



WILDLIFE TRUST OF SOUTH & WEST WALES

SKOMER ISLAND NATIONAL NATURE RESERVE

**ANNUAL REPORT
2018**

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1 Summary

The Wardens (Edward Stubbings and Birgitta Bueche) and Assistant Warden (Sarah Purdon) moved out to the island on 27/02/2018. The Visitor Officer (Sarah Parmor) arrived on 09/03 and Field Worker Julie Riordan joined the team in mid-April. The new wardens Sylwia Zbijewska and Nathan Wilkie arrived beginning of September. The island was occupied continually until 23/11/18.

There were extreme cold snaps between 27/02 and 03/03 and again between 17/03 and 20/03. These had profound effects on wildlife, including huge numbers of waders and thrushes that passed over the island trying to escape the cold, vegetation and infrastructure; burst pipes etc.

It was a slightly later breeding season than the previous year. Puffin numbers reached a record high at 30,895 individuals. Fulmars declined by 14% since the last count in 2016 and Kittiwakes continue to decline. Guillemots were not counted (whole island) in 2018, however the new standard population counts were done at the Wick.

A total of 157 bird species were recorded in 2018 including two new to the island list (Snowy Owl and Alpine Swift) as well as the islands 2nd Bonelli's Warbler.

The numbers of voles in 2018 was considerably lower than in the record year of 2017.

The total of 241 Grey Seal pups were born on Skomer Island in 2018. The survival rate was 77%. The maximum haul-out was 319 animals.

In 2018 the Rabbit numbers were slightly up from 2017 with a mean of 22 per hectare. However due to very lush vegetation in 2017 rabbits might have been under-recorded in the previous year.

The research accommodation was fully booked in the main seabird months and enabled numerous students and researchers from six different universities to study the wildlife on Skomer.

There were 19,482 day visitors and 1,180 hostel guests. The total number of visitors to Skomer continues to increase with numbers up by 8.8% from 2017. Another record year for visitors.

In 2018 there were in total (online, print, broadcast) 342 media pieces about Skomer, furthermore Social media was hugely popular.

We ran multiple events in 2018. The Monday Guided Walks, Shearwater Week, Skomer Hidden Secrets, Yoga Retreat and the History Walk were very popular.

The upkeep of the buildings and infrastructure remained very challenging. A new garage and two new water tanks were built at the Farm.

1.1 WEATHER

An exceptionally cold March and start of April. The summer was generally dry and warm with relatively low rainfall. Locally, the island saw many days of mist and fog and there was a period in the middle of June when boat counts were made impossible due to either wind or fog.

March began with an exceptionally cold easterly wind bringing snow and sub-zero temperatures. It then turned milder and generally wet, then on the 17th/18th another notably cold easterly brought further snow. A brief dry sunny spell followed, the rest of the month was generally wet with low pressure in charge. Temperatures were below average.

April started cold with easterly winds. An unsettled regime persisted for most of the first half of the month. There was a notable sunny warm spell throughout Wales between the 18th and 21st (this was however hampered by fog and drizzle on the island), before turning unsettled and gradually cooler again from the 22nd onwards.

May started off cool and unsettled with westerly winds, but the rest of the month saw plenty of warm sunny weather, with easterly winds common in the second half. The last week, while still warm, was rather unsettled with plenty of rain or showers. Temperatures were above average in a generally dry sunny month.

June was mostly settled and warm until the 12th, with a fair amount of sunshine but also some cloudier days. Westerly winds brought an unsettled spell from the 13th to 20th and it was unseasonably windy on the 14th. However, from the 21st onwards, high pressure brought dry weather and almost unbroken sunshine, and it turned increasingly hot during the last few days. Temperatures were above average, rainfall was well below average.

July was generally dry, sunny and very warm to begin with, and, apart from some isolated rain and drizzle, rainfall was very scarce. The second half of the month was less settled, especially from the 27th onwards. The mean temperature was 2°C above average, rainfall below average and sunshine above average.

August saw frequent mists and drizzle as well some heavier showers towards the end of the month. Mean temperatures were slightly above average, rainfall was close to average and sunshine slightly below average.

September started and ended with predominantly settled weather, and the last week was generally sunny with some notably cold nights for late September. The period from 6th to 22nd was less settled. It was particularly windy between the 18th and 21st with heavy rain on the 18th and 20th. Mean temperatures in September dropped just below average and rainfall was just above average.

October was generally warm and sunny with rain only in the middle (accompanied by strong southerly winds on the 12th and 13th) and towards the end of the month.

November saw higher than average rainfall in Pembrokeshire, which finally raised much depleted water levels after a very dry summer.

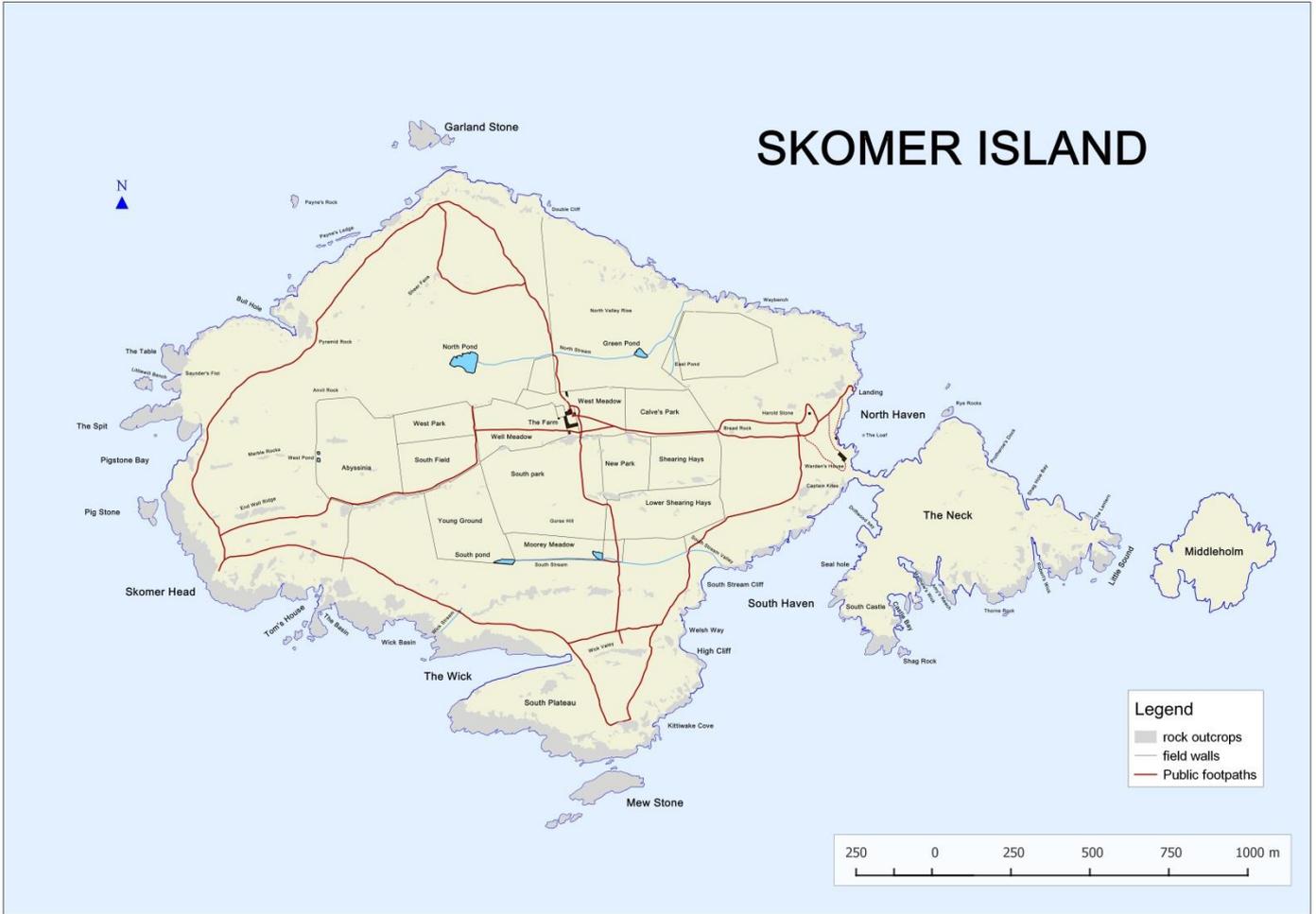


Figure 1 Map of Skomer

2 Monitoring and Recording

2.1 BIRDS

Feature 1: Seabirds

RH0/01 Record human disturbance on the island

Human disturbance was recorded daily during bird log.

RH00/01 Record human disturbance from the sea

Human disturbance from the sea was recorded daily during bird log.

RH00/02 Record all oil pollution incidents

No oil pollution was recorded in 2018.

RA 10/09 Record any significant seabird burrow collapse

No significant seabird burrow collapse was recorded in 2018. After a major Yorkshire Fog die-back in 2016 the island had recovered again and the ground was more stable.

Feature 2: Manx Shearwater

RA/11/01 Monitor Manx Shearwater total population

Lower limit: not set.

Census to be carried out every ten years. Next census scheduled for 2028.

RA 11/02 Monitor Manx Shearwater breeding population in study plots

Lower limit: Any measurable decrease in the population detected in study plots.

Attribute within limits in 2018. For details see JNCC Seabird Monitoring on Skomer Island in 2018, section 5.1.

RA 11/03 Monitor survival rates of breeding Manx Shearwater

Lower limit: 3 in any 5 consecutive years with a survival rate less than 86%.

Attribute not within limit, see table below. For more details see JNCC Seabird Monitoring on Skomer Island in 2018 [C:\Users\WWTUser\Documents\01_Trust,Finance,Admin,Membership, ICAC,H&S\07 Monthly and Annual reports\02 Annual Reports\2016\JNCC Seabird Monitoring on Skomer Island in 2016.docx](C:\Users\WWTUser\Documents\01_Trust,Finance,Admin,Membership,ICAC,H&S\07_Monthly_and_Annual_reports\02_Annual_Reports\2016\JNCC_Seabird_Monitoring_on_Skomer_Island_in_2016.docx) section 5.3.

From	To	Estimated survival of Manx Shearwaters
2010	2011	0.870
2011	2012	0.869
2012	2013	0.892
2013	2014	0.872
2014	2015	0.78*
2015	2016	0.77
2016	2017	0.87

Table 1 Survival rates of adult Manx Shearwaters

*A number of birds not seen in 2015 were relocated in 2017, allowing the 2014-2015 survival estimate to be raised from 0.724 to 0.78.

RA 11/04 Monitor Manx Shearwater productivity

Lower limit: 0.5 chicks per breeding pair.

Attribute not within limits in 2018. Breeding success in 2018 was 0.45, for details see JNCC Seabird Monitoring on Skomer Island in 2018, section 5.2.

RH00/03 Record disturbance to rafting Manx Shearwaters

No disturbance to rafting Manx Shearwaters was observed. However it is very difficult to judge whether rafting Manx Shearwaters get disturbed by for example tankers.

Ellie Ames conducted a very interesting personal project looking at stomach contents of Manx Shearwater to see whether they ingest plastic, see E. Ames Manx Shearwater Plastic Ingestion Study.

