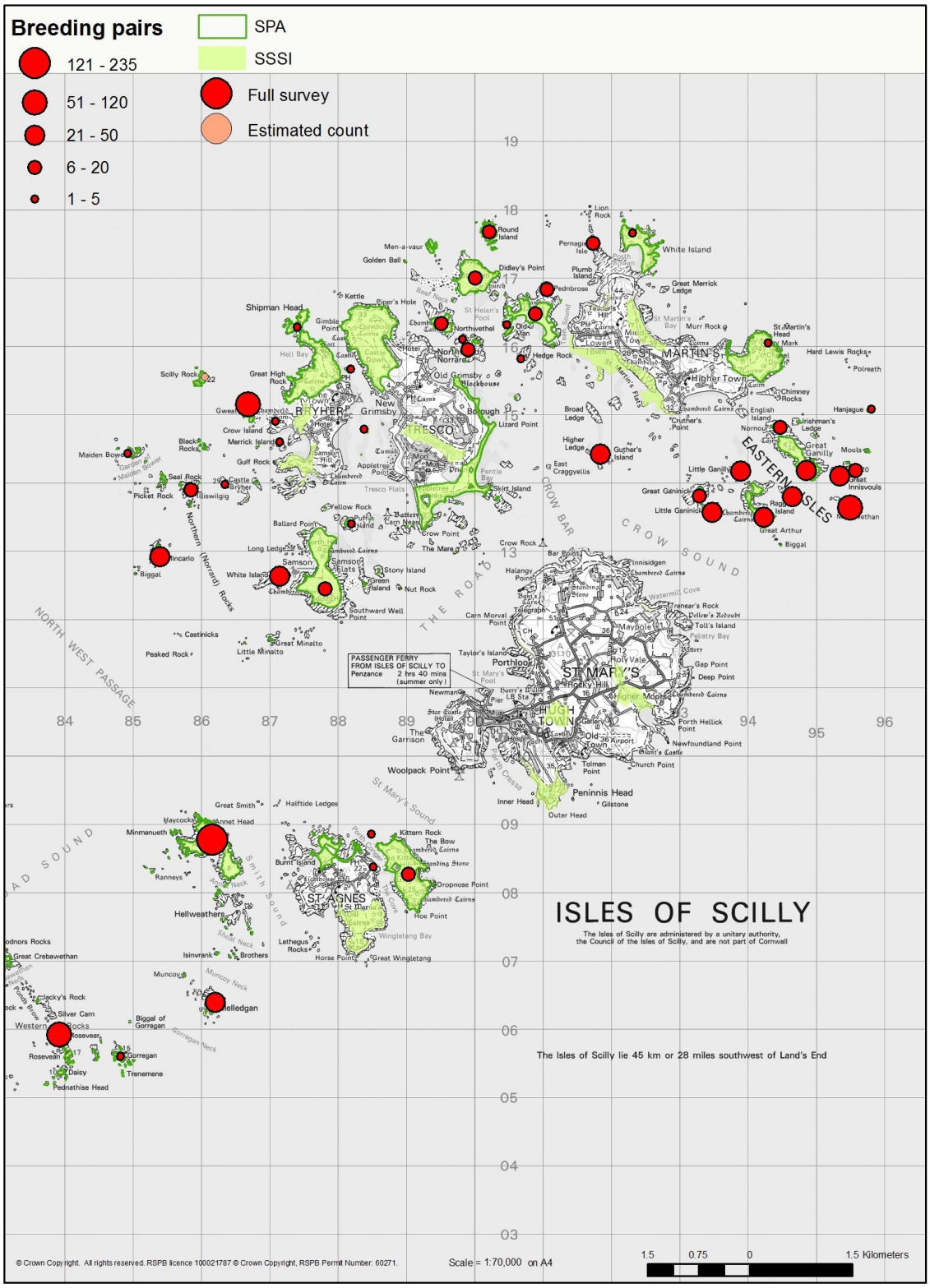
Map 7 Distribution of breeding lesser black-backed gull 2015/16



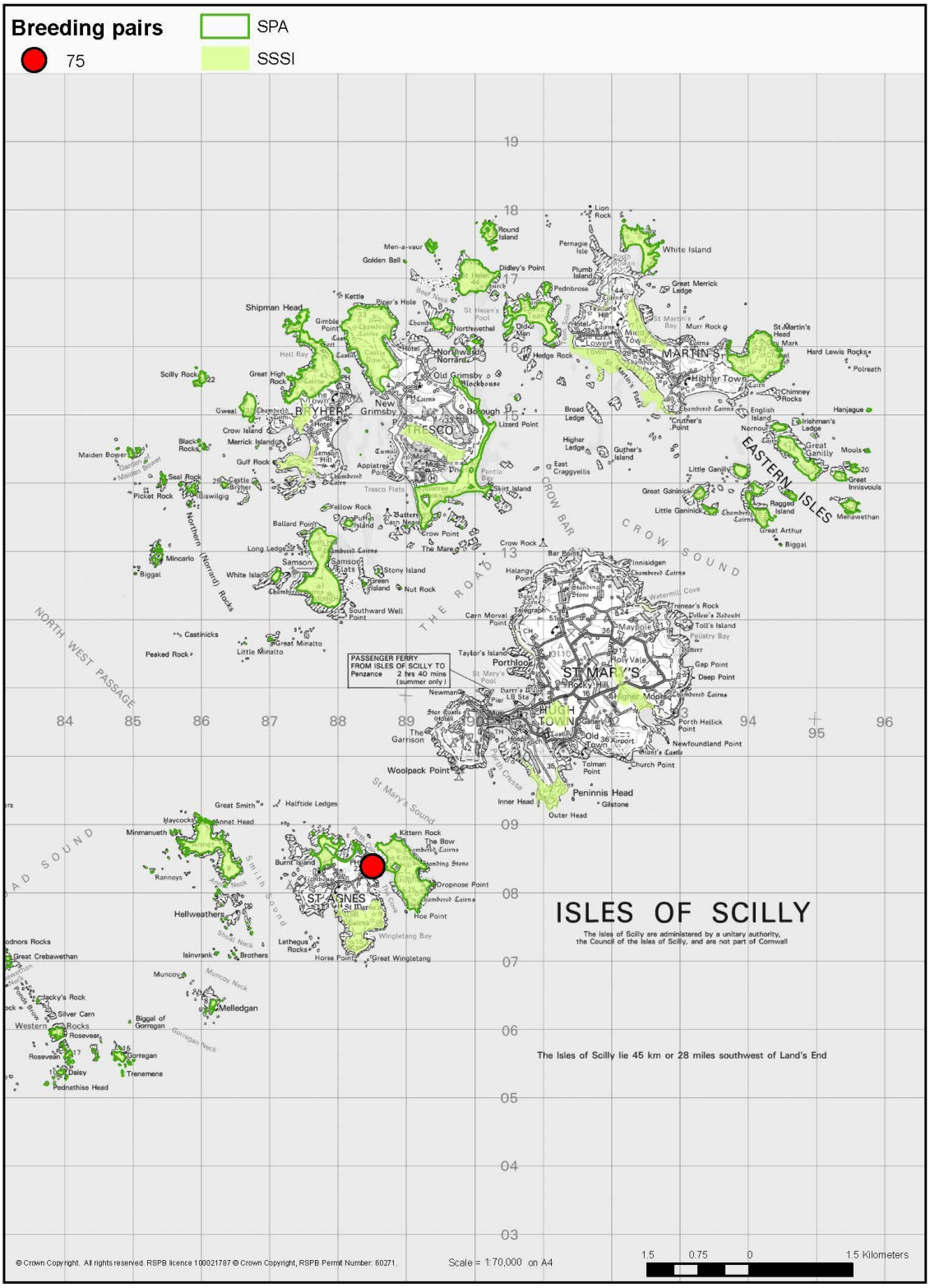
Map 8 Distribution of breeding herring gull 2015/16



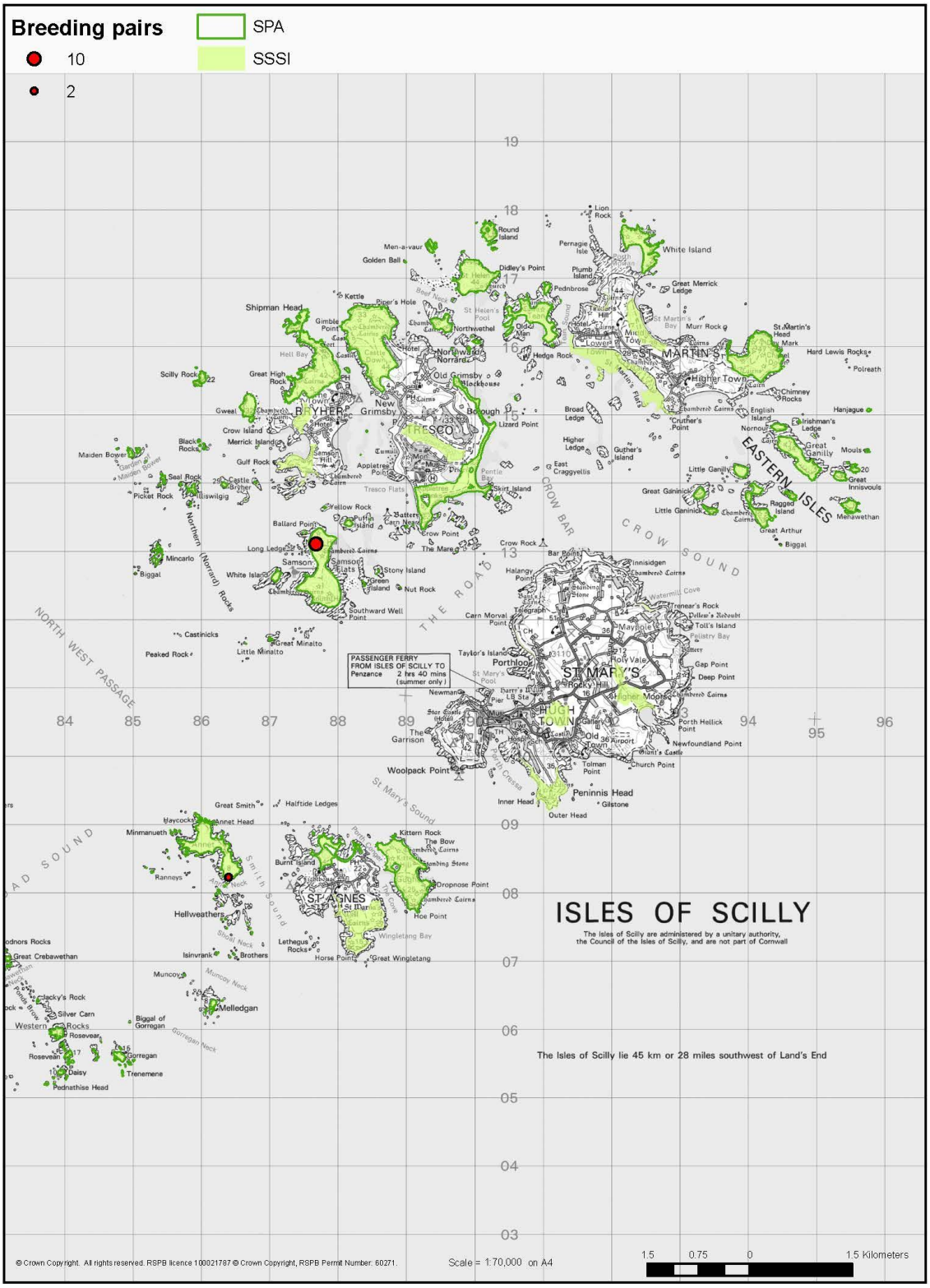
Map 9 Distribution of breeding great black-backed gull 2015/16



