



South and West Wales  
De a Gorllewin Cymru

**WILDLIFE TRUST OF SOUTH & WEST WALES**

# **SKOMER ISLAND NATIONAL NATURE RESERVE**

## **ANNUAL REPORT 2015**

**B. Bueche & E. Stubbings  
Leighton Newman & Jason Moss**

# SKOMER ISLAND NNR ANNUAL REPORT 2015

## Contents

1 Summary .....	3
1.1 Weather .....	3
2 Monitoring and Recording .....	4
2.1 Birds.....	4
2.2 Mammals .....	10
2.3 Invertebrates .....	13
2.4 Herpetiles.....	13
2.5 Flora (and Habitats) .....	13
2.6 Wildlife Highlights.....	13
3 Research .....	14
4 Non biological features .....	14
4.1 Archaeological .....	14
5 Visitors .....	15
5.1 Day Visitors.....	15
5.2 Educational Visits.....	16
5.3 Day Boat Cancellations .....	16
5.4 Overnight Guests .....	17
5.5 Visitor experience.....	18
5.6 Human Impact.....	19
6 Staff and Volunteers .....	20
6.1 Staff .....	20
6.2 Lockley Lodge.....	20
6.3 Volunteers.....	20
7 Reserve administration .....	21
7.1 Finance .....	21
7.2 Training.....	22
8 Reserve Management .....	23
8.1 Management Plan .....	23
8.2 Species and Habitat Management .....	23
8.3 Signage.....	23
9 Media, Interpretation and Events .....	24
9.1 Media/Filming Visits .....	24
9.2 Interpretation.....	24
9.3 Events.....	25
9.4 Marketing and Publicity .....	25
9.5 Wildlife Adoption Scheme .....	25
10 External groups and liaison.....	26

# 1 Summary

As the Wardens were away in Australia this year until the 4<sup>th</sup> of March the move out to the island was made by the Assistant Warden, Jason Moss (returning for his 2<sup>nd</sup> year) and the new Visitor Officer, Leighton Newman on the 5<sup>th</sup> of March. The island was then permanently inhabited between then and the 19<sup>th</sup> of November.

On arrival to the island an assessment of the buildings was made and fortunately only minor damage was noted. The web cameras and the television screen in the Visitor Centre were not working. Some rooms at the Farm were suffering from damp and had turned mouldy in winter. On 25<sup>th</sup> of April however, Chris Ward discovered another large hole in our slipway which got repaired in the course of spring.

The breeding season was a relatively good one for most species with the exception of Lesser Black-backed and Herring Gulls. There were some severe weather events at the start of both May and June which affected both seabirds and land birds.

The migration periods were productive, especially spring and at least one new species was added to the Skomer list. Some records are still awaiting acceptance from BBRC and WRC.

## 1.1 Weather

After a fairly average spring the summer was cool and unsettled at times, with storms at the start of both May and June. The rest of the summer was generally cool with above average rainfall in August and flooding in September. October was warm and sunny with little rain.

**March** – After a showery start to the month, it became more settled for a time with the latter part of the month becoming more unsettled, bringing rain or showers and increasingly strong winds. Mean temperatures slightly below average. Partial solar eclipse on the 20<sup>th</sup>.

**April** – After a showery start, much of the month was dry and sunny, with some warm days as high pressure became established. The last week was generally cooler and more unsettled with rain or showers. Mean temperatures slightly above average and sunshine also above average.

**May** – After a wet start, with strong winds on several days, the weather did improve slightly but it was generally an unsettled and cool month throughout, with only a few fine days. Mean temperatures and sunshine below average and nationally the coldest May since 1996 with double the average rainfall. Rain on six of the first seven days of the month, combined with gale force winds on the 5<sup>th</sup> and 6<sup>th</sup>, made for a challenging time for our breeding birds at this crucial time.

**June** – The month began with gale force winds (beaufort 8) and rain on the 1<sup>st</sup> which effected Kittiwake nests at the Wick (see 11.2.2). Winds remained high on the 2<sup>nd</sup> and 6<sup>th</sup> and northerly winds dominated the 2<sup>nd</sup> quarter of the month. After this unsettled start the weather settled down for a time. The end of the month was sunny and very warm. The mean temperature was slightly below average. Rainfall was broadly below normal, with 66% of the long-term average for Wales overall.

**July** – The month started quite hot, but was otherwise mostly cool, cloudy and changeable with mainly westerly winds, and only short-lived fine spells. The mean temperature was slightly below average.