Feature 3: Storm Petrel

RA 10/09 Record predation of seabirds by owls

No Little Owl nests were found in 2018.

Feature 4: Lesser Black-backed Gull

RA 11/05 Monitor LBBGU total population

Lower limit: 3 in any 5 consecutive years with less than 20,200 pairs.

Attribute not within limit, see table below.

Year	Lesser Black-backed Gull population
2012	8643
2013	8132
2014	8432
2015	7630
2016	6936
2017	4935
2018	5410

Table 2 *Lesser Black-backed Gull population 2012-2018*

For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 8.2.

RA 11/06 Monitor LBBGU relationship with national trends

See JNCC Seabird Monitoring on Skomer Island in 2018, section 8.2

RA 11/07 Monitor LBBGU annual survival rate

Lower limit: a mean of at least 84% over the preceding 10 year period

Attribute within limits. The mean adult survival rate over the preceding ten years (2007-217) is 0.86 (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 8.4.

From	To	Estimated survival of Lesser Black-backed Gulls
2005	2006	0.870
2006	2007	0.902
2007	2008	0.881
2008	2009	0.920
2009	2010	0.828
2010	2011	0.844
2011	2012	0.835
2012	2013	0.901
2013	2014	0.920
2014	2015	0.824
2015	2016	0.85
2016-	2017	0.79

Table 3 *Survival rates of adult Lesser Black-backed Gulls*

RA 11/08 Monitor LBBGU productivity

Provisional lower limit: 3 in any 5 consecutive years with fewer than 0.6 chicks per breeding pair.

Attribute not within limit: In 2018 productivity was 0.58 chicks per breeding pair, for more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 8.3.

Year	Productivity
2013	0.08
2014	0.57
2015	0.69
2016	0.36
2017	0.59
2018	0.58

Table 4 *Productivity of Lesser Black-backed Gulls*

Feature 5: Black-legged Kittiwake

RA 10/01 Record the impact of severe storms on Kittiwakes

No severe storms were recorded in the 2018 breeding season.

RA 11/09 Monitor Kittiwake island population and distribution of colonies

Lower limit: 3 in any 5 consecutive years with less than 2,000 nests (AONs). There should be no loss of any established colony. (A colony will be considered established when it has contained breeding birds for three years or more).

Attribute not within limit, see table below, however there was no loss of any established colony.

Year	Kittiwake population (AON)
2012	1594
2013	1045
2014	1488
2015	1546
2016	1477
2017	1336
2018	1236

Table 5 *Kittiwake population in 2012-2018*

For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 11.1.

RA 11/10 Monitor Kittiwake relationship with national trends

See JNCC Seabird Monitoring on Skomer Island in 2018, section 11.1.

RA 11/11 Monitor long-term survival rate of Kittiwake

Lower limit: 3 in any 5 consecutive years with a survival rate of less than 85%.

Attribute within limits. The mean adult survival rate over the preceding 10 year period (2007-2017) is 0.86 (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 11.4.

From	To	Estimated survival of Kittiwakes
2005	2006	0.842
2006	2007	0.679
2007	2008	0.773
2008	2009	0.767
2009	2010	0.952
2010	2011	0.921
2011	2012	0.809
2012	2013	0.933
2013	2014	0.779
2014	2015	0.798
2015	2016	0.89
2016	2017	0.96

Table 6 *Survival rates of adult Kittiwakes*

RA 11/12 Monitor Kittiwake breeding productivity

Lower limit: 3 in any 5 consecutive years with less than 0.7 chicks per breeding pair.

Attribute not within limit: In 2018 the productivity was 0.66, for more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 11.2.

Year	Productivity
2013	0.33
2014	0.64
2015	0.76
2016	0.65
2017	0.33
2018	0.66

Table 7 *Productivity of Kittiwake*

Feature 6: Puffin

RA 11/13 Monitor total Puffin population and distribution of colonies

Lower limit: 3 in any 5 consecutive years with less than 12,500 individuals. There should be no loss of any established colony. (A colony will be considered established when it has contained breeding birds for three years or more.)

Attribute within limit, see table below.

Year	Puffin population
2012	11497
2013	19280
2014	18237
2015	21349
2016	22539
2017	25227
2018	30895

Table 8 *Puffin population 2012-2018*

For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 14.1.

RA 11/14 Monitor Puffin relationship with national trends

See JNCC Seabird Monitoring on Skomer Island in 2018, section 14.1.

RA 11/15 Monitor annual survival rate of Puffins

Lower limit: The mean adult survival rate should not fall below 86% over the preceding 10 year period.

Attribute within limits: The mean adult survival rate over the preceding 10 year period (2007-2017) was 0.89 (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 14.6.

From	To	Estimated survival of Puffins
2005	2006	0.881
2006	2007	0.870
2007	2008	0.848
2008	2009	0.940
2009	2010	0.933
2010	2011	0.863
2011	2012	0.945
2012	2013	0.925
2013	2014	0.714
2014	2015	0.905
2015	2016	0.92
2016	2017	0.91

Table 9 *Survival rates of adult Puffins*

RA 11/16 Monitor annual Puffin breeding productivity

Lower limit: 3 in any 5 consecutive years with less than 80% success.

Attribute not within limits, (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 14.2.

Year	Puffin breeding productivity
2012	0.85
2013	0.78
2014	0.53
2015	0.66
2016	0.78
2017	0.77
2018	0.62

Table 10

Puffin productivity

Feature 7: Guillemot

RA 10/02 Record timing of Guillemot breeding

See JNCC Seabird Monitoring on Skomer Island in 2018, section 12.4.

RA 11/17 Monitor the total Guillemot population and distribution of colonies

Lower limit: 3 in any 5 consecutive years with less than 21,600 individuals. Lower limit: There should be no loss of any established colony. (A colony will be considered established when it has contained breeding birds for three years or more.).

Attribute within limits in 2017, see table below. Guillemots were not censused in 2018. For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 12.1.

Year	Guillemot population
2012	22508
2013	20862
2014	23493
2015	23746
2016	not censused
2017	24788
2018	not censused

RA 11/18 Monitor Guillemot population in study plots

No significant changes in the population were found within the study plots between 2017 and 2018. For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 12.2.

RA 11/19 Monitor Guillemot relationship with national trends

See JNCC Seabird Monitoring on Skomer Island in 2018, section 12.1.

RA 11/20 Monitor annual survival rate of breeding Guillemots

Lower limit: 3 in any 5 consecutive years with a survival rate less than 85%.

This study was undertaken by The University of Sheffield, under the supervision of Professor Tim Birkhead, for over 40 years. Unfortunately, in 2014, funding from Natural Resources Wales (NRW) was withdrawn from this study, hence no detailed results are available. Results from fieldwork in 2018 suggest that survival rates fell slightly for the second year running.

RA 11/21 Monitor annual Guillemot productivity at the Amos

Breeding success on the Amos was 0.82, which is close to the average of previous years.

For more details see JNCC Seabird Monitoring on Skomer Island in

[2018C:\Users\WWTUser\Documents\01 Trust, Finance, Admin, Membership, ICAC, H&S\07 Monthly and Annual reports\02 Annual Reports\2016\JNCC Seabird Monitoring on Skomer Island in 2016.docx](#),

Appendix 1.

RA 11/22 Monitor Guillemot chick diet

Lower limit: 3 in any 5 consecutive years with less than 70% Clupeids in diet or less than 3.0 feeds per chick per day.

Chicks were fed predominantly on clupeids and of 19 clupeids collected directly from Guillemots feeding chicks all were sprats (not herring), together with some sandeels and one gadid.

The study of Guillemot chick diet is being conducted by Tim Birkhead (Sheffield University) and due to funding cuts detailed data on chick diet of Guillemots is not available anymore, hence the information on whether this attribute is within limits or not is lacking. For more details see JNCC Seabird Monitoring on Skomer Island in 2018, Appendix 1.

RA 11/23 Monitor Guillemot annual breeding productivity

Lower limit: 3 in any 5 consecutive years with less than 0.8 chicks per breeding pair.

Attribute not within limits (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018 [C:\Users\WWTUser\Documents\01_Trust.Finance.Admin.Membership.ICAC.H&S\07_Monthly and Annual reports\02 Annual Reports\2016\JNCC Seabird Monitoring on Skomer Island in 2016.docx](C:\Users\WWTUser\Documents\01_Trust.Finance.Admin.Membership.ICAC.H&S\07_Monthly_and_Annual_reports\02_Annual_Reports\2016\JNCC_Seabird_Monitoring_on_Skomer_Island_in_2016.docx), section 12.3. The breeding success at the Amos was 0.82, For more details see JNCC Seabird Monitoring on Skomer Island in 2018, Appendix 1

Year	Productivity per active + regular site	Productivity per active site only
2010	0.67	0.74
2011	0.52	0.59
2012	0.58	0.65
2013	0.63	0.75
2014	0.61	0.62
2015	0.76	0.76
2016	0.63	0.63
2017	0.66	0.69
2018	0.73	0.76

Table 11 *Guillemot productivity*

Feature 8: Razorbill

RA 11/24 Monitor Razorbill population and distribution of colonies

Lower limit: 3 in any 5 consecutive years with less than 5000 individuals: There should be no loss of any established colony. (A colony will be considered established when it has contained breeding birds for three years or more.)

Attribute within limits (see table below).

Year	Razorbill population
2012	4971
2013	6663
2014	6541
2015	7489
2016	7250
2017	not censused
2018	7529

Table 12 Razorbill population 2012-2018

RA 11/25 Monitor Razorbill population in study plots

In 2018 there was a decline of less than one percent in the total number of Razorbills counted across all the study plots from last year, and a decline of 5% from the five-year mean (2013 – 2017). Caution is suggested when comparing this year's count data with other years due to the change of size in the High Cliff study plot. For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 13.2.

RA 11/26 Monitor Razorbill relationship with national trends

Nationally there have been losses at colonies in Scotland, however the important colonies in England Wales (incl. Skomer) and Northern Ireland have all increased. The index has risen since 2010, with 2015 having the highest index value since the baseline began in 1986, although wide confidence intervals suggest this apparent increase should be treated with caution.

RA 11/27 Monitor long-term variation in annual survival rate of breeding Razorbills

Lower limit: 3 in any 5 consecutive years with less than 90% adult survival.

Attribute within limits (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 13.5.

From	To	Estimated survival Razorbill
2010	2011	0.970
2011	2012	0.939
2012	2013	0.981
2013	2014	0.599
2014	2015	0.947
2015	2016	0.87
2016	2017	0.85

Table 13 Survival rates of adult Razorbills

RA 11/28 Monitor annual Razorbill productivity

Lower limit: To be developed.

The Razorbill productivity in 2018 was 0.61 for active and regular sites and 0.64 for active sites only (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 13.3.

Year	Productivity per active + regular site	Productivity per active site only
2010	0.37	0.48
2011	-	-
2012	0.19	0.23
2013	0.34	0.42
2014	0.27	0.28
2015	0.37	0.39
2016	0.41	0.42
2017	0.48	0.52
2018	0.61	0.64

Table 14 *Razorbill productivity*

Feature 9: Fulmar

RA 11/29 Monitor Fulmar population and distribution of colonies

Lower limit: 3 in any 5 consecutive years with less than 650 apparently occupied nests.