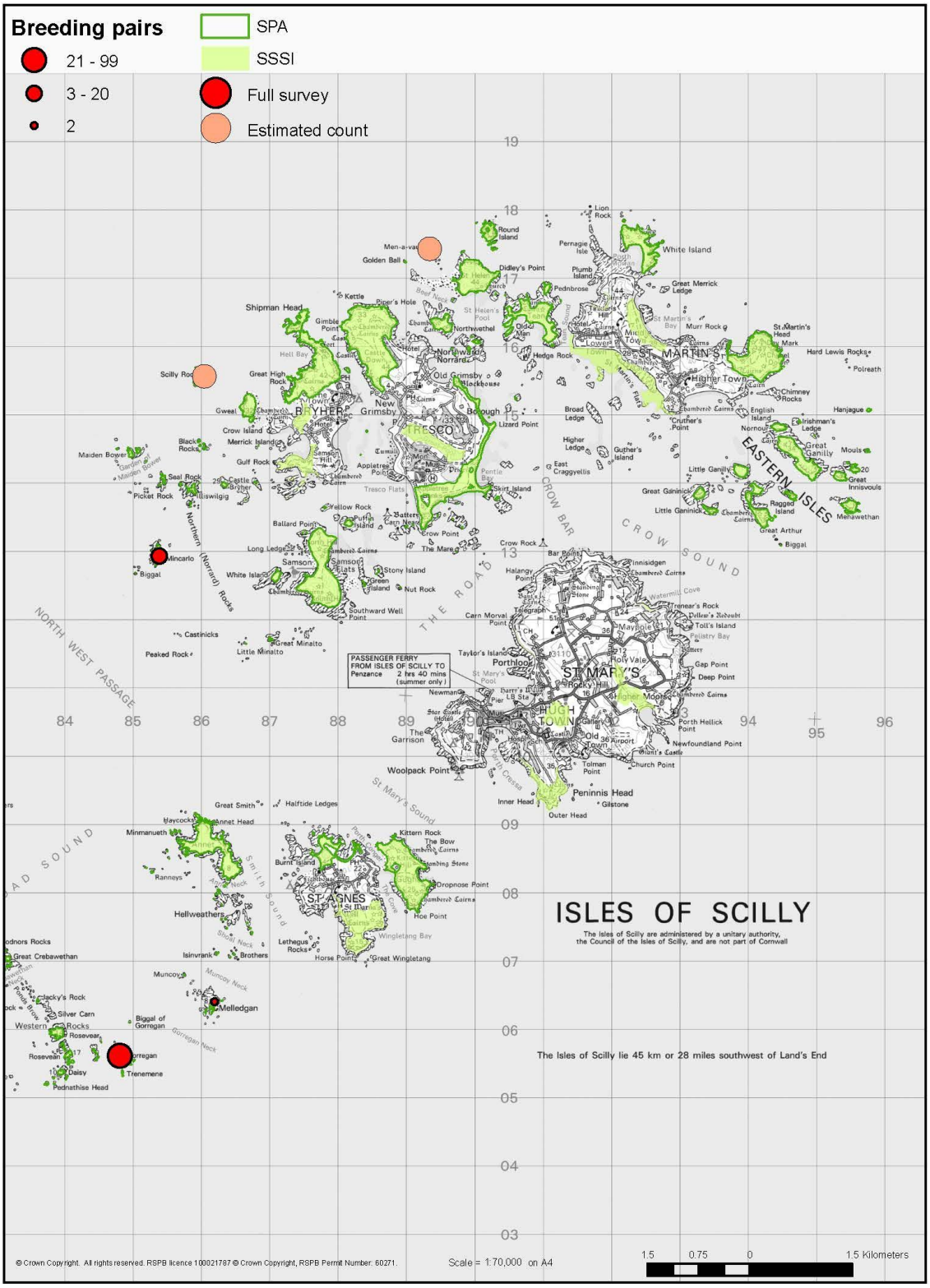
Map 10 Distribution of breeding kittiwake 2015



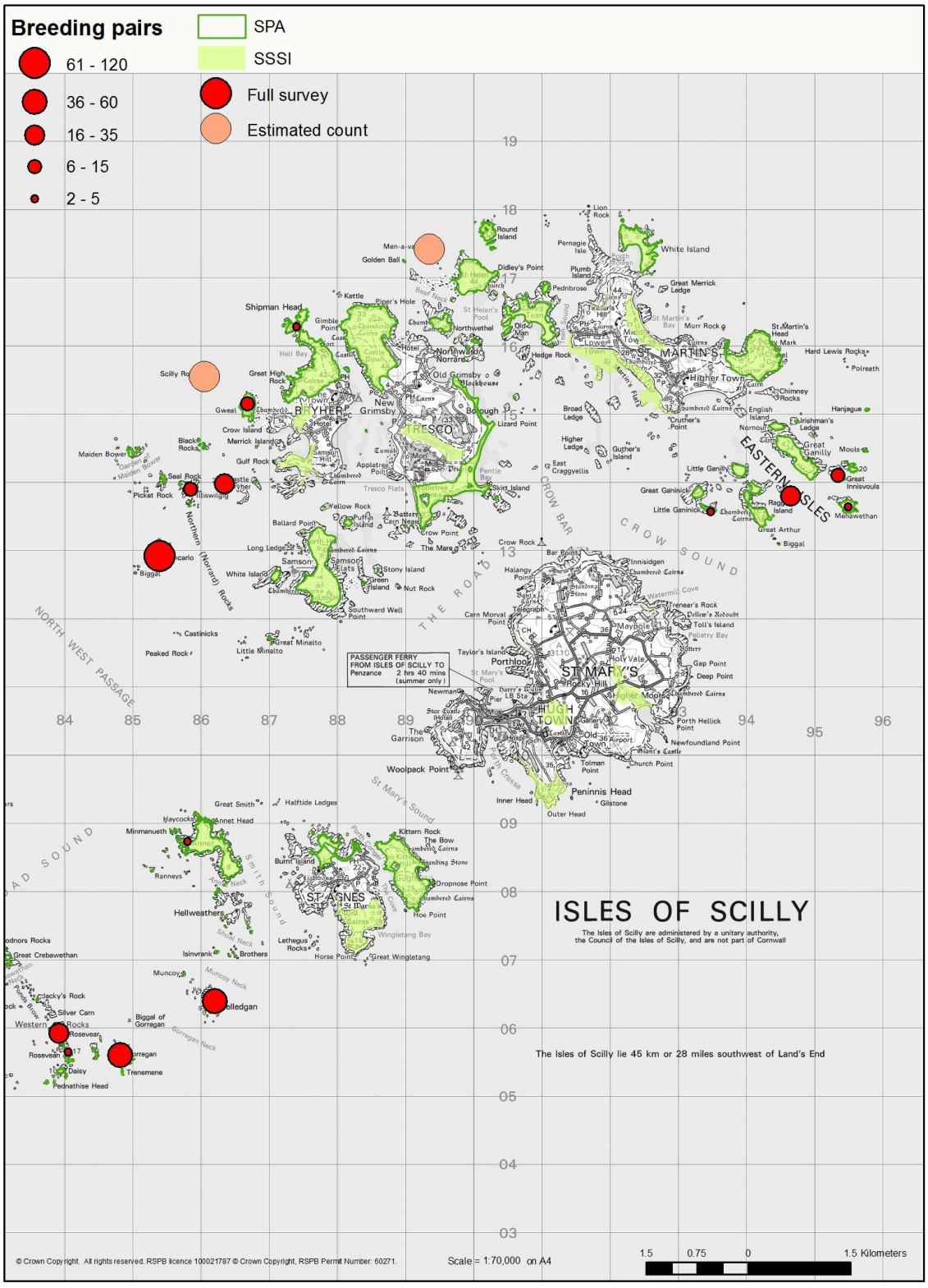
Map 11 Distribution of breeding common tern 2015