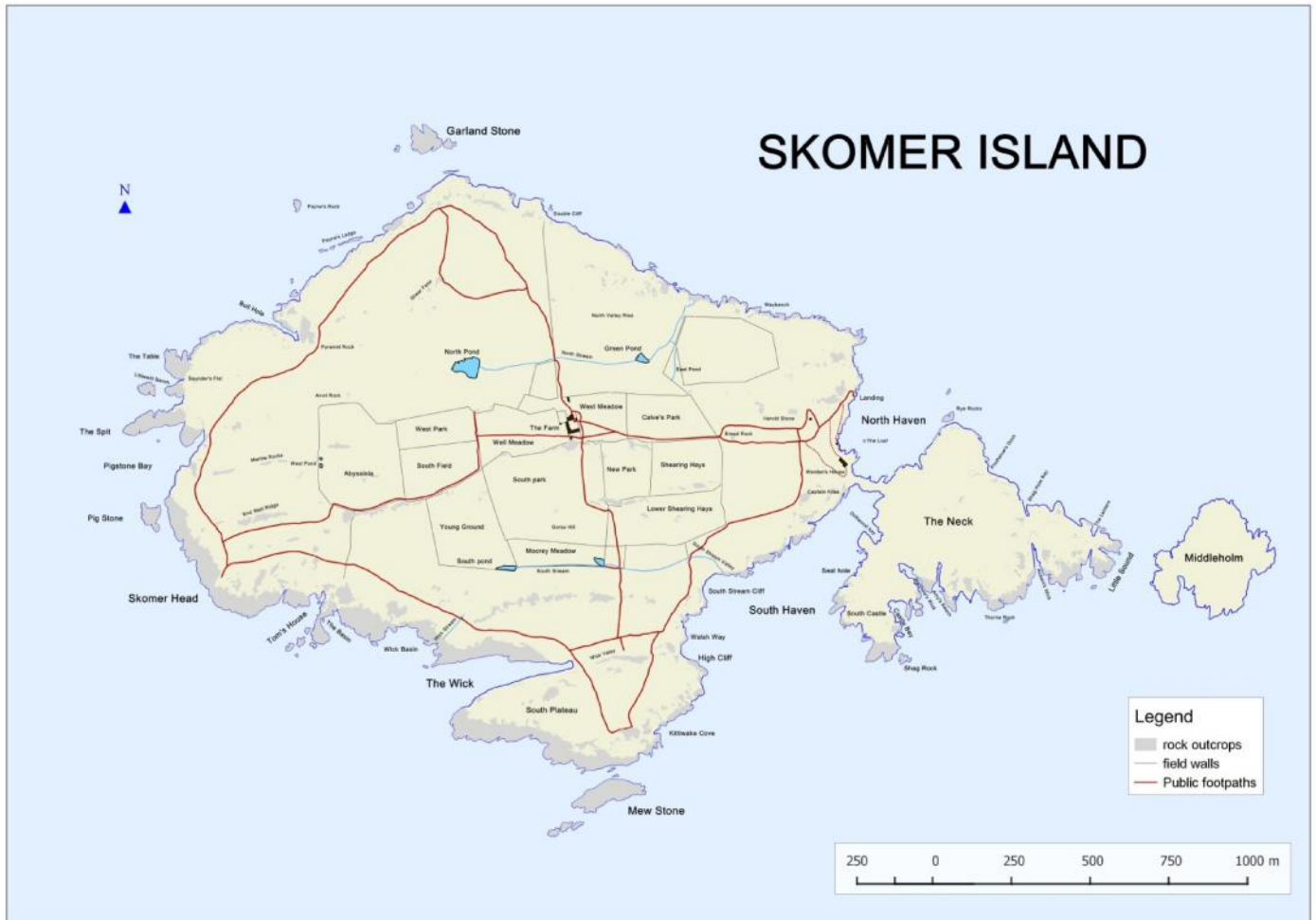
**August** – August started unsettled with westerly winds and frequent rain or showers. Despite some brief warm spells, it was a generally cool month. The mean temperature was 0.6 °C below average. Wales had 127% of average rainfall overall and on the island rain was experienced on more days than not.