Attribute not within limits (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section .3.1.

Year	Total AON
2012	453
2013	503
2014	556
2015	584
2016	675
2017	not censused
2018	578

Table 15 *Fulmar population*

RA 11/30 Monitor Fulmar relationship with national trend

The abundance of Fulmars breeding in the UK reached a peak in 1996 but appears to have been declining since then. Numbers have fallen in all areas although the greatest declines appear to be at colonies in the north and west of the UK. After an increase which mirrored the national trend Skomer's Fulmars started declining in 2005 but in contrast to the national trend the population since has stabilised and increased from 2012 to 2016. However the population decreased between 2016 and 2018.

RA 11/31 Monitor Fulmar annual productivity

Lower limit: 3 in any 5 consecutive years with less than 0.5 chicks per apparently occupied site.

Attribute not within limit (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 3.2.

Year	Productivity
2012	0.44
2013	0.33
2014	0.46
2015	0.35
2016	0.43
2017	0.41
2018	0.3

Table 16 *Fulmar productivity*

Feature 10: Cormorant

RA 11/32 Monitor Cormorant population and distribution of colonies

Lower limit: 3 in any 5 consecutive years with less than 8 pairs.

Attribute not within limit (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 6.1.

The Cormorant colony on Skomer moved completely, from the Mew Stone, to Middleholm (where there were 11 nests in 2017).

Year	No of AON
2012	4
2013	7
2014	6
2015	7
2016	4
2017	0
2018	0

Table 17 *Cormorant population*

RA 11/33 Monitor Cormorant annual productivity

In 2018 Cormorant productivity on Middleholm was not established.

Feature 11: Shag

RA 11/34 Monitor Shag population and distribution of colonies

Lower limit: 3 in any 5 consecutive years with less than 3 pairs.

Attribute within limit (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 7.1.

Year	No of AON
2012	5
2013	5
2014	1
2015	4
2016	6
2017	5
2018	6

Table 18 *Shag population*

RA 11/35 Monitor Shag annual productivity

In 2018 no accurate data was collected on the breeding success of the Double Cliff colony. However Shag productivity was established for Middleholm. The Shag productivity on Middleholm was 2.38 which is very similar to last year's figure although it is possible that not all nests were found. For more details see JNCC Seabird Monitoring on Skomer Island in 2018 <C:\Users\WWTUser\Documents\01 Trust, Finance, Admin, Membership, ICAC, H&S\07 Monthly and Annual reports\02 Annual Reports\2016\JNCC Seabird Monitoring on Skomer Island in 2016.docx>, section 7.2.

Feature 12: Herring Gull

RA 11/36 Monitor Herring Gull population and distribution of colonies

Lower limit: 3 in any 5 consecutive years with less than 440 apparently occupied nests, there should be no loss of any established colony. (A colony will be considered established when it has contained breeding birds for three years or more.)

Attribute not within limit (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 9.1. No loss of colony noted.

Year	No of AON
2012	401
2013	
2014	440
2015	377
2016	321
2017	297
2018	365

Table 19 *Herring Gull population*

RA 11/37 Monitor Herring Gull relationship with national trends

See JNCC Seabird Monitoring on Skomer Island in 2018, section 9.1.

RA 11/38 Monitor long-term variation in annual survival rate of breeding Herring Gulls

Lower limit: a mean of at least 84% over the preceding 10 year period.

Attribute not within limit (see table below). The annual survival rate mean over the preceding ten years (2007-2017) is 0.81%. For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 9.3.

From	To	Estimated survival Herring Gull
2005	2006	0.781
2006	2007	0.806
2007	2008	0.891
2008	2009	0.880
2009	2010	0.692
2010	2011	0.798
2011	2012	0.752
2012	2013	0.751
2013	2014	0.971
2014	2015	0.800
2015	2016	0.77
2016	2017	0.75

Table 20 *Survival rates of adult Herring Gulls*

RA 11/39 Monitor Herring Gull annual productivity

Lower limit: 3 in any 5 consecutive years with less than 0.7 chicks per breeding pair.

Attribute not within limit (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 9.2.

Year	Productivity
2012	0.50
2013	0.86
2014	0.52
2015	0.69
2016	0.52
2017	0.72
2018	0.36

Table 21 *Herring Gull productivity*

Feature 13: Great Black-backed Gull

RA 10/03 Record seabird predation by GBBGU

See JNCC Seabird Monitoring on Skomer Island in 2018, section 10.3.

RA 11/40 Monitor GBBGU population

Lower limit: 3 in any 5 consecutive years with less than 100 pairs.

Attribute within limit (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 10.1.

Year	No of AON
2012	96
2013	84
2014	107
2015	123
2016	108
2017	120
2018	120

Table 22 *Great Black-backed Gull population*

RA 11/41 Monitor GBBGU relationship with national trend

See JNCC Seabird Monitoring on Skomer Island in 2018, section 10.1.

RA 11/42 Monitor GBBGU annual productivity

Lower limit: 3 in any 5 consecutive years with fewer than 1.2 chicks per apparently occupied nest.

Attribute within limit (see table below). For more details see JNCC Seabird Monitoring on Skomer Island in 2018, section 10.2.

Year	Productivity
2012	0.92
2013	1.56
2014	1.88
2015	1.65
2016	1.44
2017	1.32
2018	1.92

Table 23 *Great Black-backed Gull productivity*

Feature 14: Short-eared Owl

RA 11/43 Monitor Short-eared Owl population and distribution of nests

Up to six pairs bred, which is two more than 2017 and the highest total since 2009. For more details see 2018 Skomer Island Bird Report.

Feature 15: Chough

RA 10/04 Record Chough productivity

Lower limit: lower limit: 3 out of any 5 consecutive years with less 3 breeding pairs.

Attribute within limit (see table below). For more details see Annual surveillance of choughs 2018 S & S Islands SPA and 2018 Skomer Island Bird Report.

Year	No of AON
2012	4-5
2013	3
2014	3
2015	3
2016	4
2017	3
2018	5

Table 24 Chough population

RA 11/44 Monitor Chough population and location of nests

In 2018 five pairs appear to have attempted to breed at the Lantern, South Castle Beach Cave, the Wick, the Basin and Paynes Ledge. For more details see 2018 Skomer Island Bird Report.

RA 11/45 Monitor Chough relationship with national trends

The result of the 2014 national census which was coordinated by the RSPB unfortunately has not been published, hence a comparison is not possible at this time.

Feature 16: Peregrine

RA 11/46 Monitor Peregrine population and distribution of nests

In 2018 one pair bred on Skomer at Protheroe's Dock. For more details see 2018 Skomer Island Bird Report.

RA 11/47 Monitor Peregrine relationship with national trends

From 2008 until 2017 the Peregrine population on Skomer was stable with three pairs nesting. However in 2018 the number of breeding pairs was down to one.

In 2014 the BTO organised a national Peregrine survey. Preliminary analysis of the data from the 2014 Peregrine Survey, carried out in the UK and the Isle of Man, estimates the overall number of breeding pairs at 1,505. Estimates for Wales, Scotland and the Isle of Man are lower than those from the previous survey, while those for Northern Ireland and England are higher.

Area	2002	2014	% change
Wales	283	249	-12
Scotland	571	509	-11
England	470	628	+34
Isle of Man	31	23	-26
Northern Ireland	82	96	+17
Total	1437	1505	+5

Table 25 Provisional estimates of the UK and IoM peregrine population (numbers of breeding pairs) 2014

Feature 17: Bird assemblage not qualifying

Bird migration is followed by the wardens, staff, volunteers, researchers, overnight guests and anyone with an interest in the subject and recorded in the daily birdlog. The subject can provide a large part of island chitter chatter and a good day of migration can make for an interesting evening log. Birdlog is also an integral part of the overnight 'experience' on Skomer and many overnight guests of all ages and abilities enjoy taking part and adding their sightings.

In 2018, as in the previous years, the island staff put together a comprehensive bird report for the island, see 2018 Skomer Island Bird Report which makes extremely interesting reading. It covers all species and summarises their status and details from 2018, including breeding numbers and/or maximum counts and last occurrences. Breeding seabirds are perhaps better covered in the JNCC Seabird Monitoring on Skomer Island in 2018 report but for non-breeding/migrant seabirds and all other birds (residents and migrants) it brings together all records in a single easily read document.

RA 10/10 Annual census of breeding Oystercatcher

In 2018 60 breeding pairs were confirmed. For more details see 2018 Skomer Island Bird Report and D. Fairweather Oystercatcher Productivity Monitoring Report 2018.

RA 10/11 Annual census of breeding Curlew

Three pairs once again attempted to breed on the island in 2018. Display flights were centred around the usual inland breeding sites between the Wick and Bull Hole. Unfortunately, no aggressive behaviour towards other birds (indicating the laying of eggs), or alarming (indicating hatching), was noted at all in 2018

RA 10/05 Record bird populations which are not qualifying features

The annual Breeding Bird Survey was conducted in 2018. Furthermore all wildlife sightings were noted in a daily log. For more details see 2018 Skomer Island Bird Report.

Feature 18: Little Owl

RA 10/06 Annual census of Little Owl

No Little Owls bred on Skomer in 2018. Only on two occasions were Little Owls observed during 2018. For more details see 2018 Skomer Island Bird Report.

Feature 19: Canada Goose

RA 10/07 Annual census of breeding Canada Goose

A total of 15 pairs nested on the island in 2018, a decrease of 30% on the 22 pairs in 2017. For more details see 2018 Skomer Island Bird Report.

RA 10/08 Record Canada Geese in winter/non-breeding population

Canada Geese were recorded in the daily bird log throughout the season.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Max count	45	25	31	27	38	13	117	130	27

Table 26 Canada Goose counts

Constant Effort Site

The CES (Constant Effort Site) study (a scheme operated by the British Trust of Ornithology (BTO) continued in 2018, delivered by island staff. This study looks into the adult survival and breeding success of passerines, particularly migrant warblers by use of standardised ringing. This involves ringing for a set period of time once in every ten day period between May and August and recording the species, age and measurements of all birds caught. The main species involved on Skomer are Sedge Warblers and Common Whitethroats. The data is then inputted onto the BTO's database and used in their analysis and report on The State of the UK's Birds.

Nest recording was also carried out on the island to add to productivity and breeding data.

2.2 MAMMALS

Feature 20 Skomer Vole

RA 00/04 Record population of Skomer Voles in study plot

The numbers of voles in 2018 was considerably lower than in the record year of 2017. Tim Healing conducted his annual monitoring in August and found 180 voles/Ha in Grid C (North Stream Valley), and 48 voles/Ha in Grid E (Centre of Island), see Fig 2.