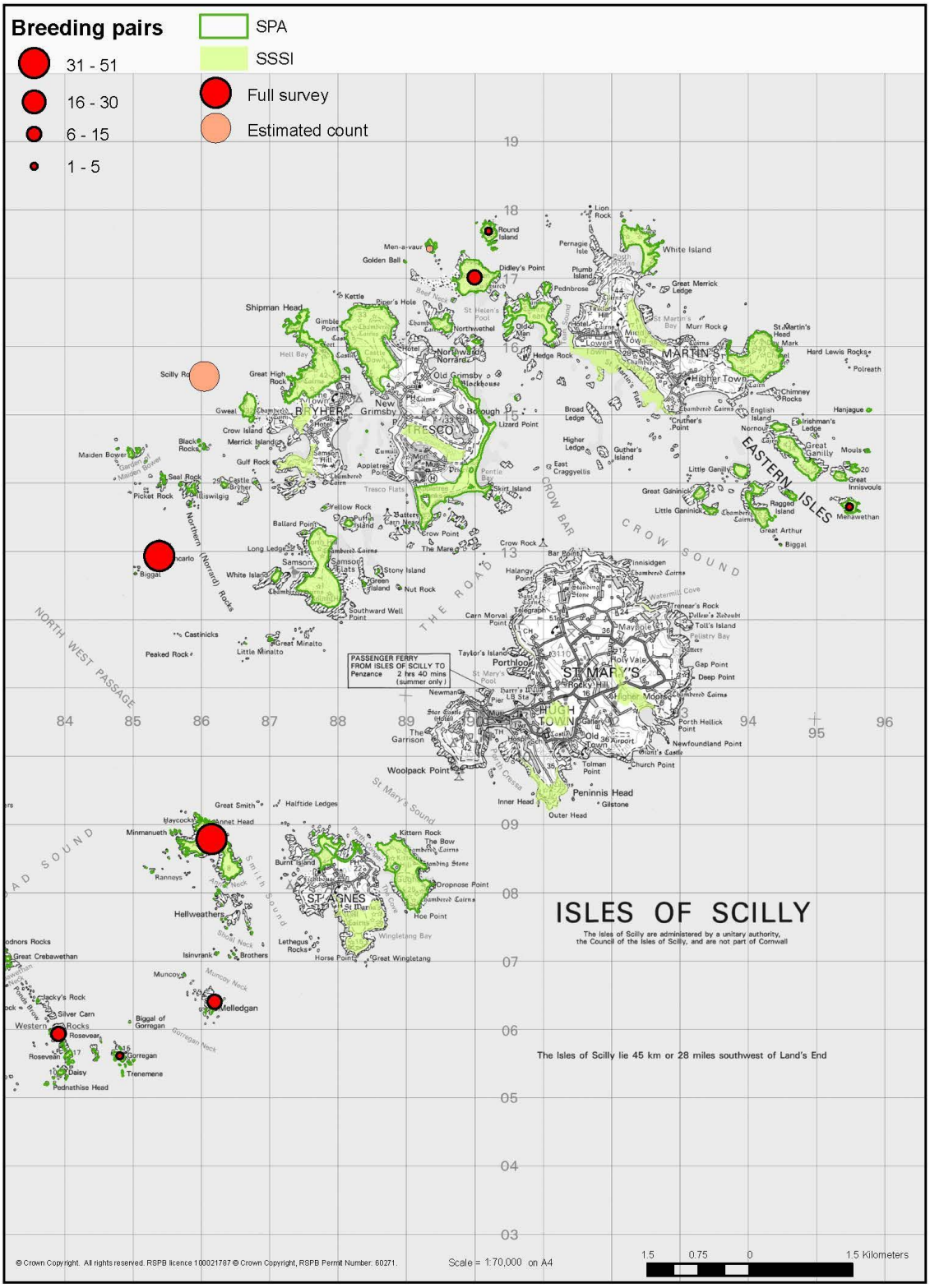
Map 12 Distribution of breeding guillemot 2015



Map 13 Distribution of breeding razorbill 2015/16



Map 14 Distribution of breeding puffin 2015



Appendix 2 - Table 1 Full counts by island 2015

ISLAND	FUL	MX	SP	COR	SH	LB	HG	GB	KIT	COT	SAT	GUI	RAZ	PUF	TOTAL	2006	2000	SSSI grouping
Annet	57	229	778		85	1	20	235		2			5	31	1443	1638	**2039**	Annet
Bow, St Agnes								1							1			None
St Agnes, Big Pool & Browarth							1								1	9		Big pool and Browarth Point
St Agnes, Wingletang		10					1								11	12	**35**	Wingletang Down
St Agnes, not SSSI	4	2	6			14	8	1	75						110	3		None
Burnt Island, St Agnes			11				1								12	0	**0**	None
Tins Walbert															0	0	**0**	none
Gugh		45	2			419	29	6							501	1090	**1464**	Gugh
Kittern Rock, Gugh	1						1								2	1	**0**	Gugh
Tresco, Castle Down		46													46			Castle Down
Tresco, Porth Mellin							1								1			None
Tresco, Appletree Point							11								11	4		None
Tresco, Gimble Porth															0	95	**237**	Castle Down
Tresco, Pentle Bay							8								8	25		Pentle Bay, Merrick & Round
Merrick Island, Tresco						1	2	1							4	1		Pentle Bay, Merrick & Round
Green Is (Tresco)							1								1	4	**1**	Pentle Bay, Merrick & Round
Plumb Is, Tresco							2								2	4	**13**	None
Round Island	11	78	172		16	2	2	20						1	302	342	**265**	Pentle Bay, Merrick & Round
Gweal	2				61	35	7	72					8		185	175	**186**	Norrard Rocks
Mincarlo	21		9		58			33				20	120	51	312	310	**294**	Norrard Rocks
Illiswilgig			52		24		3	16					8		103	59	**55**	Norrard Rocks
Maiden Bower					1	1	1	1							4	1	**7**	Norrard Rocks
Castle Bryher	13		3		9	1	2	1					26		55	53	**59**	Norrard Rocks
Scilly Rock			21		35		2	2				60	70	35	225	189	**152**	Norrard Rocks

ISLAND	FUL	MX	SP	COR	SH	LB	HG	GB	KIT	COT	SAT	GUI	RAZ	PUF	TOTAL	2006	2000	SSSI grouping
Seal Rock															0	1	**0**	Norrard Rocks
Men-a-vaur	19		14		24	1	1					110	88	5	262	264	**303**	St Helen's
Norwethel						102	22	11							135	83	**41**	St Helen's
Peashopper Is								6							6	15	**2**	St Helen's
Crow's Is						2	4	2							8	4	**6**	St Helen's
Foremans Island							1								1	5	**6**	St Helen's
St Helens	5	36			7	448	30	12						11	549	836	**623**	St Helen's
Tean						131	42	6							179	54	**103**	Tean
Pednbrose							5	20							25	18	**0**	Tean
Old Men, Tean						5	10	2							17	2	**0**	Tean
St Martin's, Daymark	46	26				2	9	3							86	80	**138**	Chapel Down
St Martins, Pernagie Point															0	1		Porth Seal
Plumb Is, St Martins							3								3	13	**6**	None
White Island (St Martins)	8					106	15	1							130	231	**69**	White Island
Guther's Island					7	6	20	30							63	41	**48**	None
Pernagie Island					4			8							12	11	**11**	None
Hedge Rock							1	1							2	1	**2**	None
Great Cheese Rock															0	0	**5**	None
Great Ganinick				5	10		9	11							35	49	**48**	Eastern Isles
Little Ganinick					45		5	27					2		79	58	**63**	Eastern Isles
Little Ganilly					2	4	7	21							34	27	**20**	Eastern Isles
Great Ganilly		1			33	70	23	35							162	45	**58**	Eastern Isles
Nornour						5		17							22	14	**10**	Eastern Isles
Great/Little Arthur	9				10	76	26	45							166	53	**46**	Eastern Isles
Ragged Island				0	30	2	1	27					18		78	88	**79**	Eastern Isles
Menawethan	43				38		1	66					4	4	156	182	**139**	Eastern Isles
Little Innisvouls					46	2		15							63	52	**38**	Eastern Isles
Great Innisvouls	11				60		1	45					13		130	169	**131**	Eastern Isles
Hanjague					2			1							3	5	**3**	Eastern Isles
Samson	15				27	978	126	7		10					1163	1310	**1309**	Samson
Green Island															0	57	**7**	Samson

ISLAND	FUL	MX	SP	COR	SH	LB	HG	GB	KIT	COT	SAT	GUI	RAZ	PUF	TOTAL	2006	2000	SSSI grouping
White Island (Samson)				38	7	14	6	31							96	100	**114**	Samson
Puffin Island					15	35	12	4							66	174	**145**	Samson
Bryher, Shipman Head Down		39				5	8								52	18	**1**	Shipman Head & Down
Bryher, not SSSI						2	27	1							30	8		None
Bryher Rushy Bay						1	8								9			Rushy Bay
Shipman Head	6				17	8	5	2					2		40	35	**102**	Shipman Head & Down
Hangman's Island					2		3	1							6	6	**0**	Shipman Head & Down
Merrick Island, Bryher carn of bars						1	2	1							4	3	**0**	None
Rosevean	4		26		21	5	1						4		61	99	**74**	Western Rocks
Rosevear			112		139		1	95					16	14	377	401	**285**	Western Rocks
Gorregan	12		32		62		3	1				99	53	2	264	232	**230**	Western Rocks
Great Crebawethan															0	3	**6**	Western Rocks
Melledgan			97	10	128			40				2	36	13	326	295	**297**	Western Rocks
St Marys, Peninnis		8													8	0	**0**	Peninnis
St Marys not SSSI		3					15								18	3	**2**	None
2015/16 Totals	287	523	1335	53	1025	2485	556	984	75	12	0	291	473	167	8266			
2006 SPA Survey	279	171	1398	50	1296	3335	715	901	266	78	1	155	342	174		9161		
Seabird 2000	**183**	**201**	**1475**	**56**	**1108**	**3608**	**903**	**808**	**281**	**96**	**0**	**196**	**296**	**167**			**9378**	
Changes since 2006	3%	206%	5%	6%	21%	26%	22%	9%	72%	85%	n/a	88%	38%	4%		**9.8%**		

Appendix 3

Further notes on methodology for individual species & estimated counts

Isles of Scilly Wildlife Trust Research Access Application

Isles of Scilly Seabird Survey 2015 Disturbance Statement

Protocol for burrow scope use at storm petrel and Manx shearwater burrows

Notes on methodology for individual species and estimated counts

Between April and September 2015 and 2016, data on seabird breeding distribution and numbers was collected using standard methods as set out in the National Seabird 2000 Census Instructions in *The Seabird Monitoring Handbook* (Walsh *et al*. 1995) with further details taken from Gilbert, Gibbons and Walsh (1998). Although the majority of counts were carried out in 2015, rough weather meant that counts for a few islands were completed in 2016; Illiswilgig, Castle Bryher, Men-a-vaur, White and Puffin Islands. Further notes for methodology relevant for individual species specifically as part of the Scilly SPA count in 2015/16 are outlined below;

Manx shearwater

Diurnal playback using a tape of Manx shearwater calls recorded on Skokholm (including male and female calls within 10 sec loop) was conducted at all suitable habitat across the islands other than Annet (and away from the immediate coastal strip of Tresco, St. Martin's, St. Mary's and Bryher as well as inhabited areas of St. Agnes). The extent of suitable habitat for Manx shearwaters on Annet precluded a full survey of all areas particularly where breeding density was low. The whole of the South end of the island and the entire coastline was surveyed up to a depth of between 10 and 30m into the interior was surveyed fully, and 12 randomly selected 10x10m quadrats used to survey the remaining areas inland (mostly unsuitable dense bracken yielding only one response). As in the Seabird 2000 and 2006 surveys, the number of responses recorded was multiplied by 1.08 to correct for the proportion of birds not responding (Heaney *et al.* 2002).