**September** – September started unsettled with north-westerly winds and some rain or showers. After some settled spells the month ended fair. Despite spells of fine, settled weather with high pressure, it was another generally cool month. The mean temperature was 1.1 °C below the long-term average, provisionally the coolest September since 1994. Wales had 64% of average rainfall overall. However, rain between the 11<sup>th</sup> and 15<sup>th</sup> with heavy rain on the 14<sup>th</sup> caused some flooding and potentially flooded some Manx Shearwater burrows.

**October** – October began dry and settled with high pressure, and variable amounts of cloud. With just a brief interruption from the 5<sup>th</sup> to the 7<sup>th</sup>, the weather remained mostly dry and settled until the 20<sup>th</sup>. From the 21<sup>st</sup> onwards the weather was mild and changeable with mainly south-westerly winds. The mean temperature was above average. Rainfall was only 45% of average, provisionally the driest October since 2007. Generally a warm and sunny month with little rain.

Figure 1

Map of the island



## 2 Monitoring and Recording

### 2.1 Birds

#### Summary

Chough and Raven were monitored early in the season (March-June) whilst Peregrines, Buzzards, owls and waders were monitored a little later (May-July). Most passerines were picked up on breeding bird surveys (BBS). Wildfowl were either picked up on BBS or when broods of chicks were seen. The table below shows breeding numbers for all species in 2014 and 2015 and, for seabirds only, gives a percentage change between those years. More detail on all of these species can be found in the *2015 Skomer Bird Report* (Appendix 1) and the *JNCC Report - Seabird Monitoring on Skomer Island in 2015* (Appendix 2).

This report deals mostly with work carried out by the wardens, island staff and volunteers. Some other monitoring work was carried out by other institutions; this can be read about fully in the *JNCC Report - Seabird Monitoring on Skomer Island in 2015* (Appendix 2).

Table 1 Breeding birds on Skomer in 2015

<b>Species</b>	<b>2015</b>	<b>2014</b>	<b>% change</b>
Fulmar (AOS)	584	556	+5.04
Cormorant (AON)	7	6	+16.67
Shag (AON)	4	-	-
Lesser Black Backed Gull (AON)	7630	8432	-9.51
Herring Gull (AON)	377	440	-14.32
Great Black Backed Gull (AON)	123	107	+14.95
Black-legged Kittiwake (AON)	1546	1488	+3.90
Guillemot (IND)	23746	23493	+1.08
Razorbill (IND)	7489	6541	+14.49
Puffin (IND)	21349	18237	+17.06
Canada Goose	29	21	+38.10
Shelduck	1	2	-50
Mallard	3	3	0
Shoveler	2	2	0
Teal	0	?	-
Common Pheasant	8	Many	-
Common Buzzard	5	5	0
Common Kestrel	0	0	-
Peregrine	3	3	0
Water Rail	0	0	-
Common Moorhen	?	4	-
Oystercatcher	73	66	+10.61
Eurasian Curlew	3	3	0
Wood Pigeon	4	4	0
Short-eared Owl	2	3	-33.33
Little Owl	1	1	0
Skylark	6	4	+50
Barn Swallow	10	8	+25
Rock pipit	14	24	-41.67
Meadow Pipit	107	97	+10.31
Pied Wagtail	3	2	+50
Dunnock	16	10	+60
Northern Wheatear	18	15	+20
Blackbird	2	2	0
Common Whitethroat	22	26	-15.38
Sedge Warbler	40	44	-9.09
Common Chiffchaff	1	2	-50
Wren	52	64	-18.75
Magpie	6	2	+200
Red-billed Chough	4	3	+33.33
Western Jackdaw			-
Carrion Crow	11	9	+22.22
Common Raven	8	4	+100
Common Linnet	1	?	-
Reed Bunting	5	4	+25
Stonechat	2	2	0

AOS-Apparently Occupied Site  
AON-Apparently Occupied Nest  
AOT-Apparently Occupied Territory  
IND-Individual

All other units are pairs of birds or males on territory unless otherwise marked

Probably the most significant finding from 2015's seabird studies was the final data required to provide confirmation that over winter survival was indeed low between 2013 and 2014. This followed heavy storms and well documented seabird wrecks, mostly affecting the auks but also Kittiwake. The summary below is taken from the *JNCC Report - Seabird Monitoring on Skomer Island in 2015* (Appendix 2) and does not cover all species.

**Fulmar:** Both the whole island count and the study plot counts were up on the previous year. The whole island count was up by 5.04% on the previous year and by 23.21% over a five year period. Productivity was down, however, from 0.45 to 0.35 chicks per AOS which is the same as the mean productivity (0.35) for the period 2009 to 2014.