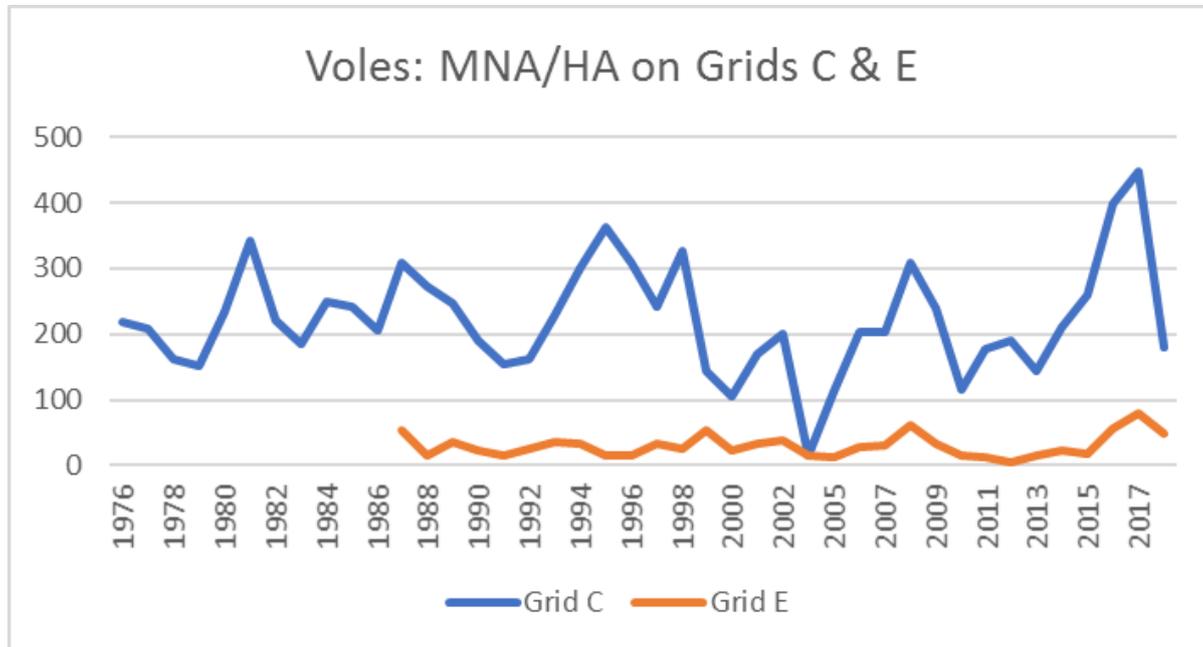


Figure 2 Minimum number of voles known to be alive/Ha in August on Grid C (1976-2018) and Grid E 1987-2018

The mean population size on Grid C (1976-2018) is 224/Ha, the mean population size on Grid E (1987-2018) is 29/Ha. Numbers are always high at the end of the breeding season (Sept/Oct), decline throughout the winter and are lowest at the start of the breeding season (May/June).

Feature 21 Grey Seal

Grey Seal productivity was monitored by WTSWW under NRW contract as an Marine Conservation Zone (MCZ) project. B. Büche and E. Stubbings carried out this work. Furthermore S. Purdon, S Parmor and Long Term Volunteers helped collect the data. The report was submitted to NRW, for more details see Skomer Seal Report 2018.

RA00/01 Casual observation of seal behaviour

See Skomer Seal Report 2018.pdf section 8.

RA00/02 Identification of individual breeding and hauled-out seals

See Skomer Seal Report 2018.pdf section 10.

RA 00/06 Record any significant impact of severe storms on the seal population

No severe storm events were noted in 2018.

RA 01/01 Monitor seal pup births and survival

The total of 241 pups born on Skomer Island is the highest total ever recorded. One hundred eighty-one pups are known, or assumed, to have survived on Skomer (the fate of six pups is unknown), giving a survival rate of 77%. For more details see Skomer Seal Report 2018 section 4.2.

RA 01/02 Monitoring seal attendance at haul-outs

In 2018 the maximum haul-out (on the main haul-out sites) of 319 animals was recorded on 13 November 2018, 25 days later than in the previous year. This is 14 more than last year's maximum count. For more details see Skomer Seal Report 2018 section 5.

Tom Lloyd did his Long-term volunteer project on seals. He monitored hauled out grey seals for any signs of plastic entanglement, see "T. Lloyd Plastic entanglement in the seals on Skomer Island".

Cetaceans

Standardised hour-long cetacean watches were conducted from the Garland Stone and Skomer Head when time allowed. These were carried out to Sea Trust methodology by weekly volunteers. The 2018 data was sent to the Sea Trust, CBMWC and the Marine Conservation Zone (MCZ) staff.

All cetacean sightings were recorded in the daily wildlife log.

Rabbits

See Feature 27:Vegetation

2.3 INVERTEBRATES

Feature 24: Lepidoptera

RA40/01 Annual butterfly transect

The island butterfly transect was carried out once a week between April and the end of September. The butterfly transect data were entered online on to the Butterfly Conservation website.

Moths

Regular moth trapping was carried out at the Farm and North Haven during the season. Moth trapping on Skomer has a long history and there are some interesting species on the island. Furthermore it is a fabulous people engagement tool, hence well worth keeping up. All moth records were saved on the Skomer Warden computer under Natural History/Invertebrates and were also sent to the county moth recorder.

Herpetiles

Slow Worms, Common Lizards, Common Frogs, Common Toads and Palmate Newts, as well as any small mammals found under the refugia were monitored by weekly volunteers when time allowed. The outer island transect (set up in 2013) was discontinued as the refugia had disintegrated. Furthermore the value of the transect was in doubt, especially when considering the time it took to do the survey and the data entry. The data was sent to ARC (Amphibian and Reptile Conservation) Trust.

2.4. LICHENS

Feature 25:Lichen assemblage

RF50/01 Record lichen quadrats

Project needs to be developed

RF50/02 *Teloschistes flavicans* photo surveillance

Project needs to be developed

The population of *Teloschistes flavicans* was present on the rocks at the top of the Amos and seems healthy.

2.5 VEGETATION

Feature 27:Vegetation

RA 00/05 Annual Rabbit census

Monthly Rabbit counts were done in the study plots on the central fields, the Wick grasslands and South Plateau. In 2018 the Rabbit numbers were slightly up from 2017 with a mean of 22 per hectare. However due to very lush vegetation in 2017 rabbits might have been under-recorded in the previous year.

Plot	March	April	May	June	July	August	September	October
Plot 1+2+3	15	27	37	20	8	18	19	9
Plot 4	15	30	29	22	7	20	15	14
Wick Grassland	31	32	22	14	19	30	31	16
South Plateau	38	50	37	25	27	48	31	35

Table 27 Rabbit Numbers in 2018

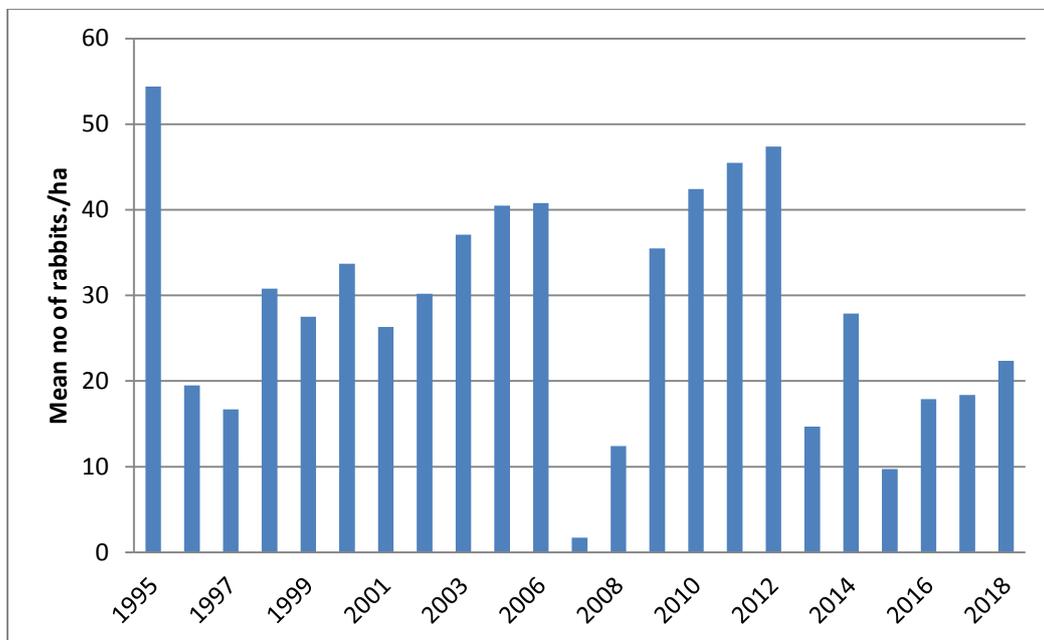


Figure 3 Mean number of Rabbits per hectare

Long-term Volunteer Harriet Sleight undertook a very interesting research project investigating how seabirds affect the nutrient status of the soils and how this might influence vegetational patterns across the island, see H. Sleight Skomer Soil Study

RF00/01 High resolution aerial photography

In 2018 no aerial photography surveys were conducted.

RF01/02 Fixed point photography

Project needs to be developed.

RF01/01 Permanent vegetation quadrats

In 2018 no new vegetation quadrats were found and the existing ones were not monitored. However, monitoring was done in 2017 by T. Faulkner and should be repeated on a regular basis, possibly every five to ten years.

RF20/01 Map the distribution of Bracken

The distribution of Bracken was not monitored in 2018. However in September 2017 a low level high resolution aerial photographic survey was done.

RF20/02 Map the distribution of Bluebell

No mapping of Bluebells was done in 2018, however the spring 2017 low level high resolution aerial photographic survey was used to provide an accurate map of bluebell distribution.

RF20/03 Map the distribution of Red Campion

No progress in 2018. This should be given some attention; the cover of campion has increased rapidly over the past decades, possibly as a consequence of guano enrichment.

RF20/04 Map the distribution of Ragwort

There was basically no Ragwort present in 2018. Cinnabar moths were seen leaving the island in search of Ragwort to lay their eggs. In 2017 vast numbers of Cinnabar caterpillars were present, literally covering footpaths and devouring the majority of Ragwort plants.

RF20/05 Record rare plants

Historic sites were checked in 2018 for the following rare plants:

- *Ranunculus tripartitus* *Three-lobed Water Crowfoot*
- Rock Sea Lavender *Limonium binervosum*
- Portland Spurge *Euphorbium portlandica*
- Lanceolate Spleenwort *Asplenium obovatum*

As far as possible, all locations where these three species had been previously recorded were visited. Locations not found or visited in 2018 are noted. Grid references were recorded as far as possible for these sites – in following years it would be good to complete this record.

We attempted to continue the pattern of recording area/number of flowering stems/number of individuals/specific size categories that previous recorders had used. An Excel spreadsheet for recording findings was created (attached) as well as a summary table of survey locations (below).

More details on ID for Portland spurge and a sheet detailing locations for this species in North Haven were created (attached).

Recommendations

Due to difficulties in accessing some of the sites, the limited botanical expertise of the LTV surveyors, and variation in monitoring methods over the years, we would make the following recommendations/suggestions:

It would be good to have an experienced botanist confirm the identification and current extent of these species, and provide input as to other similar species found growing nearby and the key diagnostic features required to distinguish between them, to aid future monitoring efforts.

Use of a telescope to more clearly observe inaccessible locations, or roped protection (as for seal surveys) for surveying steeper cliff edges where access is otherwise difficult or dangerous.