European storm petrel

As with Manx shearwaters, complete surveys of all suitable habitat (including boulder beach, scree or loose rock, cavities in dry stone walls, cracks in rocks, burrows in soil or peat especially by rocks) were undertaken on all rat free islands except for Annet (and inland areas of St. Agnes & Gugh), where a combination of full survey and the sampling methods outlined in Heaney *et al.* (2002) were again employed. The entire coastline and up to 20m inland was surveyed fully on Annet and 12 randomly selected 10x10m quadrats used to survey the remaining areas inland (no further responses). A tape of a male purr call recorded on Mousa was used and, as in the Seabird 2000 and 2006 surveys, the number of responses recorded was multiplied by 2.86 to correct for the proportion of birds not responding (Ratcliffe *et al.* 1998).

Where no burrow entrances were visible in boulder beach ropes marked at 2m intervals, were used to identify where to play the tape. In order to ensure that the playback survey coincided with the peak of incubation (which can vary significantly between years), as in 2000 and 2006, data on laying phenology from storm petrel colonies at the Molène archipelago in Brittany was used (B. Cadiou, *unpubl. data*). These data placed the peak of incubation and therefore nest attendance between the last week of June and the second week on July in 2015 and 2016. Accordingly, all storm petrel playback surveys were completed between 25th June and 16th July 2015/16.

Razorbill and common guillemot
All the razorbills and guillemots nesting in Scilly occupy concealed nest sites mostly under boulders or in rock crevices. This precludes the usual method employed at most cliff nesting colonies of simply counting the number of visible birds from a suitable vantage point. On Scilly all breeding sites were visited in the first 3 weeks of June, with a count of all visible birds made in addition to a count of the number of birds that flushed from crevices when the breeding area was entered and an estimate of the number of birds that remained concealed. Birds on intertidal rocks and those on the sea were not included in the count. No correction factor (usually 0.67 to estimate the number of apparently occupied nests from a count of individuals, Lloyd *et al.* 1991) was applied to the data.

Atlantic puffin
The preferred census method for puffins is to make a count of apparently occupied burrows in late-April to mid-May. In this method, apparently occupied burrows are identified by signs of regular use, such as fresh digging, hatched eggshells or fish in the entrance. Unfortunately, as with the other auks, most of the puffins in Scilly nest under boulders or in burrows along cliff faces, and this is not possible. As a result, counts of individuals to estimate the general size of the small colonies must be used. For this method, a number of counts are made in mid-May of the total number of birds on land, on the sea and flying around the site (within 200m of shore). The peak count (usually achieved late in the day or in foggy conditions) is used as a best estimate of the number of breeding birds present.

Estimated Counts
Rough weather meant that a couple of the more remote islands with rocky landings could not be accessed safely in either or both of the summers of 2015 and 2016, so that breeding numbers had to be estimated.

Scilly Rock– For storm petrel, shag, fulmar and gulls an estimate was based on the totals for 2006 multiplied by the average change across islands 2006 to 2015/16. For auks a number of counts were made from the sea in May (puffins) and June (razorbills & guillemot) and the maximum number of birds recorded - low confidence is given to these estimates as many auks nest in crevices and under boulders here and a landing is recommended for surveying these sites.

Men-a-vaur – A landing in July 2016 allowed a count of apparently occupied sites for storm petrel. However, no landing was possible earlier in the season and an estimate of breeding numbers for shag, fulmar and gulls was based on the totals for 2006 multiplied by the average change across islands 2006 to 2015/16. For auks, as on Scilly Rock, a number of counts were made from the sea in May (puffins) and June (razorbills & guillemot) and the maximum number of birds recorded.

Would you like to carry out research on our land?

The Isles of Scilly Wildlife Trust (IOSWT) welcome responsible researchers (who are working on behalf of a recognised institute or body) on their land where there is a clear benefit to the conservation of the habitats or species found, where the access does not have any significant or long lasting negative impacts and where the information produced is made available to the islands to improve the understanding an support for the special nature of these islands, to residents and visitors.

The Isles of Scilly are regionally, nationally and internationally important for a range of features (habitats and species), including its populations of seabirds, extensive reefs, grey seals, mud/sand flats, sandbanks, raised beaches and rare waved heath with heather and western gorse habitat. The important land areas for these features are accordingly designated (see fig. 1) as Sites of Special Scientific Interest (SSSI), Special Protection Area (SPA), Special Area of Conservation (SAC) (see fig. 2.) and Ramsar site. In addition to requiring permission from the IOSWT, assent is also required from Natural England to access designated sites. Additionally, the archaeology of Scilly is internationally important. The islands have the greatest density of statutorily protected terrestrial sites in Britain. Scilly's 238 scheduled monuments represent at least 4000 years of social, economic, cultural and religious activity and many cover extensive areas.

Permission from the IOSWT is required to ensure that your project does not affect the day to day work of the trust, create additional hazards for the general public and so the public can be adequately informed of what is happening on sites.

Due to the sensitive nature of the seabird and seal colonies to disturbance a number of sites have restricted or no general access (see map). Because there is no public access there needs to be a good conservation justification for projects particularly at these sites. Overnight access will only be granted in exceptional circumstances.

Research is already carried out on a number of topics on Isles of Scilly Wildlife Trust's land. To ensure that there is no duplication or that projects provide the best possible outcome for the conservation of that habitat or species it is important that you identify documents that justify the need for the work (e.g. species and habitat action plans, local landscape plans or strategies), identify any support you have from any third party organisations and let us know who you have liaised with to determine there is a need for this project. Please refer to supporting documents. In addition, the IOSWT have produced a register of preferred projects.

In the past a number of projects have been carried out where the information produced has not been provided by the researcher. Failure to provide a report or to comply with access conditions may result in applications by that individual, institute or body to be denied in the future.

For access to and or collection of specimens from an SSSI, SPA, SAC or RAMSAR a Natural England accent form will need to be completed. To carry out any trapping or ringing activities you will need to be qualified and possess a licence to disturb from Natural England.

The Isles of Scilly Wildlife Trust

The Isles of Scilly Wildlife Trust

Isles of Scilly Research Access Application Form

Name of Proposer: Paul St Pierre			
Institute or body: RSPB			
Address:	2 The Old Smelting House Chyandour Coombe Penzance TR18 3LP	Telephone: Mobile: Email Address:	01736 362979 paul.stpierre@rspb.org.uk
Name and phone numbers of people requiring access:	Survey Project Manager: Vickie Heaney Tel: 07900 933683 Name: Will Scott Name: Lydia Titterton Name: Lana Austin Volunteers (to be confirmed)		
When is access required?	Start date: May 2015	End Date: September 2015	
Where is access required? (Which islands do you wish to visit)	All islands		
Title of project: Isles of Scilly Seabird Survey 2015			
Project Brief (please give a brief description of your project)	To survey all seabird species breeding on all islands of the Isles of Scilly to determine their population and provide information on their trends.		
Project Justification and Support	This assessment of the condition of the SPA and SSSI's is set out in the Isles of Scilly Seabird Strategy 2014 -17. An assessment is required by Natural England.		
Public Liability Insurance: please attach a copy to your application			
Project Method Statement (please tell us how you will carry out your project)	All counts to use standard agreed methodology as outlined Walsh PM, Halley DJ, Harris MP, del Nevo A, Sim IMW & Tasker MC (1995) *Seabird monitoring handbook for Britain and Ireland*. JNCC/ RSPB/ ITE/ Seabird Group, Peterborough. See attached methodology and disturbance statements		
Project Outputs (Please tell us how you will communicate your findings to the trust and the local community)	A survey report will be available at the end of the project (November 2015) There will be two press releases and a PowerPoint presentation will be produced about the work to use with the community. A summary will be provided for inclusion within the annual Isles of Scilly Natural History Report.		
Please also attach:	Conservation Features Risk Assessments Health and Safety Risk Assessments Relevant permissions and licences (see links below) Please complete and return the attached NE accent form Please attach a copy of NE licence to disturb birds, or any other licences required for work Please attach a copy of your BTO ringing licence		[X] [ ] [X] [X] [n/a] [n/a]
Please return to: Sarah Mason, Isles of Scilly Wildlife Trust (IOSWT)			

Useful Links:

General Licence:
http://www.naturalengland.org.uk/ourwork/regulation/wildlife/licences/generallicences.aspx

Specially protected birds:
http://www.naturalengland.org.uk/ourwork/regulation/wildlife/species/speciallyprotectedbirds.aspx

English Heritage:
http://www.english-heritage.org.uk/

List of properties:
http://www.english-heritage.org.uk/daysout/properties/?geocode=Isles%20of%20Scilly

Features at risk from Access

Risk Assessment Colour Code

You may need to adjust the methodology set out on your application form based upon the following risk assessment.

The following table summarises the risks identified for each of the interest features, within each group of activities, and the scale of risk annotated through the following colour code.