**Manx Shearwater:** The breeding study plot census showed that breeding success was the highest since 1998 at 0.71 fledged young per egg laid.

**Lesser Black-backed Gull:** After a slight increase last year, the breeding population continues its rapid decline (9.51% less than 2014 at 7,630 AON and a 62.23% decrease since 1993 when the population was at its peak). However, productivity in 2015 was the best since 2010 at 0.69 fledglings per AON.

**Herring Gull:** The whole island count was down by 14.32% but productivity at the study plot at Tom's House was much better than the previous years at 0.69.

**Black-legged Kittiwake:** The whole island population count was up by 3.90% and productivity was the best since 2005 at 0.76 chicks per AON.

**Guillemot:** The whole island count was slightly up (1.08%) but the study plot counts showed a slight decrease (0.4%). The Study plot counts are, however, 2.8% higher than the 2010-2014 five year mean and numbers appear to remain stable or increasing. The concerns over adult survival over the 2013/14 winter were reaffirmed by the 2015 data. Productivity in 2015 was the highest since the late 1990s at 0.76 which is also higher than the overall mean (1989-2015) of 0.68.

**Razorbill:** The whole island count was up by 14.49% from 6,541 IND in 2014 to 7,489 IND in 2015. Productivity was 0.37 chicks per active and regularly occupied site, which is an increase on the previous year (0.27) but lower than the overall mean (1993-2015) of 0.48.

**Atlantic Puffins:** The maximum whole island spring count of IND was 21,349 which is the highest since current records began in 1988. Productivity was 0.66 chicks fledged per burrow, which is 13% higher than the poor year in 2014, after storms during the previous winter. 74.2% of 2014's breeding adults returned to Skomer in 2015, a 15% increase compared with the stormy winter of 2013-2014 (56.6%), but still down on the average in the previous ten years (82.3%). More accurate survival analyses produce a 2013-14 survival rate of 68.2%, as compared with the average adult survival of 91.1% from 1972 to 2012.

After two of the latest breeding seasons on record (2014 and 2013), the 2015 season was, in some cases, almost two weeks earlier than the previous one. This may simply be a return to the recent trend for earlier breeding or an indication that variation has become high in the timing of breeding.

Table 2 Seabird breeding success in 2015

Species	Whole island population in 2015	Productivity in 2015
Fulmar (AOS)	584	0.35
Cormorant (AON)	7	1.14
Shag (AON)	4	1.25
Lesser Black Backed Gull (AON)	7630	0.69*
Herring Gull (AON)	377	0.69
Great Black Backed Gull (AON)	123	1.64
Black-legged Kittiwake (AON)	1546	0.76
Guillemot (IND)	23746	0.76**
Razorbill (IND)	7489	0.37
Puffin (IND)	21349	0.69***

AOS-Apparently Occupied Site  
 AON-Apparently Occupied Nest  
 AOT-Apparently Occupied Territory  
 IND-Individual  
 \* Mean estimate  
 \*\* Wick 1G plot only  
 \*\*\* Wick plot only

### Spring Puffin counts

Whole island Puffin counts were carried out in April and are summarised in the table below. Late afternoon counts were made in North Haven each day at the start of April to assess numbers and whole island counts were only made once numbers were deemed to be high enough. More detail is available in the *JNCC Report - Seabird Monitoring on Skomer Island in 2015* (Appendix 2).

Table 3 Spring counts of individual Puffins 2015

Date	No. individual puffins incl. Middleholm	No. of individual Puffins excl. Middleholm
15/04/2015	21349	21229
21/04/2015	18752	18610
Max.	21349	21229
Mean	20051	19920

### Whole island counts

Whole island counts were carried out by land and sea in the first three weeks of June for Cormorant, Shag, Guillemot, Razorbill, Fulmar and Kittiwake. Two complete counts of the island were made for all species. Mean counts of individuals (IND) are presented in Fig. 1 and full details can be found in the *JNCC Report - Seabird Monitoring on Skomer Island in 2015* (Appendix 2).

### Wick Puffin study

In 2015 the study to assess and compare Puffin productivity between the Wick and an undisturbed site on the Neck (the latter undertaken by the University of Gloucestershire) was continued. This study follows the methods used on the Neck as much as possible in order to make the data comparable. A productivity of 0.69 chicks fledged per active burrow compares positively to 0.66 in the undisturbed study area on the Neck. See Appendix 2 for full details.