Develop a clear monitoring protocol as to how best to monitor population change – whether to record area covered, number of individuals, number of flowering stems, number of ‘clumps’ and if so how to define a ‘clump’, or splitting individuals into different size categories and if so, what these should be.

Fixed point photography: Potentially could make a quadrat, and lower down cliff side on string/rope, then take photo using this for scale (use white/red/yellow material – bright enough to show in photo). Record grid ref of location photo taken from – ideally mark on ground so can use same fixed location in subsequent years.

Once confident with the identification of these species, it might be worth searching in other locations to see if the distribution has expanded.

Species	Site	Description	Grid reference	Viewed from	Notes	2018 findings
Three-lobed Water Crowfoot <i>Ranunculus tripartitus</i>	Wick Stream			Wick Stream	Might need to be checked regularly for flowering plants from March till mid-May	A few plants were found at the beginning of the season, however none of them were flowering
Rock Sea Lavender <i>Limonium binervosum</i>	South Castle 1	East gully	736 089	Further east		> 300 flowering stems, approx. 3m ²
	South Castle 2	West gully	736 089	The rocky promontory above East gully		300 – 400 flowering stems, approx. 3m ²
	South Castle 3	Further south & east than main site	?	Further east		Did not manage to locate this in 2018, but possibly <u>above South Castle Beach Cave</u> – check photo with location
Portland Spurge <i>Euphorbia portlandica</i>	Roberts Wick E		74133 09173	W side	This may need to be further round. Might need telescope to view from W side, but safer (!). Also not sure if this is the location previously recorded.	Possibly 3 small non-flowering individuals < 10 cm. Seen from E side but very close to edge.
	Roberts Wick W		74101 09157	E side		None seen 2018
	W of Thorn Rock		?		2005 site half-way between Amy's Reach and Thorn Rock	Site not located in 2018
	South Castle		73524 08916		Grid ref only reliable to 6-figures as species not confidently identified	Possibly 3 non-flowering individuals < 10 cm. May have been more but not confident of ID at time as not flowering.
	North Haven (above track)	3 locations found in 2018: (1) 13m up track from lifesaving float (2) On ground underneath float (3) 4m left of float in small rocky niche	(1) 73331 09327 (2) 73488 09481 (3) 73486 09481	Track		(1) 30x30cm area, 10 individuals <10cm, 8 ind. 10-30cm (2) 2 ind. <10cm, 3 ind. 10-30cm (3) 1 ind. <10cm, 2 in. 10-30cm
	North Haven (below track)	On rocky/blocky wall 4 m N of float			Best seen from base of cliff	2 ind. <10cm, 2 ind. 10-30cm
North Haven (E of boat shed)	E of boat shed			Track	None found here in 2018	
Lanceolate Spleenwort <i>Asplenium obovatum</i>	North Haven Lime Kiln	In Lime Kiln	73506 09585			6 individuals (5 <10cm, 1 >10cm)
	North Haven Sales Point	On bank from Sales point to approx 13m up track towards farm	735 095	Track		Lots, almost continuous along this bank, spreading. Some immature, some mature with spores.
	North Haven outcrop above Sales Point		?			Site not located 2018

Table 28 Rare plants in 2018

RF20/06 Map the distribution of Heath

In 2018 no Heath mapping was done, however the 2017 low level high resolution aerial photographic survey was used to provide an accurate map of heath distribution.

RF20/07 Map the distribution of Thrift

In 2018 no Thrift mapping was done, however the 2017 low level high resolution aerial photographic survey was used to provide an accurate map of thrift distribution.

RF20/08 Map the distribution of Sea Campion.

In 2018 no Sea Campion mapping was done, however the 2017 low level high resolution aerial photographic survey was used to provide an accurate map of sea campion distribution.

Record of significant damage to vegetation

No significant damage to vegetation was recorded in 2018.

NPMS

In 2015 we started to contribute to the National Plant Monitoring Scheme (NPMS) and the monitoring continued in 2018. In spring and late summer, five plots are being surveyed and the data uploaded onto the NPMS web page.

3 Research

In 2018 Tim Birkhead's long term study (40+ years) on the breeding success and adult survival of Guillemots on Skomer was continued. From 2019 onwards the project will be headed by Steve Votier, University Exeter. Fortunately Tim was able to raise £100 000 via crowd-funding so the project will be able to continue for years to come. The Skomer team would like to thank Tim for all his advice and support over the years.

2018 was also the final year of Tim's Leverhulme-funded egg project: he photographed and measured egg shape for a sample of guillemot and razorbill eggs — currently being analysed.

In 2018, OxNav continued their long-term geolocator tracking of Manx shearwaters. Using geolocators has allowed them, over the past few years, to examine the migratory behaviour of shearwaters. Furthermore they continued to deploy GPS and GLS devices on Skomer Island during incubation and chick-rearing. The study was coordinated with tracking campaigns on Copeland Island, in Northern Ireland. A study by Martyna Syposz investigated (i) whether initial orientation of fledglings as they leave Skomer is already in the direction of the over-wintering grounds (south), and (ii) whether this initial orientation might be under the control of a magnetic compass. Furthermore Martyna conducted a study which involved using a thermal camera to investigate the influence of different colour and intensity of light pollution on behaviour of Manx shearwaters. Another Oxford University study researched the coordination of provisioning in Manx shearwaters during chick rearing. This involved analysing the frequency and timing of provisioning visits by the parents in combination with sound recordings of chick begging to identify whether experimental manipulations of chick begging behaviour generated a change in provisioning behaviour. Natasha Gillies looked at responses to experimentally increased foraging costs in Manx shearwaters. In order to research the ontogeny of navigation in the Manx shearwater Joe Wynn fitted leg-mounted PIT (RFID) tags to 63 Manx Shearwater pulli which recorded their pre-fledging movements in and out of their burrow. Moreover camera traps were deployed on burrows to identify the time of entrance and exit from the burrow for all chicks.

As part of a larger project aiming to investigate the foraging ecology of Puffins and determine the causes of declines of their populations across the North Atlantic, Annette Fayet tracked the foraging movements of 10 Skomer Puffins in 2018, followed by bouts of Puffin tracking in Norway and Iceland. She also recovered 18 geolocators from breeding puffins which had been deployed in previous years. Furthermore Annette's team collected faecal samples from ~40 adult and chick puffins and samples from the soil of their nest as part of the undergraduate project of Oxford student Thomas Miller. Thomas then analysed the samples in the lab at Oxford.

Olivia Howorth from University of Gloucestershire received Grey Seal scats (collected by the Skomer team) to investigate the quantity of macro and microplastics within a Grey Seal population.

Laura Hutt University of Gloucestershire assisted by Long-term Volunteer Ellie Ames surveyed Manx shearwaters for microplastics, directly from the examination of the stomach contents of recently and naturally deceased birds, and indirectly from the examination of the soil from shearwater burrows. Furthermore Laura and Ellie collected small (2mm³) tissue samples from recently but naturally deceased shearwaters to produce high quality DNA required for genome sequencing.

Emmanouil Lempidakis from Swansea University was studying auk colony locations on Skomer and in particular Guillemot and Razorbill colonies. His research addressed the scientific question: To what extent the selection of colony locations and in addition the choice of avoiding specific areas, is influenced and can be explained by the different wind characteristics occurring on the island.

Samantha Patrick and Kate Hogan from University of Liverpool conducted a study on Puffins which aimed to address whether there are behavioural and stress differences between disturbed and non-disturbed nesting sites, linked to high and low visitor presence at sites, early and late season.

Dr Toby Driver from the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) carried out a survey of the northern prehistoric cairn group on Skomer over two days in April 2018. From September 25th-28th 2018 the RCAHMW in cooperation with University of Sheffield and Cardiff University

dug a small evaluation trench across the ditch revealed by geophysics in the centre of the island west of the old farm.

4 Visitors

4.1 DAY VISITORS

Skomer opened to the public on Good Friday, which was 30th March in 2018. This season was generally settled with a long fine spell of weather during June and July. September was rather stormy with 11 cancelled boat days. In total there were 36 cancelled boat days compared to 30 in 2017.

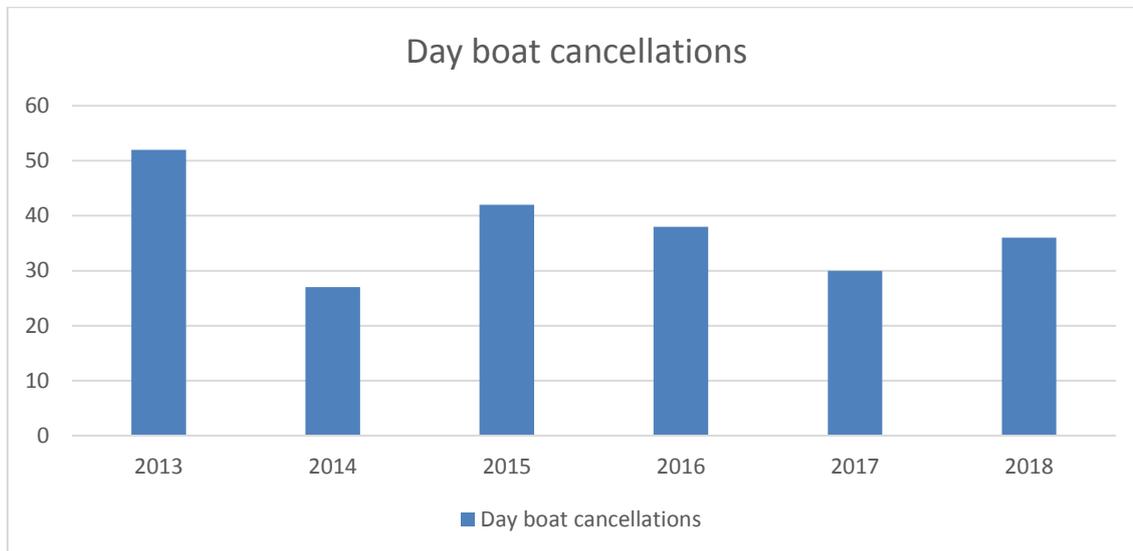


Figure 4 Number of day boat cancellations 2013-2018 (excl. Mondays as island is shut)

Even though there were more cancelled boat days we still welcomed a record number of day visitors to Skomer in 2018. There were 19,482 day visitors compared to 17,910 in 2017. This would be helped by the fine weather during June and July especially given that Easter was early this year, before the Puffins had returned to the island.



Figure 5 Number of day visitors in 2018

2018 was also the busiest year to date for overnight guests. There were 1,180 hostel guests this year compared to 1076 in 2017.

The total number of visitors to Skomer still continues to increase with numbers up by 8.8% from 2017.