High	Key structural or functional species in the biotope are likely to be killed and, or the habitat is likely to be destroyed by the activity under consideration
Medium	The population(s) of key structural or functional species in the biotope may be reduced by the activity under consideration, the habitat may be partially destroyed or the viability of a species population, diversity and function of a community may be reduced.
Low	Key structural or functional species in the biotope are unlikely to be killed or destroyed by the activity under consideration and the habitat is unlikely to be damaged although the viability of a species‟ population, diversity or functionality in a community may be reduced.
No Known Effect on SAC Features	The activity is not practicable or it does not have a detectable effect on structure and function of a biotope or the survival or viability of key

Feature at risk from Access (please list protected features)	**Potential Impact**	**High/medium/low**	**Proposed Mitigation Measures**
Subtidal Sandbanks	N/A	No effect	
Intertidal Sand flats	N/A	No effect	
Reefs	N/A	No effect	
Grey Seals	Avoid loafing sites	No effect	Majority of surveys carried out (May to mid July) outside of pupping season or away from known pupping sites (Manx shearwater colonies on St Agnes and Gugh in early September). SPA survey will avoid main haul out sites as identified by IOSWT
Seabirds	Disturbance during breeding season during monitoring	Low	SPA survey will use standard methodologies which reduce disturbance to a minimum.
Heathland/grassland/dunes	Trampling of species	No effect (SAC)	
Plant species Listed on SAC: Shore dock	Trampling of species	No effect (SAC)	SPA survey will avoid Shore dock locations as guided by NE and IOSWT (http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0013694)
Land birds	Disturbance during breeding season	No effect	Survey methodology reduces impacts
Geological		N/A	
Ancient or Historic Monuments Isles of Scilly (238 SAMs)	Disturbance of ancient monuments by trampling and climbing	Low	Follow existing paths and access points wherever possible and avoid climbing and trampling on exposed structures wherever possible.

Isles of Scilly Seabird Survey 2015 Disturbance Statement

Potential Environmental Impact	Mitigation
Disturbance and stress caused to breeding seabirds and their young	Standard approved methods used No counts heavy or continuous rain, > Beaufort Force 4 Avoid flush counts and disturbance of gulls or terns in wet weather Utmost care taken when walking in areas where nests are present and full briefing of any volunteers on all disturbance mitigation protocols Time in colony kept to a minimum, with counts of denser sub-colonies (e.g. gulls and Annet) conducted by a team of surveyors Care taken to avoid exposure or over-heating of nest contents (counts not conducted in heavy rain, shags not disturbed in hot sunlight) As much as possible counts conducted before chicks hatch to avoid issues with displacement of mobile chicks Fulmar counts in cliff or sloping areas conducted from the sea to avoid egg rolling by startled adults (Annet, Menawethan, Daymark)
Negative publicity	Liaison with local residents, boatmen and birders about purpose of study and methods employed to minimise disturbance Explain work to any visitors that stop to observe in any areas with public access Awareness of any sensitive local issues and where necessary advice and steer taken from the IOSWT and their Seabird Liaison Group Partners
Habitat damage	Utmost care taken to avoid disturbance of the natural and historic habitat; paths kept to as much as possible. Special care taken around areas with burrow nesting birds.

Protocol for burrow scope use at storm petrel and Manx shearwater burrows
There are three main risks associated with burrow scope use;

- risk of damaging an egg or very young chick if used clumsily
- risk of excessive disturbance and desertion by the adults
- risk of damaging the burrow/ nest access because of user activity on the surface

The device can be unwieldy to use, require contortionist movements from the operator, and concentration on a screen. In order to minimise the risks of nest damage or desertion:

- all users will first practice using the device on empty burrows
- the device will be used in pairs with one person operating the camera end and the other concentrating on the screen
- all operators will employ good general field skills to reduce any potentially negative impact at breeding sites, particularly in areas with many burrows or if any changes in behaviour are seen
- notes will be shared between operators on any difficult burrows (tunnel shape/length etc.) or locations where burrows could be crushed if not approached correctly
- burrows will not be inspected more than once per week and inspection time will be kept to a minimum, with operators remaining quiet when inspecting burrows

Work on Manx shearwater burrows on Skomer suggests that these birds are particularly robust to disturbance from responsible burrow scope use and no significant problems have been encountered at any stages of breeding (Chris Perrins *pers. comm*.). However, storm petrels appear to be more sensitive to disturbance at the nest chamber (Mark Bolton *pers. comm*.) and therefore no storm petrel nest cavity inspections will be carried out until after incubation.

Appendix 4

Notes on individual SSSIs that support breeding seabirds

Seabirds breeding outside designations

Annet SSSI
Table 22 Numbers of breeding seabirds on Annet SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% change since 1999	% change since 2006	Trend & notes
Manx shearwater	123	89	229	+86%	+157%	Decline then increase
Lesser BBG	517	281	1	>99%	>99%	Loss of 3 sub-colonies
Storm petrel	938	788	778	-17%	-1%	Decline then stable
Herring gull	42	24	20	-52%	-17%	Continued decline
Shag	209	177	85	-59%	-52%	Large sustained decline
Razorbill	4	4	5	+25%	+25%	Small numbers
Common tern	1	1	2	+100%	+100%	Small numbers, intermittent breeding
Puffin	47	50	31	-34%	-38%	Declining
Great BBG	137	187	235	+72%	+26%	Large increases
Fulmar	21	37	57	+171%	+54%	Increasing
Total	**2039**	**1638**	**1443**	**-29%**	**-12%**	**Sustained decline**

- Seabird notified spp: common tern, great black-backed gull, lesser black-backed gull, Manx shearwater, puffin & storm petrel
- Other SPA assemblage spp present: razorbill, fulmar, shag, herring gull & common tern
- Sustained decline – smaller gulls and shags
- Rat incursion here in 2004
- See Appendix 5 for further count details

Samson SSSI (with Green, White, Puffin & Stoney)
Table 23 Numbers of breeding seabirds at Samson SSSI 1999 to 2015/16

Species	**1999/ 2000**	**2006**	**2015/16**	**% Change since %1999**	**% Change since 2006**	**Trend & notes**
Herring gull	230	189	144	-37%	-24%	Continued decrease
Shag	43	35	49	+14%	+40%	Increasing S hill north beaches
Sandwich tern	0	1	0	Lost	Lost	Intermittent breeder - last bred Green Island 2006
Lesser BBG	1197	1223	1027	-14%	-16%	Continued decline
Kittiwake	38	47	0	Lost	Lost	Last bred N 2009 & S hill 2008
Great BBG	46	73	42	-9%	-43%	Decreasing White Island
Common tern	18	59	10	-44%	-83%	Declining - failed 2015
Fulmar	2	5	15	+650%	+200%	Increasing S hill beaches
Cormorant	1	9	38	+3700%	+322%	White Island increasing – gained from Mincarlo?
Total	**1575**	**1641**	**1325**	**-16%**	**-19%**	**Loss of gulls and kittiwakes**

- SSSI seabird notified spp: common tern
- SPA assemblage spp present: lesser black-backed gull, great black-backed gull, herring gull, shag, cormorant, fulmar
- Lost all kittiwakes and many herring gulls

Western Rocks SSSI (Melledgan, Gorregan, Great Crebawethan, Rosevear & Rosevean)
Table 24 Numbers of breeding seabirds at Western Rocks SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
Guillemot	39	31	101	+159%	+226%	Trebled Gorregan, new to Melledgan
Cormorant	16	13	10	-38%	-23%	Decreased Melledgan
Lesser BBG	4	1	5	+25%	+400%	Small numbers
Herring gull	2	11	5	+150%	-46%	Small numbers, decreased
Storm petrel	283	281	267	-6%	-5%	Increase Melledgan, decrease Rosevear & Rosevean
Great BBG	124	157	136	+10%	-13%	Fluctuate/ stable
Razorbill	85	107	109	+28%	+2%	Stable, less Gorregan more Melledgan
Puffin	6	31	29	+383%	-6%	Increase levelled off
Shag	331	392	350	+6%	-11%	Decrease Melledgan
Fulmar	2	6	16	+700%	+167%	New to Rosevean
Total	**892**	**1030**	**1028**	**+15%**	**-1%**	**Increase then levelled off**

- SSSI seabird notified spp: shag
- SPA assemblage spp present: lesser black-backed gull, great black-backed gull, herring gull, shag, storm petrel, cormorant, fulmar, puffin, razorbill, guillemot

St. Helen's SSSI (incl. Norwethel, Peasehopper, Crow's, Foreman's & Men-a-vaur)
Table 25 Numbers of breeding seabirds at St. Helen's SSSI 1999 to 2015/16

Species	1999/ 2000	2006	2015/16	% Change since 1999	% Change since 2006	Trend & notes
Great BBG	30	28	31	+3%	+11%	Stable
Puffin	36	19	16	-56%	-16%	Decreasing St Helens & MAV
Guillemot	117	95	110	-6%	+16%	Stable Men-a-vaur
Herring gull	82	113	58	-29%	-47%	Decreasing St Helens
Razorbill	101	90	88	-13%	-2%	Stable
LBBG	543	722	553	+2%	-23%	Decreasing St Helens
Manx shearwater	5	9	36	+620%	+300%	Increasing St Helens (rats)
Storm petrel	20	20	14	-30%	-30%	Decreased Men-a-Vaur
Common tern	1	13	0	Lost	Lost	Lost
Kittiwake	7	36	0	Lost	Lost	Last bred St Helens 2010
Shag	24	38	31	+29%	-18%	Stable
Fulmar	16	21	24	+50%	+14%	Increasing slowly
Total	**982**	**1204**	**961**	**-2%**	**-20%**	**Decrease in gulls, loss of kittiwakes & terns**

- SSSI seabird notified spp: fulmar, guillemot, razorbill
- SPA assemblage spp present: Manx shearwater, lesser black-backed gull, great black-backed gull, herring gull, shag, puffin, storm petrel

Norrard Rocks SSSI (Scilly Rock, Castle Bryher, Mincarlo, Illiswilgig, Gweal, Maiden Bower & Seal Rock)
Table 26 Numbers of breeding seabirds at Norrard Rocks SSSI 1999 to 2015/16

Species	1999/ 2000	2006	2015/16	% Change since 1999	% Change since 2006	Trend & notes
Herring gull	41	19	15	-63%	-21%	Sustained decline
Cormorant	25	18	0	Lost	Lost	Last bred Mincarlo 2013
Guillemot	40	29	80	+100%	+176%	Large increase
Lesser BBG	13	6	37	+185%	+517%	Increase Gweal
Puffin	78	74	86	+10%	+16%	Stable, increasing
Storm petrel	51	58	85	+67%	+47%	Increased Illiswilgig
Razorbill	103	129	232	+125%	+80%	Large increase Mincarlo
Great BBG	101	106	125	+24%	+18%	Increasing Gweal
Shag	273	312	188	-31%	-40%	Decreasing
Fulmar	28	37	36	+29%	-3%	Increased then levelled off
Total	**753**	**788**	**884**	**+17%**	**+12%**	**Increase in auks**