### **Puffin recruitment study**

In 2015 we set up a further study to look at potential differences in the age composition of the Puffins at the Wick compared to the Puffins at North Haven. Nearly 3000 photos were taken and over 600 Puffin pictures were aged according to the methodology invented by Mike P. Harris. There were no significant differences in the age composition of the Puffin colony at the Wick and North Haven notable. However it was very interesting to see how more and more young birds join the colonies as the summer progressed, see Long-term Volunteer Report, Appendix 3

### **BBS**

Breeding bird surveys were carried out between mid-April and mid-June. The island is split into eight BBS sections and each one is visited two-three times during this period by island staff and Long Term Volunteers. All singing passerines are recorded and notes made to indicate their breeding status. Wildfowl and waders are also recorded where possible. Corvids were also recorded on BBS visits but Jackdaws in particular are incredibly hard to census using this method and the island population is poorly known. Another species that is not covered well by BBS is the Rock Pipit and, although numbers are comparable from year to year, the total is likely to be an underestimate.

### **CES**

The CES (Constant Effort Site) study (a scheme operated by the British Trust of Ornithology (BTO) continued in 2015, 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 IPMR 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.

### **Migration and birdlog**

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 2015 Jason Moss put together another comprehensive bird report for the island. This is appended and makes extremely interesting reading. It covers all species and summarises their status and details from 2015, including breeding numbers and/or maximum counts and last occurrences. Breeding seabirds are perhaps better covered in the *JNCC Report - Seabird Monitoring on Skomer Island in 2015* (Appendix 2) but for non-breeding/migrant seabirds and all other birds (residents and migrants) it brings together all records in a single easily read document. The table below summarises the migrant highlights.



Table 4 Island rarities summary

<b>Species</b>	<b>Island status</b>	<b>Last recorded</b>
<b>Great White Egret</b>	<b>1<sup>st</sup> island record</b>	<b>NA</b>
<b>European White-fronted Goose</b>	<b>1<sup>st</sup> island record of this race</b>	<b>NA</b>
<b>Black Stork</b>	<b>3<sup>rd</sup> island record</b>	<b>1991</b>
<b>Spotted Crake</b>	<b>3<sup>rd</sup> island record</b>	<b>1971</b>
<b>Goshawk</b>	<b>3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> island records</b>	<b>2014</b>
<b>Greenish Warbler</b>	<b>5<sup>th</sup> and 6<sup>th</sup> island records</b>	<b>2014</b>
<b>Black-headed Bunting</b>	<b>7<sup>th</sup> island record</b>	<b>2014</b>
<b>Mute Swan</b>	<b>7<sup>th</sup> and 8<sup>th</sup> Island records</b>	<b>2014</b>
<b>Blue-headed Wagtail</b>	<b>8<sup>th</sup> island record</b>	<b>2014</b>
<b>Nightingale</b>	<b>8<sup>th</sup> island record</b>	<b>2012</b>
<b>Long-tailed Skua</b>	<b>8<sup>th</sup> island record</b>	<b>2014</b>
<b>Cetti's Warbler</b>	<b>8<sup>th</sup> island record</b>	<b>2011</b>
<b>Iceland Gull</b>	<b>10<sup>th</sup> island record</b>	<b>2014</b>
<b>Glaucous Gull</b>	<b>12<sup>th</sup> island record</b>	<b>2014</b>
<b>Woodlark</b>	<b>12<sup>th</sup> island record</b>	<b>2010</b>

## 2.2 Mammals

### Seals

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, assisted by J. Moss, L. Newman and Long Term Volunteers. A. Dodds was appointed Seal Assistant and helped conduct the study during October. The report was submitted to NRW (Bueche & Stubbings 2015). The full report is appended to this document and is summarised below.

246 pups were monitored on Skomer Island in 2015, of which 240 were definitely born on Skomer and six turned up either just before the start of moult, or moulting (wanderers).

The total of 240 pups born on Skomer Island is the highest total ever recorded and 25 more than in 2014.

A total of 379 pups were born in the Skomer Marine Conservation Zone of which 139 were born on the Marloes Peninsula.

The busiest week this year was week 41 (05-11/10), the same as last year.

The most productive beaches were Matthew's Wick (42 pups) and South Haven (44 pups). In 2015 (in contrast to 2014) North Haven was the third most popular beach with 36 pups born (24 in 2014). On both Driftwood Bay and Castle Bay 23 pups were born.