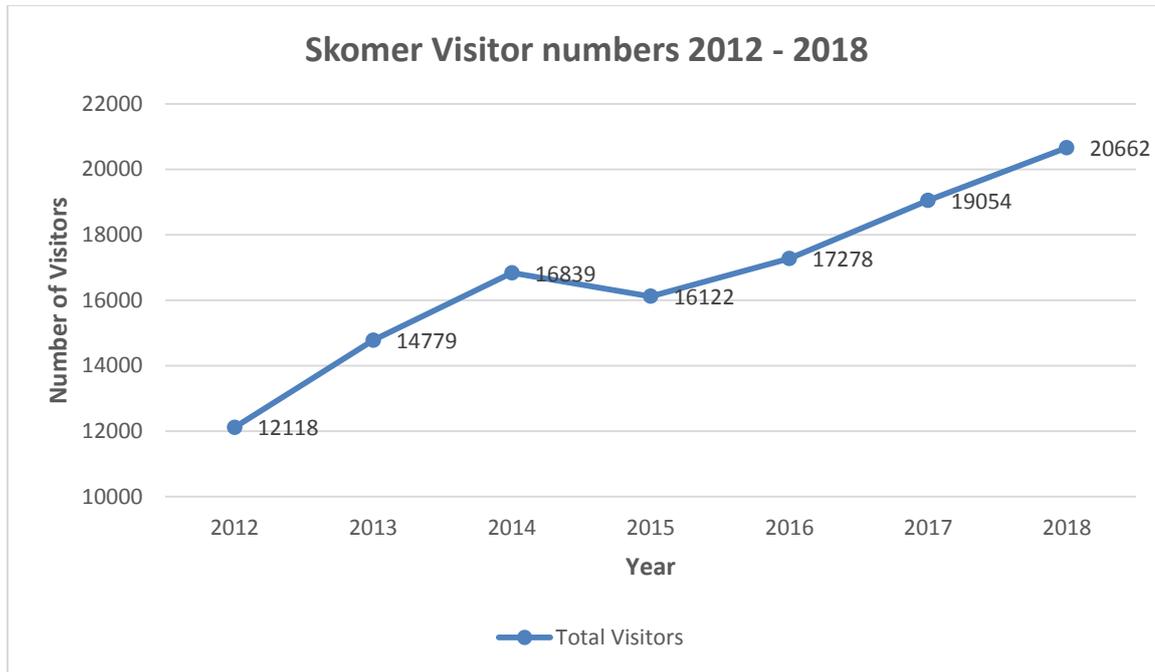


Figure 6 Total visitor numbers to Skomer including overnight guests and private landers

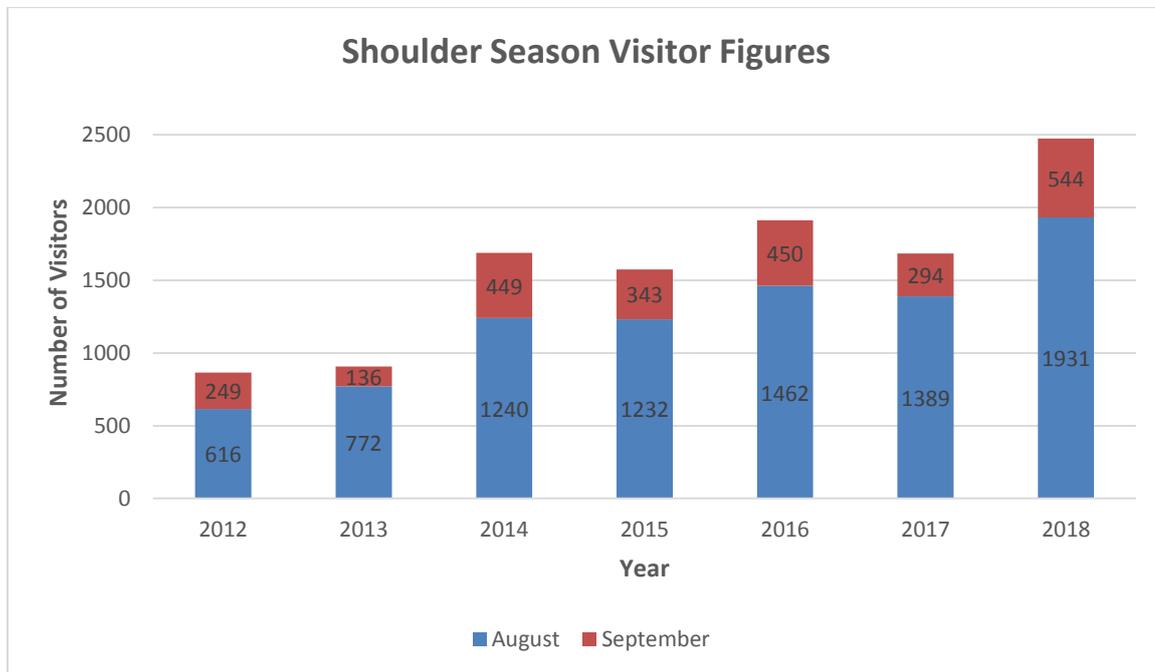


Figure 7 Total number of day visitors in August and September 2012-2018.

4.2 EDUCATIONAL VISITS

There was a 30% increase in the number of students visiting Skomer as part of an educational group, from 1150 in 2017 to 1500 in 2018. Peak seabird season still remains a popular booking time for these groups with 440 students visiting in June. Given that educational groups can only book during the second half of the month, this figure represents over 8% of June visitors and nearly 30% of all students. This is consistent with the proportion in 2017.

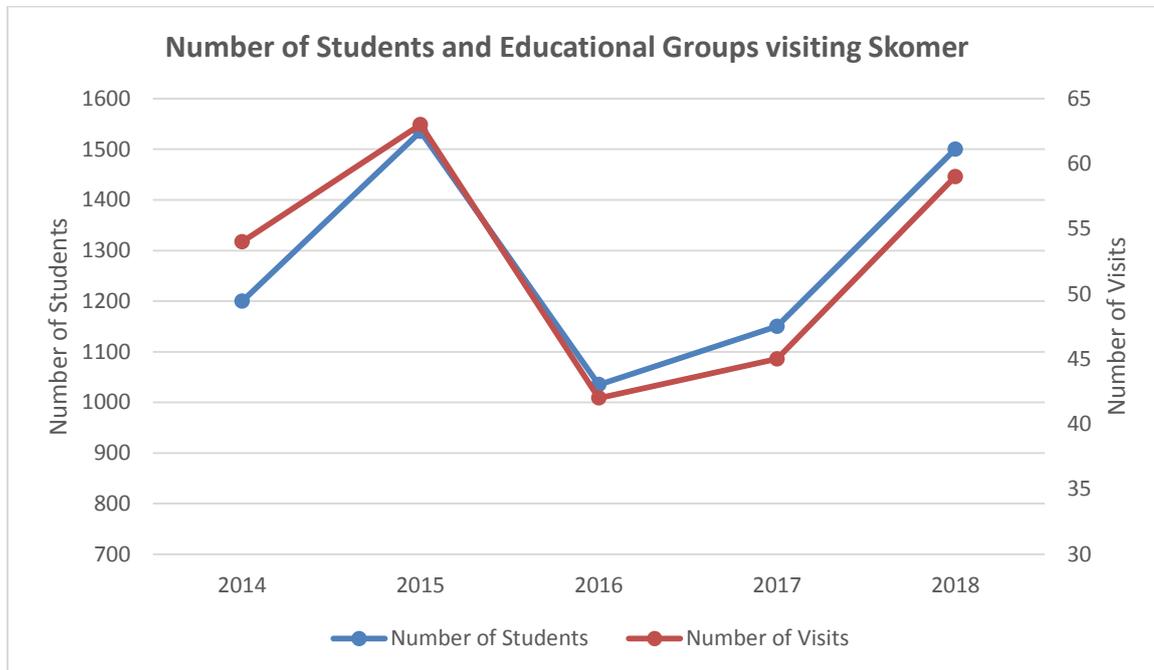


Figure 8 Number of students and educational groups visiting Skomer 2014 - 2018.

4.4 OVERNIGHT GUESTS

We sold 2277 beds in the hostel in 2018 which is an increase on the previous year and the highest total to date. There was an increase in occupancy during August and September but there is still considerable space available in the hostel at the end of the season. Next year we have planned three overnight events in September rather than two as in previous years. We hope that this will improve occupancy at this quieter period in the season.

Hostel occupancy in the shoulder season continues to be the focus of marketing for Skomer as there is no room for increase during the peak season.