- SSSI seabird notified spp: cormorant
- SPA assemblage spp present: storm petrel, lesser black-backed gull, great black-backed gull, shag, herring gull, guillemot, razorbill, puffin & fulmar
- Cormorants lost from Mincarlo

Pentle Bay, Merrick & Round Island SSSI, Tresco
Table 27 Numbers of breeding seabirds at Pentle Bay SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
Manx shearwater	34	43	78	+129%	+81%	Large increases
Lesser BBG	1	1	3	+200%	+200%	Small numbers, increasing
Storm petrel	183	251	172	-6%	-32%	Declining
Herring gull	30	28	13	-57%	-54%	Declining
Shag	2	7	16	+700%	+129%	Increasing
Common tern	39	5	0	Lost	Lost	Lost from Pentle Bay
Puffin	0	0	1	New colony	New colony	New colony
Great BBG	5	9	21	+320%	+133%	Increasing
Fulmar	32	28	11	-66%	-61%	Declining
Total	**326**	**372**	**315**	**-3%**	**-15%**	**Overall decline**

- SSSI seabird notified spp: common tern, roseate tern, storm petrel
- SPA assemblage spp present: Manx shearwater, lesser black-backed gull, great black-backed gull, herring gull, shag, puffin, fulmar
- Roseate & common terns lost from Pentle Bay
- Puffin new to Round Island

Chapel Down SSSI, St. Martin's
Table 28 Numbers of breeding seabirds at Chapel Down SSSI 1999 to 2015

Species	**1999/ 2000**	**2006**	**2015**	**% Change since 1999**	**% Change since 2006**	**Trend & notes**
Manx shearwater	0	0	26	New colony	New colony	New colony
Lesser BBG	58	4	2	-97%	-50%	Large declines
Herring gull	18	12	9	-50%	-25%	Declining
Kittiwake	27	15	0	Lost	Lost	Last bred 2013
Great BBG	3	3	3	No change	No change	Stable, small numbers
Fulmar	32	46	46	+44%	No change	Increase now plateaued
Total	**138**	**80**	**86**	**-38%**	**+8%**	**Loss of kittiwakes & gulls**

- SSSI seabird notified spp: kittiwake
- SPA assemblage spp present: lesser black-backed gull, great black-backed gull, fulmar, Manx shearwater, herring gull

Eastern Isles (Menawethan, Hanjague, Great & Little Ganilly, Great & Little Arthur, Great & Little Ganinnick, Great & Little Innisvouls, Ragged, Nornour) SSSI
Table 29 Numbers of breeding seabirds at the Eastern Isles SSSI 1999 to 2015

Species	**1999/ 2000**	**2006**	**2015**	**% Change since 1999**	**% Change since 2006**	**Trend & notes**
Herring gull	49	34	73	+49%	+115%	Increasing
Lesser BBG	19	14	159	+737%	+1036%	Large Increase – Great Ganilly & Arthurs
Great BBG	286	265	310	+8%	+17%	Increasing – large colony
Cormorant	14	10	5	-64%	-50%	Declining, moved Ragged to Great Ganinnick
Shag	221	330	276	+25%	-16%	Increase then declined
Razorbill	3	12	37	+1133%	+208%	Increasing
Fulmar	43	77	63	+47%	-18%	Increasing then levelled/ decline
Manx shearwater	0	0	1	New colony	New colony	New colony
Puffin	0	0	4	New colony	New colony	New colony
Total	**635**	**742**	**928**	**+46%**	**+25%**	**More gulls and new Puffin & Manx**

- SSSI seabird notified spp: None
- SPA assemblage spp present: shag, lesser black-backed gull, great black-backed gull, herring gull, cormorant, razorbill, fulmar, Manx shearwater, puffin
- Manx shearwater & puffin re-colonised
- Large Increase of lesser black-backed gull Great Ganilly & Arthurs

Gugh SSSI (including Kittern Rock)
Table 30 Numbers of breeding seabirds at Gugh SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
Lesser BBG	1123	875	419	-63%	-52%	Large declines
Herring gull	159	69	30	-81%	-57%	Main loss from eastern beaches
Kittiwake	155	131	0	Lost	Lost	Last nested 2010
Manx shearwater	22	9	45	+105%	+400%	Increasing
Great BBG	3	4	6	+100%	+50%	Small numbers, increasing
Fulmar	2	3	1	-50%	-67%	Kittern Rock, small numbers
Storm petrel	0	0	2	New colony	New colony	New colony – confirmed chicks
Total	**1464**	**1090**	**503**	**-66%**	**-54%**	**Declining**

- SSSI seabird notified spp: None
- SPA assemblage spp present: storm petrel, lesser black-backed gull, great black-backed gull, herring gull, Manx shearwater, fulmar
- Cleared of rats winter 2013/14
- Storm petrels recolonised and breeding successfully along with Manx shearwaters
- Loss of gulls and kittiwakes from eastern beaches

Tean SSSI (including Pednbrose & Old Man)
Table 31 Numbers of breeding seabirds at Tean SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
GBBG	16	18	28	+75%	+56%	Increasing
Herring gull	62	51	57	-8%	+12%	Stable
LBBG	24	5	136	+467%	+2620%	Large increase
Common tern	1	0	0	Lost	Lost	Lost
Total	**103**	**74**	**221**	**+115%**	**+199%**	**Increase in gulls – from St Helen's?**

- SSSI seabird notified spp: none
- SPA assemblage spp present: lesser black-backed gull, great black-backed gull, herring gull

White Island SSSI, St. Martin's
Table 32 Numbers of breeding seabirds at White Island SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
GBBG	2	6	1	-50%	-83%	Small numbers, decreased
Herring gull	34	32	15	-56%	-53%	Decreasing
LBBG	28	187	106	+279%	-43%	Decreasing
Fulmar	5	6	8	+60%	+33%	Increasing
Total	**69**	**231**	**130**	**+88%**	**-44%**	**Loss of gulls**

- SSSI seabird notified spp: none
- SPA assemblage spp present: lesser black-backed gull, great black-backed gull, herring gull, fulmar

Shipman Head & Down SSSI, Bryher (including Hangman's Island)
Table 33 Numbers of breeding seabirds at Shipman Head SSSI 1999 to 2015/16

Species	1999/ 2000	2006	2015/16	% Change since 1999	% Change since 2006	Trend & notes
Lesser BBG	50	8	13	-74%	+63%	Declining
Great BBG	13	6	3	-77%	-50%	Declining
Common tern	1	0	0	Lost	Lost	Lost
Shag	4	4	19	+375%	+375%	Increasing
Herring gull	23	15	16	-30%	+7%	Decreasing
Manx shearwater	12	13	39	+225%	+200%	Large increase 2015
Fulmar	0	13	6	New colony	-54%	1st pair recorded here in 1987
Razorbill	0	0	2	New	New	New colony
Total	**103**	**59**	**98**	**-5%**	**+66%**	**Loss of gulls offset by increase in shearwaters and shag**

- SSSI seabird notified spp: none
- SPA assemblage spp present: Manx shearwater, lesser black-backed gull, great black-backed gull, herring gull, shag, fulmar
- New site for razorbill at Shipman Head in 2016

Castle Down SSSI, Tresco (including Gimble Porth)
Table 34 Numbers of breeding seabirds at Castle Down SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
Manx shearwater	0	0	46	New colony	New colony	New colony
Lesser BBG	29	4	0	Lost	Lost	Lost from G. Porth
Herring gull	74	54	0	Lost	Lost	Lost from G. Porth, last nests 2013
Kittiwake	54	37	0	Lost	Lost	Lost from G. Porth, last bred 2009
Common tern	13	0	0	Lost	Lost	Lost
Total	**170**	**95**	**46**	**-73%**	**-52%**	**Gimble Porth abandoned**

- SSSI seabird notified spp: None
- SPA assemblage spp present: Manx shearwater

Wingletang Down SSSI, St. Agnes
Table 35 Numbers of breeding seabirds at Wingletang SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
Herring gull	0	4	1	New colony	-75%	Small numbers
Manx shearwater	5	8	10	+50%	+25%	Increasing since rat removal 2013/14
Total	**5**	**12**	**11**	**+120%**	**-8%**	

- SSSI seabird notified spp: none
- SPA assemblage spp present: herring gull, Manx shearwater

Rushy Bay & Heathy Hill SSSI, Bryher
Table 36 Numbers of breeding seabirds at Rushy Bay SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
Herring gull	0	0	8	New colony	New colony	
LBBG	0	0	1	New colony	New colony	
Common tern	1	0	0	Lost	Lost	
Total	**1**	**0**	**9**	**+800%**	**n/a**	

- SSSI seabird notified spp: none
- SPA assemblage spp present: lesser black-backed gull, herring gull

Peninnis Head SSSI, St. Mary's
Table 37 Numbers of breeding seabirds at Peninnis SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
Manx shearwater	0	0	8	New Colony	New Colony	First recorded here 2010
Total	**0**	**0**	**8**	New Colony	New Colony	**Manx shearwaters new colony**

- SSSI seabird notified spp: none
- SPA assemblage spp present: Manx shearwater

Big Pool & Browarth SSSI, St. Agnes
Table 38 Numbers of breeding seabirds at Big Pool & Browarth SSSI 1999 to 2015

Species	1999/ 2000	2006	2015	% Change since 1999	% Change since 2006	Trend & notes
LBBG	2	0	0	Lost	Lost	Lost
Herring gull	25	9	1	-96%	-89%	Large decline
Common tern	3	0	0	Lost	Lost	Lost
Total	**30**	**9**	**1**	**-97%**	**-89%**	**Abandoned as breeding site**

- SSSI seabird notified spp: none
- SPA assemblage spp present: herring gull

Seabirds breeding outside designations

Table 39 Rocks and islands outside designation supporting breeding seabirds in 2015

ISLAND	FUL	MX	SP	SH	LB	HG	GB	KIT	SPA?	SSSI?
Plumb Is, Tresco						2			N	N
Hedge Rock						1	1		N	N
Merrick Island, Bryher Carn of Bars					1	2	1		N	N
St. Agnes, not SSSI	4	2	6		14	8	1	75	N	N
Burnt Island, St. Agnes			11			1			N	N
Tresco, Porth Mellin						1			N	N
Tresco, Appletree Point						11			N	N
Plumb Is, St. Martin's						3			N	N
Guther's Island				7	6	20	30		N	N
Pernagie Island				4			8		N	N
Bryher, not SSSI					2	27	1		N	N
Bow, St. Agnes							1		N	N
St. Mary's not SSSI		3				15			N	N
Peninnis Head SSSI		8							N	Y
Rushy Bay & Heathy Hill SSSI					1	8			N	Y
Wingletang SSSI		10				1			N	Y
Total Pairs	**4**	**23**	**17**	**11**	**24**	**100**	**43**	**75**	**Total pairs: 297**	

NB: Although the majority of SSSIs are included in the SPA designated area, Wingletang Down (St. Agnes), Peninnis Head (St. Mary's) and Rushy Bay & Heathy Hill (Bryher), all of which supported seabirds in 2015, are not. This gives a total of 297 pairs of seabird breeding outside the SPA of which 269 pairs are outside SSSIs.