178 pups are known, or assumed to have survived on Skomer in 2015, giving a survival rate of 76%, which is higher than 2014 (68%) and in line with the average of the last ten years (76%).

In 2015 the maximum haul-out of 360 animals was recorded on 16/11 on exactly the same date as the 2014 maximum haul-out (300 animals).

27 different cows, and three bulls were photographed with obvious signs of being entangled in nets at some time in their lives, often with netting still embedded.

Between mid-August and the end of November 2015 we observed 14 incidents of disturbance to seals around Skomer Island.

In 2015 over 2800 photos were taken of seals, of which 477 will be entered into the NRW Wales Seal ID database. We identified 90 seals with obvious scars by eye, of these 43 were known from previous years.

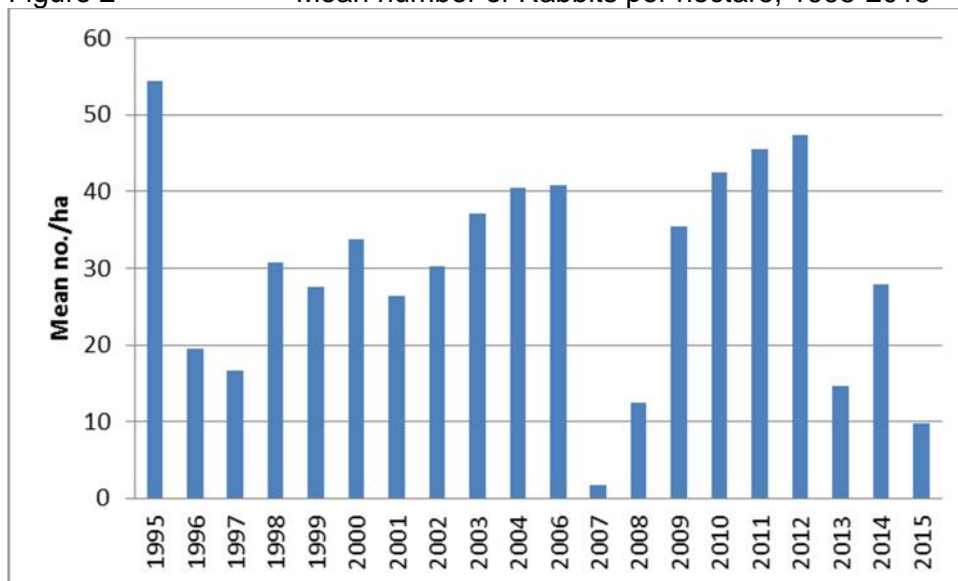
## Rabbits

Monthly Rabbit counts were done in the study plots on the central fields, the Wick grasslands and South Plateau. The Rabbit numbers in 2015 were the second lowest since recording began.

Table 4 Rabbit plot counts in 2015

	23/03/15	29/4/15	4/6/15	28/06/15	01/08/15	27/08/15	29/09/15
Plot 1	12	8	8	6	2	4	4
Plot 2	10	19	17	5	5	7	9
Plot 3	17	12	27	7	1	5	11
Plot 4	14	14	31	16	5	5	10
Wick Grassland	21	19	15	6	4	5	8
South Plateau	42	11	23	15	18	8	19

Figure 2 Mean number of Rabbits per hectare, 1995-2015



## **Cetaceans**

Standardised hour-long cetacean watches were conducted on a weekly basis from the Garland Stone and Skomer Head. These were carried out to Sea Trust methodology by weekly volunteers. The data was then sent to the Sea Trust and the Marine Conservation Zone (MCZ) staff.

### Harbour Porpoise

Noted almost daily during much of the season, as is fairly typical of this abundant species in Skomer waters. Monthly maximum counts from casual sightings are shown in the table below.