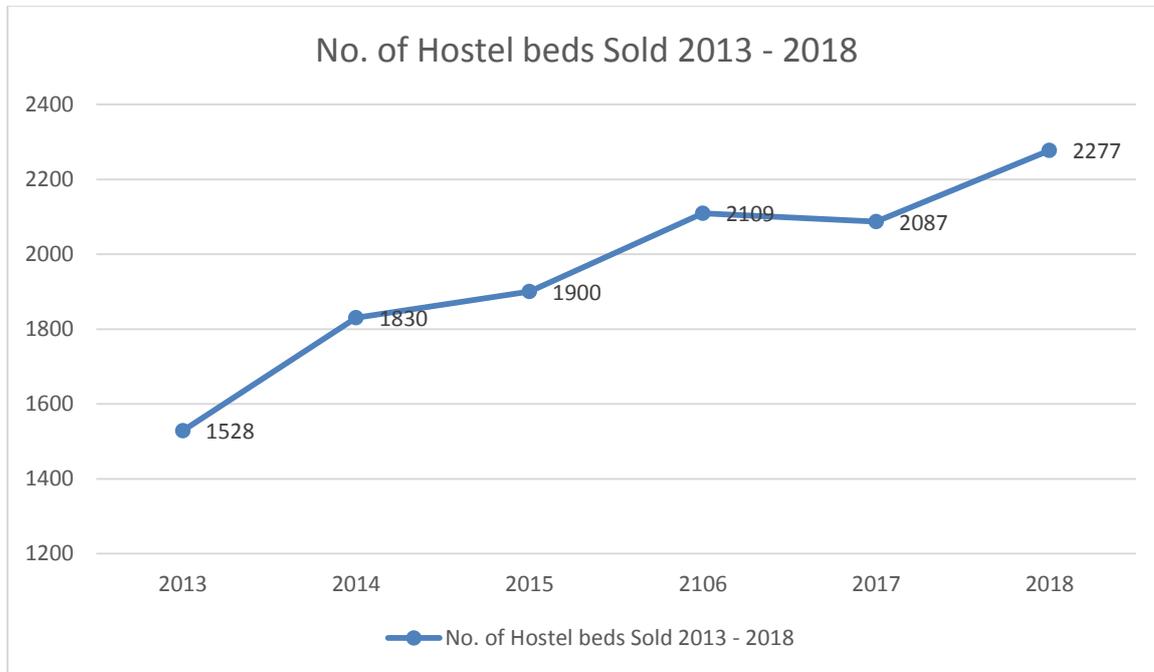


Figure 9 Number of beds sold per year

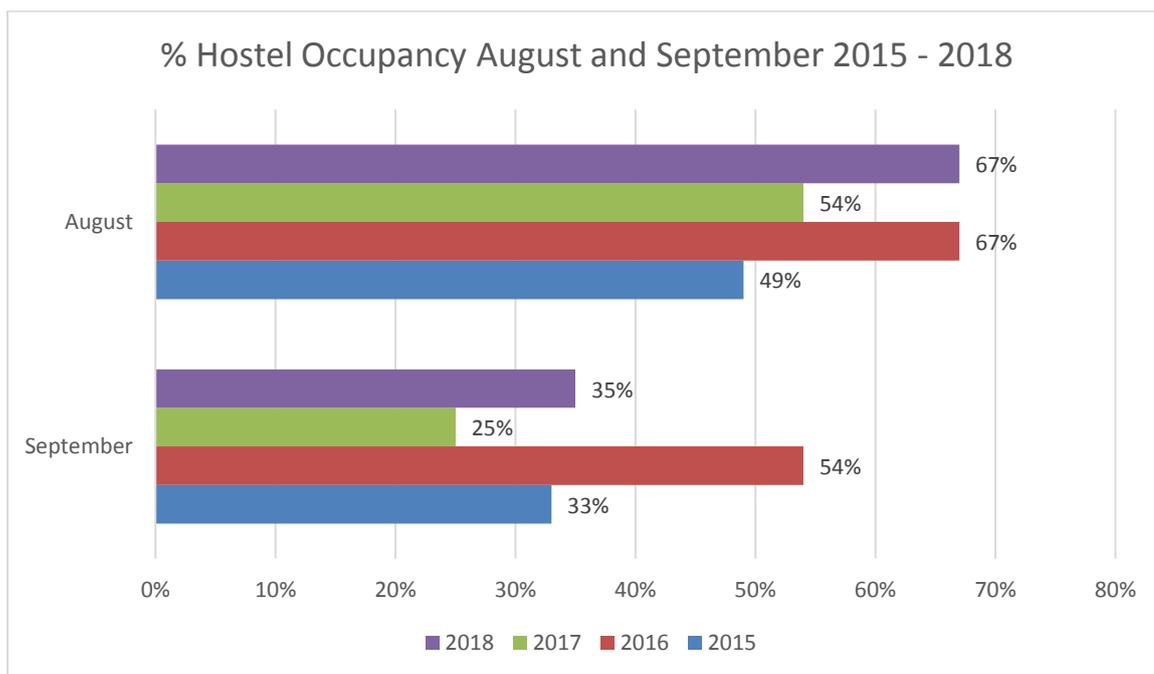


Figure 10 Percentage occupancy of the rooms in the hostel in over the past four years

4.5 HUMAN IMPACT

Visitors

The island was regularly wardened and patrolled by volunteers and staff. All visitors received an introductory talk, emphasising 'dos and don'ts' with regards to safety and disturbance to wildlife. All introductory talks encouraged visitors to walk the island in an anticlockwise way, which seemed to reduce visitor pressure at the Wick slightly. A code of conduct for photography groups was displayed in the hostel and mentioned in welcome talks. Furthermore the Commercial Code of Conduct was continued in 2018.

The Wick was manned by staff and volunteers to prevent visitor disturbance and provide information about seabirds to visitors.

Daily records of disturbance from anywhere on the island, including seaborne disturbance, were kept at evening log and are on record.

Most common type of disruption was people off paths, private landing without paying and without receiving intro talk, collapsed burrows during gull and Puffin count, BBS and Shearwater census, collapsed burrows by visiting guests.

Seaborne disturbance

In 2018 we observed several incidents of seaborne disturbance. Boats and kayaks quite regularly go too close to seabird cliffs and hauled-out seals in North Haven and Rye Rocks. Several times a year people land or try to land in South Haven. In autumn boats regularly enter the voluntary no entry zones in South and North Haven. This has been a source of disturbance where boats (particularly tenders and dinghies) approach pupping beaches and loud noises e.g. from anchors being raised spook seals. This is a particular problem in South Haven. Furthermore lobster potting boats regularly come too close to nesting seabirds and pupping seals. One particularly bad incident of a lobster potting boat going too close to pupping beaches and causing the seals to panic and flee into the water, was recorded on video. All seaborne disturbance data is being made available to the NRW's Marine Conservation Zone team at Martin's Haven.

Pollution

No major pollution incidents were reported in 2018.

5 Staff and Volunteers

5.1 ISLAND STAFF

The Wardens (Edward Stubbings and Birgitta Bueche) and Assistant Warden (Sarah Purdon) moved out to the island on 27/02/2018. The Visitor Officer (Sarah Parmor) arrived on 09/03 and Field Worker Julie Riordan joined the team in mid-April.

The new wardens Sylwia Zbijewska and Nathan Wilkie arrived beginning of September and were inducted for four weeks after which the responsibilities were transferred over to them. Ed and Bee stayed on as Seal Field Workers and continued to assist and advise the new team.

Julie left Skomer mid-August; Sarah Purdon and Sarah Parmor end of October and the rest of the team stayed on till 23/11/18.

5.2 LOCKLEY LODGE

Chrissy and Gary Eade, assisted by Laura Reece and John Freeman (Recruitment Officer) ran Lockley Lodge in 2018. The Lockley Lodge team worked extremely hard throughout the season and the island could not have run so smoothly without their hard work. The Lockley Lodge team run an extremely tight ship which we think is important to keep order and give everyone the best possible experience whilst maintaining the interests of the Trust.

5.3 VOLUNTEERS

Weekly vols

We had a total of 126 volunteers help with the running of the island in 2018 (not including work parties). Of these, eight did two weeks, and six did three weeks, and 34 were first time volunteers to the island. At least five were completing their Duke of Edinburgh Gold awards, and a five were students and had their place paid for by the Skalmey Bursary. We had 22 people drop out of their allocated spaces but in almost all cases were able to fill these in time. We're incredibly grateful to those new, and returning volunteers who make our lives so much easier through the season,

Work parties

Throughout August we had regular work parties coming over to build two new water tanks at the farm. All work party participants worked extremely hard and we are very grateful for all their hard labour, skill and good spirit. Thanks also goes to the Friends of Skokholm and Skomer (especially Steve Sutcliffe) for organising the work parties and for their hands on help.

Bird Log Digitising Volunteers

For the last three years hundreds of hours were spent digitising the old hand-written bird logs. A massive thank you goes to all the Friends of Skokholm and Skomer and all other volunteers who helped with this mammoth task; especially Dorothy and Phil Blatcher who managed the project.

LTV's

In 2018 we were joined by four Long-term Volunteers, they were Tom Lloyd (April – July), Dulcie Fairweather (April – July), Ellie Ames (July – September) and Harriet Sleight (July – September). All LTVs helped with the smooth running of the reserve including visitor engagement, practical tasks and biological monitoring.

Tom undertook a number of projects, including vegetation monitoring, Great Black-backed Gull nest mapping and seabird counts. His Long-term volunteer project involved monitoring hauled out grey seals for any signs of plastic entanglement, see his Long-term Volunteer report: "Plastic entanglement in the seals on Skomer Island" T.Lloyd. Dulcie also completed vegetation monitoring and helped with seabird counts

and shearwater census. Her Long-term volunteer project was mapping Oystercatcher nests, see her LTV report: "Oystercatcher Productivity on Skomer 2018", D. Fairweather.

Ellie completed a rare plants survey and helped with the grey seal monitoring. Her Long-term volunteer project was a dissection project looking for signs of plastic in Manx shearwater carcasses. See her LTV project report: "Manx shearwater Plastic Ingestion Study", E. Ames.

Harriet also completed a rare plants survey and helped with the grey seal monitoring. Her Long-term volunteer project was looking at the nutrient content of soils from various parts of the island. See her LTV project report: "The nutrient of soils on Skomer island and the impacts of allochthonous nutrient inputs by seabirds", H. Sleight.

Both Harriet and Ellie were invaluable in their contributions to some of the events this year, particularly 'Hidden Secrets'.

We were also joined by Magda Behrens as the seabird volunteer from 26th May to 30th June. Magda's main role was to help with the cliff nesting seabird counts from the boat but she also helped coordinate the annual shearwater census and data inputting.

We are very grateful to all five LTVs whose hard work was invaluable to the effective management of the island. The LTV projects can be found in the Appendix section of this report.

6 Reserve Administration

6.1 FINANCE

Landing fees

Landing fees were increased slightly from £10 in 2017 to £11 in 2018. Children one to 15 years were charged £5, children under one and members landed for free.

Private landing fees remained at £15 for adults, £5 for children and free to members.

Overnight accommodation fees

Room	Curlew	Puffin	Chough	Guillemot	Shearwater
Beds	2 Single	3 Single	4 Single	2 Single	Bunkroom 5 Single
April	£40	£40	£40	£40	£35
May-July	£60	£60	£60	£60	£45
August	£40	£40	£40	£40	£35
September	£30	£30	£30	£30	£30
Children (12 and under)	Half price	Half price	Half price	Half price	Half price
Single occupancy available?	Price + 50%	NA	NA	Price + 50%	NA

Table 29 Prices in the hostel for 2018. Prices are per person per night.

Prices in the hostel remained the same as in 2017. The two night restriction on overnight stays was maintained throughout May and June, with a one night stay possible for Saturdays as there is no sailing on Monday. This was beneficial to staff and volunteers helping with the heavy workload during peak season but equally as beneficial to visitors who could make the most out of their island stay.

6.2 MEMBERSHIP

There were seven members recruited officially by Skomer Island staff and 246 by Lockley Lodge. However given that becoming a member of the WTSWW is part of the welcome talk given to all visitors, it is likely that many of the members recruited at Lockley Lodge have become invested during their visit to the island. Furthermore Skomer staff have started to ask visitors to sign up at Lockley Lodge as the membership form has to be dropped off at Lockley Lodge anyway and the facilities (cover, table) are much better.

6.3 COMMERCIAL CODE OF CONDUCT

2018 was the third year of the commercial code of conduct being in place. In total ten operators signed up, an increase of three on last year. Businesses pay £100 per year to operate on Skomer and those staying overnight pay an extra £5 per person per stay.

Registered business operators sign a code of conduct stating they have read and understood this code, which is applied at all times on the island preventing unnecessary disturbance to wildlife and respect to staff and volunteers.

6.4 TRAINING

Sarah Purdon and Birgitta Bueche did a Marine Mammal Rescue Course by BDMR on 29.4.18. Staff and LTVs were trained up on Tractor driving by the wardens. In August Leo Nathan did a course on abseil and rope technique for all staff, LTV and researchers. Sylwia Zbijewska did a RYA Power Boat 2 course in December and Nathan Wilkie PPR online course over the winter.

6.5 HEALTH AND SAFETY

All accidents and incidents were reported using accident and incident forms.

7 Media, Interpretation and Events

7.1 MEDIA/FILMING ON SKOMER

As ever there was a lot of media interest in Skomer in 2018.

The following graphs represent the number of features or mentions of Skomer across media outlets. They are broken down into online, print and broadcast categories. The method of monitoring media coverage changed in June of this year to a much more thorough medium Kantar Analytics, which explains the higher figures recorded from June onwards. We will continue to use Kantar Analytics in 2019.