Appendix 5

Annual counts for Annet SSSI 2000 to 2016*

Year	SH	GB	LB	HG	RAZ	FUL	COT	SP	MX	PUF	TOTAL
2000	209**	137	517	42	4	21	1	938	123	47	**2039**
2002	180	171	215	7	4	-	0	-	-	-	(577)
2003	150	164	18	17	0	45	0	-	-	-	(394)
2004	159	197	7	32	2	44	0	-	-	-	(441)
2006	177	187	281	24	4	37	1	788	89	50	**1638**
2007	140	88	0	5	1	37	0	-	-	-	(271)
2008	164	47	(5)	4	3	48	0	-	-	-	(261)
2009	154	168	54	7	7	43	0	-	-	-	(433)
2010	198	213	76	11	2	40	0	-	-	-	(540)
2011	115	180	27	5	4	37	0	-	-	-	(368)
2012	107***	177	32	8	2	49	0	-	-	-	(375)
2013	99	208	6	4	1	36	0	-	-	-	(354)
2014	96	205	10	5	1	38	0	-	-	-	(355)
2015	85	235	1	20	5	57	2	778	229	31	**1443**
2016	86	215	1	16	6	41	14	-	-	-	(379)

* The count for 2000 represents data from 1999 and 200 combined. No counts were made in 2001 or 2005.

**This number is a peak – data from the Seabird Colony Register 1976-98 range from 82-163 shag pairs.

*** Very high failure rate in shags 2012. As many as 57% (61 of 107) of shag nests were empty; either deserted or predated, with many nests being found unattended.

Appendix 6

Information to aid discussion on rat clearance priorities

The map below is taken from IOS Seabird Conservation Strategy 2009-2013 which grouped islands into distinct groups with eradication aims i.e. blue maintain rat free, red rats present. Since this time St. Agnes & Gugh have been cleared and there have been substantial incursions recorded in summer 2015/16 on Samson and St. Helen's.
The key species affected by rat predation are Manx shearwater and storm petrel (of which Scilly supports internationally important numbers). Other birds of particular conservation concern that can be susceptible to rat predation are common terns (85% decline in last 9 years in Scilly) and puffin (regionally important numbers in Scilly and recently UK Red Listed). In addition, Scilly holds internationally important numbers of lesser black-backed gulls and although they are not known to be particularly at risk from rats, studies have shown a negative effect on productivity.

St. Helen's
St. Helen's and therefore its satellites/ stepping stones (Norwethel, Foreman's, Peashopper, Crow and probably Tean) are important despite frequent incursions, because of the large but declining lesser black-backed gull colony and burrow nesting Manx shearwaters (which have shown positive response to rat clearance in the past) and Puffins (slight decline to 11 pairs in 2015). Also St. Helen's could act as a stepping stone to high priority islands Round and Men-a-vaur.

Annet
Is obviously still a priority, but much safer now with the clearance of St. Agnes & Gugh.

Samson
Clearly this involves a lot of work and appears to suffer incursions yearly (although possibly a few rats also survive control efforts and repopulate). However, it holds a large proportion (978 of 2485prs – 39.4%) of our lesser black-backs and they are declining. It was also the main breeding site for common terns in 2014 and 2015.

Eastern Isles
Cleared in 2007 the various eastern isles have shown mixed fortunes since the last full count in 2006. Overall numbers of breeding seabirds are up by 25% and the great news is that both Manx shearwaters and puffins have been recorded breeding here for the first time since at least the 1970s. The number of shags has declined here (but also across the whole archipelago, including the rat free Norrard & Western Rocks) and the overall increases are mostly due to the settlement of new gull colonies. No rat sign was recorded during the seabird count in 2015 although not a comprehensive check. Definitely worth tackling the 'stepping stone' islands where rats from St. Martins could cross to (Little Ganilly & Nornour closest).

Norrard & Western Rocks
The thought is that these outer rocks though vital for seabirds are not capable of supporting rats through the winters, so have really only been checked sporadically.

Under the new bait derogations all bait has now been removed from these islands (some may remain Gweal?) No sign was seen on Gweal in summer 2015 though it suffers frequent incursions due to its proximity to Bryher.

Round Island
There have never been rats here and it's a deep-water channel, but if rats did get across, they could survive the winters and there are lots of seabirds to eat. So it's important to keep on the radar. No rat sign was recorded on the 2 visits as part of the seabird count in June & July 2015.

Bryher, Tresco, St. Martin's & St. Mary's
Since 2006 Manx shearwaters have been found breeding at a number of sites on the main islands of Tresco, St. Martin's and St. Mary's in addition to the known colony on Bryher. These appear to be new colonies and may be a result of recruitment of young birds from Lundy – the nearest colony to Scilly which has seen a ten-fold increase in shearwater pairs (from @300 to 3451) following rat removal there in 2002-4. These birds appear to have settled with rats present and are likely to suffer very low breeding success as a result. However, they represent over 23% of the population of shearwaters in Scilly, prompting a further look at the feasibility of clearing rats from the remaining 'off-islands' as a whole.

Map below reproduced from *Isles of Scilly Seabird Conservation Strategy 2009-2013*

Map B - Western Rocks, Norrard Rocks, Annet, Round Island/Men-a-vaur, Samson, Eastern Isles and St Helen's group as rat-free island groups

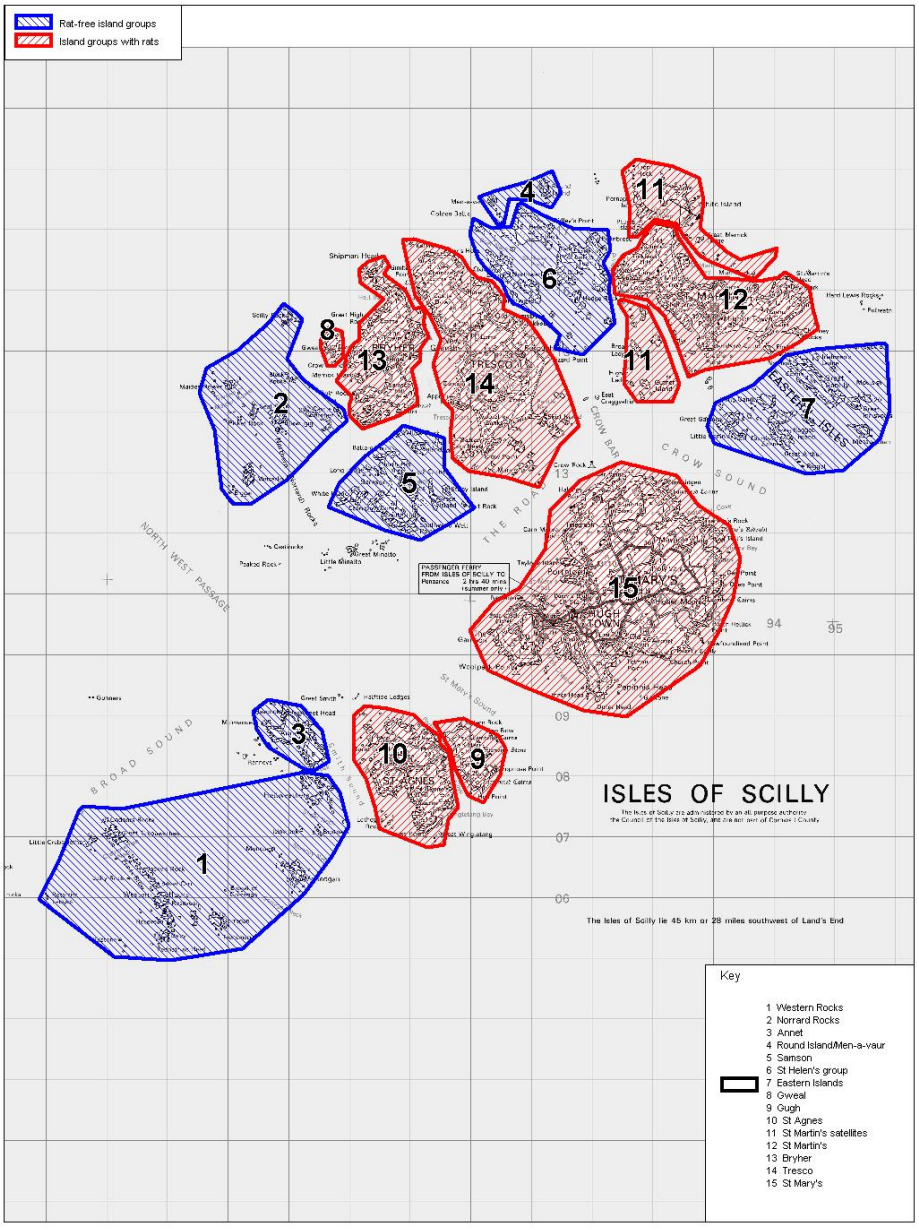


Table 40 Rat clearance priorities by island group

ISLAND	SSSI grouping & citation	SPA Listing	Species present	2000	2006	2015 /16	Trends 2006-2015/16	History of rats	Could support?	Ease of landing	Priority?
Great/Little Arthur	Eastern Isles (not listed for seabird interest features)	Listed for birds as part of SPA seabird assembl age	5spp. 45GB HG26 LB76 SH10 FUL9	46	53	166	Up 213% (LB&HG)	Current prog, no sign since 2007	Y	Medium	
Great Ganilly			5 spp. 33SH 35GB 70LB 23HG **1MX (new)** Peregrine	58	45	162	Up 260% (HG&LB)	Current prog, no sign since 2007 (has rabbits)	Y	Medium	**MX**
Menawethan			6spp. 43FUL 38SH 66GB **4PUF (new)**	139	182	156	Down 14% (SH)		Y	Difficult	**PUF**
Great Innisvouls			5spp. 60SH 45GB 13RAZ 11FUL	131	169	130	Down 23% (SH)		Y	Difficult	
Little Ganinnick			4spp. 45SH 27GB	63	58	79	Up 36% (GB)		Y	Medium	
Ragged Island			5spp 30SH 18RAZ 27GB	79	88	78	Down 11% (SH&COR lost)		Y	Difficult	
Little Innisvouls			3pp. 46SH 15GB	38	52	63	Up 21% (SH)		Y	Difficult	
Great Ganinnick			4 spp. 10SH 11GB 5COR (new)	48	49	35	Down 29% (SH&GB)	Current prog, no sign since 2007	Y	Medium	
Little Ganilly			4spp. 21GB 7HG 4LB	20	27	34	Up 26% (LB&HG)	Current prog, no sign since 2007. **STEPPING STONES**	Y	Medium	
Nornour			2spp. 17GB	10	14	22	Up 57% (GB)		Y	Medium	
Hanjague			2spp.	3	5	3		Unlikely	N	Difficult	