Month	March	April	May	June	July	August	September	October	November
Peak	15	65	20	10	24	23	24	16	4

### Common Dolphin

The first record came on 19<sup>th</sup> April, with one off Mew Stone, followed by a visitor sighting off Skomer Head on 21<sup>st</sup>. May produced sightings on four dates, with a peak of six seen off Skomer Head on 23<sup>rd</sup>. One of the highlights of this Skomer season was when a group of four Common Dolphins came to bow-ride and investigate the island RIB during island seabird counts on 10<sup>th</sup> June (see link to blog and video [here](#)). The 20<sup>th</sup> produced a similar spectacle, with 15 animals bow-riding for around 10 minutes during a return trip from ringing Shags on Middleholm. Further June records included one visitor sighting on 23<sup>rd</sup> and two off the Garland Stone; again a volunteer sighting. There were eight records in July with peaks of 30 between Skomer and c20 miles offshore on 9<sup>th</sup>, 50 off North Haven on 12<sup>th</sup> and 55 on 21<sup>st</sup>. August saw activity peak around the island, with sightings on 12 dates including peaks of 260 in St Brides Bay on 9<sup>th</sup>, 70 there the following day and 50 offshore on 24<sup>th</sup>. Noted on nine dates in September, with peaks of 50 on 6<sup>th</sup> and 19<sup>th</sup> and 40 on 25<sup>th</sup> and 26<sup>th</sup>. Things tailed off from here on in, with one sighting on 16<sup>th</sup> October of nine animals being the last of the year.

### Bottle-nosed Dolphin

There was one record of a possible Bottle-nosed Dolphin reported at Skomer Head on 21<sup>st</sup> April.

### Humpback Whale

Undoubtedly one of the major highlights of the 2015 season was the occurrence of one of these huge whales, seen by a lucky few who were able to travel offshore during a Manx Shearwater displacement experiment with the OxNav team. The animal was seen to breach just once around 300 meters from the rib on 9<sup>th</sup> July. Obviously, being 21 miles south-west of Skomer Island, this was well out of the Skomer recording area, but worthy of a note.

## **Skomer Voles**

The annual vole census of study plots was carried out by Tim Healing in August with the help of various volunteers. The results are as follows: Grid C (North Stream Valley) No/ha = 261 Grid E (South Field) No/ha = 18. A few Woodmice were caught on grid C but more (up to 12 per night) on Grid E. This is more than usual on Grid E suggesting that numbers of mice may be higher than in the last two years.

Many fewer traps than last year were closed but empty on either site and so shrew numbers may be lower than last year.

Vole numbers were higher on Grid C than last year. There was some evidence (adult females not lactating) that breeding activity may be slowing down on that area.

Vole numbers on Grid E were very low. The animals that were caught were ranging widely over the grid (longer movements than seen on Grid C) suggesting that there were indeed few animals on the area.

## **Bats**

For the second year an automated bat detector (given to us by BSG Ecology) was used to record bat activity on a nightly basis throughout the spring and autumn of 2015. Analysis of data is ongoing.

## 2.3 Invertebrates

### Butterflies

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. Dark Green Fritillaries were again present and small populations of Grayling, Large Skipper and Wall butterflies continue to breed on the island. Highlights from 2015 include a Holly Blue on the 23<sup>rd</sup> of April and 18<sup>th</sup> of August (the first since 2006), Common Blues at North Haven on the 18<sup>th</sup> (two) and 29<sup>th</sup> of August (two), Speckled Wood and Clouded Yellow on the 27<sup>th</sup> of September and 14<sup>th</sup> of October.

In 2014 we began recording the frequency of the form *caeruleopunctata* amongst our Small Coppers. This was continued in 2015 and we hope that the data will be analysed at some point in the near future.

### 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 also sent to the county moth recorder.

## 2.4 Herpetiles

Slow Worms, Common Lizards, Common Frogs, Common Toads and Palmate Newts, as well as any small mammals found under the refugia were recorded every week on two set transects. The Farm transect has been going for many years and the wider island transect was set up in 2013 and continued since. These were carried out by weekly volunteers and the data was sent to ARC (Amphibian and Reptile Conservation) Trust.

## 2.5 Flora (and Habitats)

The flora monitoring/surveys have been undergoing a period of transition in the last few years as the old surveys are replaced by the monitoring recommended in the new management plan. In 2015 we re-identified vegetation quadrats that had been set up and surveyed in 1979, and then again in 1998. 90 of the original 270 vegetation quadrats were made permanent and surveyed in 1979, 76 were surveyed in 1998, and 21 were found in 2015 of which 13 were surveyed, see Appendix 4 for full Long-term Volunteer report by Alice Hadley.

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

## 2.6 Wildlife Highlights

Wildlife highlights were written up at the end of each month and included in the Skomer Monthly Reports, as well as being sent to Birdwatching for inclusion in the UK Bird Sightings section of the magazine. Furthermore wildlife highlights were written up for the Skomer blog regularly under the “recent sightings” tab. 2015’s wildlife highlights are also included under the relevant headings in this report.