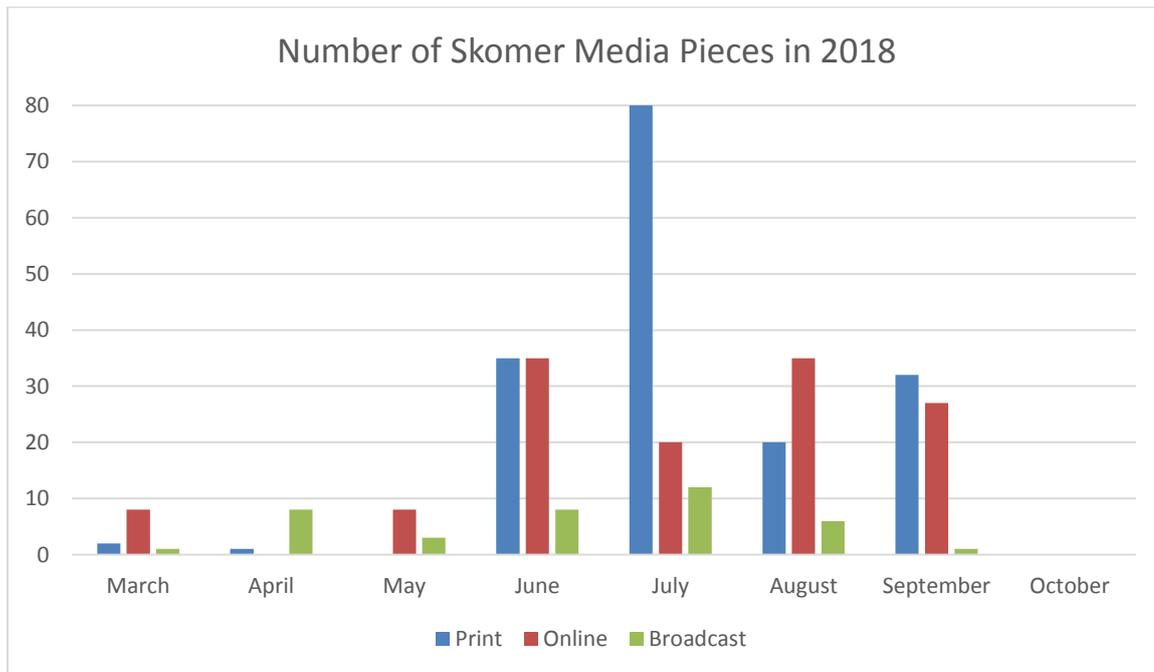


Figure 111 Distribution of media featuring Skomer

March

There were a total of 11 media pieces including a TV broadcast on Countryfile.

April

There were a total of nine media pieces including a BBC radio Wales and Countryfile broadcasts.

May

There were 11 media pieces, highlights were a BBC radio Wales broadcast and a feature in The Sun.

June

78 media pieces recorded by Kantar Analytics, highlights were mentions in The Telegraph, The Times, BBC Wildlife magazine and Sky News featuring Annette Fayet and her work on the decline of puffins globally.

July

There were a total of 104 pieces, including four broadcasts promoting the need for visitors and photographers to be mindful of puffin and shearwater burrows on the island. There was also an episode of Countryfile titled 'Seven Wonders of Wales' broadcast this month.

August

There were a total of 76 pieces including a BBC broadcast featuring the whole island Manx shearwater census.

September

There were a total of 60 pieces, highlights being a feature in the Mail Online, the Mail on Sunday and the Telegraph online.

October

There were a total of 21 pieces including a feature in an episode of Coast.

7.2 MARKETING, PUBLICITY AND SOCIAL MEDIA

Social media was again hugely popular, allowing people from all over the world to see what happens on Skomer, from recent bird sightings to the behind the scenes maintenance work, and upcoming events.

We have utilised our biggest social media platform, **Facebook**, this year to highlight wildlife, events and also day to day happenings on the island. This has meant a dramatic increase in 'followers' from 6,969 in 2017 to 9,987 and 'Likes' from 8,587 to 10,016 by the end of 2018. This is a 43% increase in followers and a 16% increase in likes.

Twitter also gained many new followers and now stands at 8,683 followers which is an increase of 1,687 followers in 2018.

Instagram continues to increase in popularity and has increased from 940 followers in 2017 to 1,718 by the end of 2018.

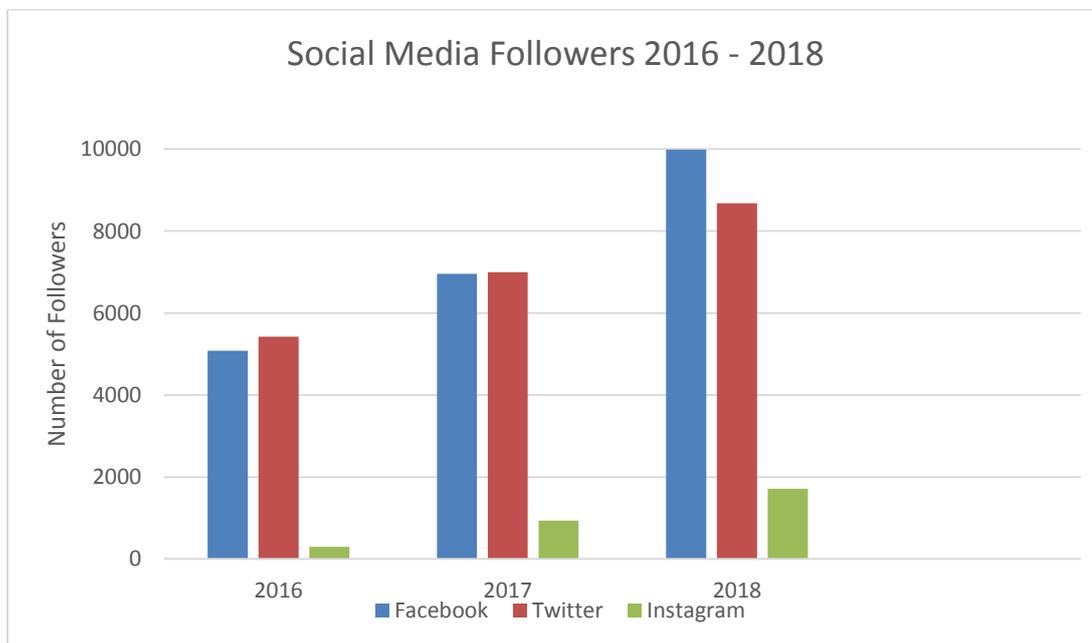


Figure 12 Chart showing the increasing number of followers to Skomer social media since 2016

7.3 INTERPRETATION

Due to time constraints, the new history trail was not in place in 2018, although it will hopefully be in place over the coming year.

7.4 EVENTS

West Coast Birdwatching events

The West Coast Birdwatching Spring Migration event was successful again in 2018. The event was fully booked with 12 people, some paying for single occupancy. The Monday guided walks proved popular again although unfortunately two of the Mondays had to be cancelled due to bad weather. Due to this event becoming sold out and a waiting list of reserves in 2017 we will be adding in an extra Monday guided walk for 2018.

Skomer's Hidden Secrets

Skomer's Hidden Secrets ran from 5th – 7th August in 2018 and was a chance for people to get involved with activities on the island that they would not normally have. The event cost £90 for adults and £50 for children and was marketed at families. It was fully booked this year with 16 people booking up from seven in 2017.

This event was a great success with all 16 participating in the six planned activities.

Yoga Retreat

The Yoga Retreat ran from 19th – 21st August and it was the third year of the Yoga Retreat event although the first year for Claire Eynon as leader. There was a limit of 12 spaces and was very successful with 11 bookings taken. All attendees thoroughly enjoyed the event which ended up being extra special with day visitor boats being cancelled for the entire event, hence the Yoga retreaters had the island to themselves.

Shearwater Week

Shearwater Week ran from 2nd – 10th September in 2018. It was a fantastic week and was enjoyed by all. In total we filled 94 out of a possible 122 beds available. This was slightly down on last year but may be because the event was held in September in 2018 rather than the end of August in 2017, hence not coinciding with school holidays.

The price for the event was set at £99 for adults and £49 for children, which was the same as in 2017.

Moths of Skomer

This event did not sell well this year despite a social media marketing push close to the event. Given the popularity of the West Coast Birdwatching event we will run two Autumn Migration events next year.

History Walk

A new one off history walk run in conjunction with Dr Toby Driver and Louise Barker from the Royal Commission on the Ancient and Historical Monuments of Wales. The walk was run on the 27th September and free of charge for any visitors to attend.

8 Reserve Management

8.1 MANAGEMENT PLAN

Species monitoring was done according to management plan. Some project descriptions are still outstanding and some adjustments to the management plan were done in accordance with the WTSWW and NRW.

8.2 SPECIES AND HABITAT MANAGEMENT

Apart from work on the footpaths no other habitat management was carried out. No species management was carried out above and beyond the normal people management to minimise disturbance to nesting birds.

9 External groups and liaison

ICAC

The Islands Conservation Advisory Committee (ICAC) meetings were held on 23/2/18 (Cilgerran), 16/4/18 (Marloes Village Hall), 2/9/17 (Skomer) 30/11/18 (Cilgerran). The seabird monitoring subcommittee met at Tondur on 06/12/18. Minutes were taken and are kept in the island files.

Friends of Skokholm and Skomer

The Friends of Skokholm and Skomer committee meeting was held on the 17th of February which was attended by the Wardens. The Friends reunion was held the next day and was another great success. The 'friends' also helped building the garage and water tanks at the Farm and helped man the shearwater week. Furthermore they coordinated and helped with the digitising of the Skomer bird logs project.

Marine Conservation Zone MCZ

Especially strong links are maintained with NRW staff at the MCZ office at Martin's Haven. The MCZ team are extremely generous and helpful to the island and we would not be able to run so smoothly without them.

Natural Resources Wales (NRW)

The island has obvious and important links with NRW. Mike Alexander and Chris Lawrence provided invaluable help and advice to the island wardens with regards the management plan and permissions and licencing.

Dale Sailing

Another great year working with Dale Sailing. Good communication was maintained with all skippers and boat staff and especially with Gareth Reynolds.

Others

Links were maintained with a wide range of external groups including NRW, the National Trust, Pembrokeshire Coast National Park Authority, the RSPB (especially Greg and Lisa Morgan on Ramsey) and H.M. Coastguards. Cooperative work was also undertaken between WTSWW and the Pembs. Ringing Group.

10 Acknowledgements

Thanks go to many parties and individuals that helped with the successful running of Skomer Island in 2018. Apologies to anyone left off this inevitably incomplete list.

Many thanks go to all staff and volunteers (long-term, work party, concrete-luggers, bird log digitising and weekly volunteers and anyone drafted in at last minute to get us out of trouble, especially Henry Lloyd our volunteer electrician), staff at the MCZ (especially Mark Burton) and Dale Sailing (Carl, Pete, Phil, Derek, Jamie, Gareth and John Reynolds in particular), Chrissy and Gary and the entire Lockley Lodge team, Lizzie Wilberforce (Conservation Manager for WTSWW), Gina Gavigan, all staff at Cilgerran and Tondu, Lucy and Sash Tusa, Anna and Steve Sutcliffe, The Friends of Skokholm and Skomer, all contractors, all members of the ICAC and other helpful wildlife consultants, Dave Astins and Claire Eynon who ran birdwatching and yoga workshops respectively, staff and students at Oxford (especially everyone who helped with Shearwater week), Sheffield and Gloucestershire Universities and finally to all of the visitors that came and enjoyed the wonderful wildlife of our very special island.