ISLAND	SSSI grouping & citation	SPA Listing	Species present	2000	2006	2015 /16	Trends 2006-2015/16	History of rats	Could support?	Ease of landing	Priority?
Annet	Annet (Listed for COT GB LB MX PF & SP)	Listed for birds as part of SPA seabird assembl age	10spp. Incl. **778SP, 229MX**, 235GB 85SH 57FUL 31PUF Peregrine	2039	1638	1443	Down 12% (LB& SH) GB&MX increase	Rat free since 2004	Y	Medium	**HIGH**
St Helen's	St Helen's (Listed for seabird interest features FUL GUI RAZ)	Listed for birds as part of SPA seabird assembl age	7spp **36MX** 448LB 30HG **11PUF** 7SH 12GB	623	836	549	Down 34% (LB&HG) Lost KIT	First cleared 1994, freq incursions. **Rat sign summer 2015**	Y	Easy	**MX PUF**
Men-a-vaur			8spp. 110GUI 88RAZ **5PUF 14SP**	303	264	262	No change	Not in prog but little shelter	N	Difficult	**SP PUF**
Tean, Old Man & Pednbrose			3spp 136LB 57HG 28GB	103	72	221	Up 207% (LB)	First cleared 2006, freq incursions **STEPPING STONE**	Y	Easy	
Norwethel			3spp 102LB 22HG	41	83	135	Up 63% (LB)	First cleared 1996, freq incursions **STEPPING STONE**	Y	Easy	
Peashopper, Foreman's & Crow's Is			3spp	14	24	15		First cleared 1996, freq incursions. Lost terns **STEPPING STONE**	Y	Easy	

ISLAND	SSSI grouping & citation	SPA Listing	Species present	2000	2006	2015 /16	Trends 2006-2015/16	History of rats	Could support?	Ease of landing	Priority?
Samson	Samson (Listed for seabird interest features COT)	Listed for birds as part of SPA seabird assembl age	6spp 978LB 126HG 27SH **10COT** 15FUL	1309	1310	1163	Down 11% (LB&HG) Lost KIT Only Terns	First cleared 1993, annual incursions, **heavy sign 2015**	Y	Easy	**Terns**
Puffin Island			4spp 35LB 15SH 12HG 4GB	145	174	66	Down 62% (LBs)	First cleared 1994, annual incursions	Y	Medium	
White Island (Samson)			5spp 7SH 31GB 38COR	114	100	96	No change	First cleared 1995, freq. incursions	Y	Difficult	
Green Island (Samson)			0spp.	7	57	0	COT lost	Not in prog, no shelter **STEPPING STONE**	N	Easy	
Round Island	Pentle Bay & Round Is (Listed for seabird interest features COT SP ROS)	Listed for birds as part of SPA seabird assembl age	8spp **78MX 172SP** 16SH 20GB **1PUF** Peregrine?	265	342	302	Down 12% (SP&MX)	Not in prog, rat free 2013. Could support	Y	Difficult	**HIGH**

ISLAND	SSSI grouping & citation	SPA Listing	Species present	2000	2006	2015 /16	Trends 2006-2015/16	History of rats	Could support?	Ease of landing	Priority?
Mincarlo	Norrard Rocks (Listed for seabird interest features COR)	Listed for birds as part of SPA seabird assembl age	7spp. **9SP** 58SH **51PUF** 120RAZ COR lost	294	310	312	No change (SH&SP down, RAZ up)	Not in prog since 2011, unlikely	Poss?	Difficult	**SP PUF**
Scilly Rock			7spp **21SP** 60GUI 70RAZ **35PUF**	152	189	225	Up 19% (RAZ&GUI)	Not in prog since 2011, no shelter	N	Difficult	**SP PUF**
Gweal			6spp. 61SH 72GB 35LB	186	175	185	Up 6% (LB&GB) SH down	First cleared 2000, annual incursions from Bryher but not too close to other Norrard Rocks	Y	Difficult	
Illiswilgig			5spp. 24SH 16GB 8RAZ **52SP**	55	59	103	Increase in SP	Not in prog since 2011, unlikely	N	Difficult	**SP**
Castle Bryher			7spp. **3SP** 26RAZ	59	53	55	No change	Not in prog since 2011, unlikely	N	Difficult	**SP**
Maiden Bower			4spp.	7	1	4		Not in prog since 2011, no shelter	N	Difficult	

ISLAND	SSSI grouping & citation	SPA Listing	Species present	2000	2006	2015 /16	Trends 2006-2015/16	History of rats	Could support?	Ease of landing	Priority?
Rosevear	Western Rocks (Listed for seabird interest features SH)	Listed for birds as part of SPA seabird assembl age	6spp **112SP** 139SH **14PUF** 95GB	285	401	377	Down 6% (SP)	Not in prog since 2011, unlikely	Poss?	Difficult	**SP PUF**
Melledgan			7spp. **97SP** 10COR 128SH **13PUF** 36RAZ	297	295	326	Up 11% (SP&RAZ)	Not in prog since 2011, unlikely	N	Difficult	**SP PUF**
Gorregan			8spp. **32SP** 53RAZ 99GUI 62SH **2PUF**	230	232	264	Up 14% (GUI)	Not in prog since 2011, unlikely	N	Difficult	**SP PUF**
Rosevean			6spp **26SP** 21SH	74	99	61	Down 38% (SP)	Not in prog since 2011, unlikely	N	Difficult	**SP**
Great Crebawethan			0spp.	6	3	0		No shelter	N	Difficult	
Daymark (St. Martin's)	Chapel Down (Listed for KIT)	Listed for birds as part of SPA seabird assembl age	5spp. 46FUL **26MX (new)**	138	80	86	No change Lost KIT new MX	Rats present	Y	Easy	**MX**
Castle Down (Tresco)	Castle Down (not listed for seabird interest features)	Listed for birds as part of SPA seabird assembl age	1spp. **46MX (new)**	170	95	46	Down 52% Lost KIT&Gulls Gimble Porth	Rats present	Y	Easy	**MX**

ISLAND	SSSI grouping & citation	SPA Listing	Species present	2000	2006	2015 /16	Trends 2006-2015/16	History of rats	Could support?	Ease of landing	Priority?
Shipman Head & Down (Bryher	Shipman Head (not listed for seabird interest features)	Listed for birds as part of SPA seabird assembl age	7spp. 13LB 16HG **39MX**	103	59	98	Up 66% (MX and SH)	Rats present	Y	Easy	**MX**
Peninnis (St. Mary's)	Peninnis (not listed for seabird interest features)	Not listed for birds as part of SPA seabird assembl age	1spp. **8MX**	0	0	8	New colony MX	Rats present	Y	Easy	**MX**

Appendix 7

Breeding seabirds in the Isles of Scilly SPA 2015/16

Table 41 summarises change of the seabird assemblage within the Isles of Scilly Special Protection Area (SPA) since the baseline survey in 1999/2000. Although the majority of SSSIs are included in the SPA designated area, Wingletang Down (St Agnes), Peninnis Head (St Mary's) and Rushy Bay & Heathy Hill (Bryher), all of which supported seabirds in 2015, are not (see Table 39). This gives a total of 297 pairs of seabird breeding outside of the SPA of which 269 pairs are outside of the SSSIs.

Table 41 Breeding seabirds in the SPA in 2015/16 and change since classification

SPA Feature (bold) / Species	**Breeding pairs 2015/16**	**Breeding pairs 2006**	**Breeding pairs 2000**	**% change since classification baseline (2000 figures) and 2015/16**
European storm petrel	**1318**	**1398**	**1475**	**10.6% decline**
Lesser black-backed gull	**2461**	**3331**	**3608**	**31.8% decline**
Seabird assemblage	**7969**	**9065**	**9285**	**14.2% decline.**
Fulmar	283	279	183	54.6% increase
Manx shearwater	500	163	201	148.8% increase
Great cormorant	53	50	56	5.4% decrease
European shag	1014	1295	1107	8.4% decline
Herring gull	456	669	871	47.7% decline
Great black-backed gull	941	864	766	22.9% increase
Black-legged kittiwake	0	266	281	100% decline
Common tern	12	78	78	84.6% decline
Sandwich tern	0	1	0	0
Roseate tern	0	0	0	0
Arctic tern	0	0	0	0
Common guillemot	291	155	196	48.5% increase
Razorbill	473	342	296	59.8% increase
Atlantic puffin	167	174	167	No change

Declines in the overall population of the seabird assemblage and of the two SPA notified features (European storm petrel and lesser black-backed gull) are greater inside the SPA than across the islands as a whole. There may be some movement of birds in and out of the SPA; however, all species are showing similar trends.

Four species of seabirds have declined by more than 20% within the SPA since the baseline in 1999/2000: lesser black-backed gull (-31.8%), storm petrel (-10.6%) (both features), loss of kittiwake (-100%), common tern (-84.6%) and herring gull (-47.7%).