## 3 Research

Elspeth Kenny from Sheffield University continued her PhD study in 2015. Elspeth Kenny is looking at allopreening in Guillemots having the hypothesis that allopreening facilitates social relationships.

In 2015 Tim Birkhead's long term study (40+ years) on the breeding success and adult survival of Guillemots on Skomer was continued in spite of funding cuts by NRW. Tim Birkhead and his team also conducted studies on Guillemots in which the temperature and heart rate of incubating birds was recorded. Furthermore they studied replacement eggs of Guillemots and measured and quantified the shape of replacement eggs laid by the same female. They also conducted egg shape analysis on over 100 Guillemot eggs. Furthermore Tim Birkhead did a study on Puffin eggs in which sperms on the perivitelline layer surrounding the yolk were counted.

Oliver Padgett from Oxford University continued his PhD study on Manx Shearwaters. Ollie, together with the rest of Tim Guilford's team continued to track the foraging movements of shearwaters at key breeding season stages. In 2015 they researched migratory stop-over consistency and patterns; carry-over effects; long-term changes in fledging mass; age and stage segregation in at-sea behaviour and movement patterns and colony segregation versus use of shared spatial resources. Furthermore the OxNav team were studying the mechanisms by which the extraordinary pelagic life-style of shearwaters is mediated (for example how they navigate; how they use conspecifics and heterospecifics to find food).

OxNav's research into the migratory movements of Puffins continued and involved recovery of GLS-carrying birds.

Samantha Patrick (Liverpool University) set up a new study using automated systems to monitor the reproductive success of large numbers of Kittiwake pairs across seven sites in the Celtic Seas subregion, including Skomer. Trail cameras were placed at Protheroe's Dock and South Stream to record during the breeding season.

The study on the cause of puffinosis disorder in Manx Shearwaters also continued in 2015. Dr Marion England, (Pirbright Institute) used light traps to determine the species of *Culicoides* midge that are present on the island as they may have a role as vectors of the pathogen that causes puffinosis. Additionally a single mosquito trap was set up to determine the presence or absence of mosquitoes on Skomer Island. Furthermore the puffinosis team conducted research to determine whether the lymphocyte depletion in sick Manx Shearwaters observed in 2014 was a "one-off" characteristic of birds collected in 2014 or whether it is consistent with the incidence of the disease.

For more information see *Research Report* (Appendix 5).

## 4 Non biological features

### 4.1 Archaeological

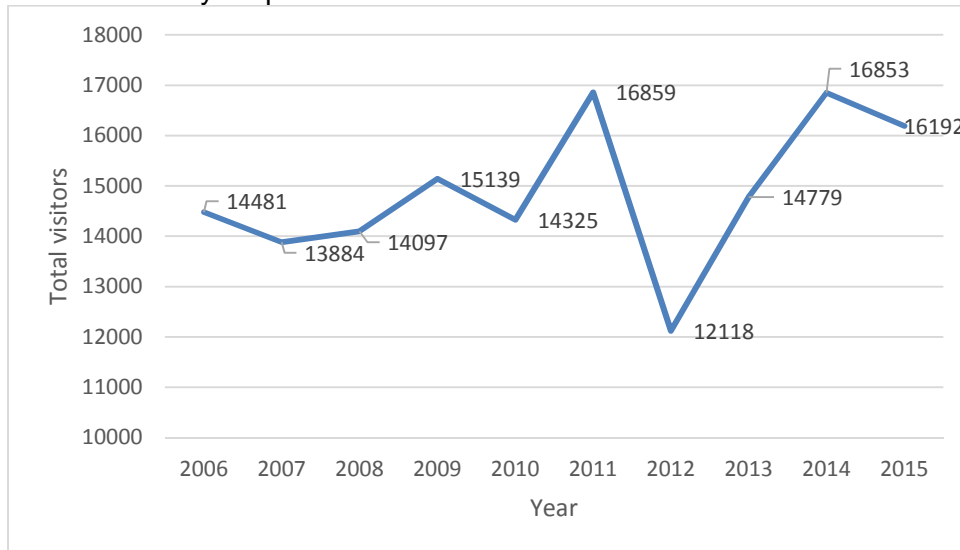
No archaeological research was conducted in 2015 but another excavation was planned for the beginning of 2016.

# 5 Visitors

## 5.1 Day Visitors

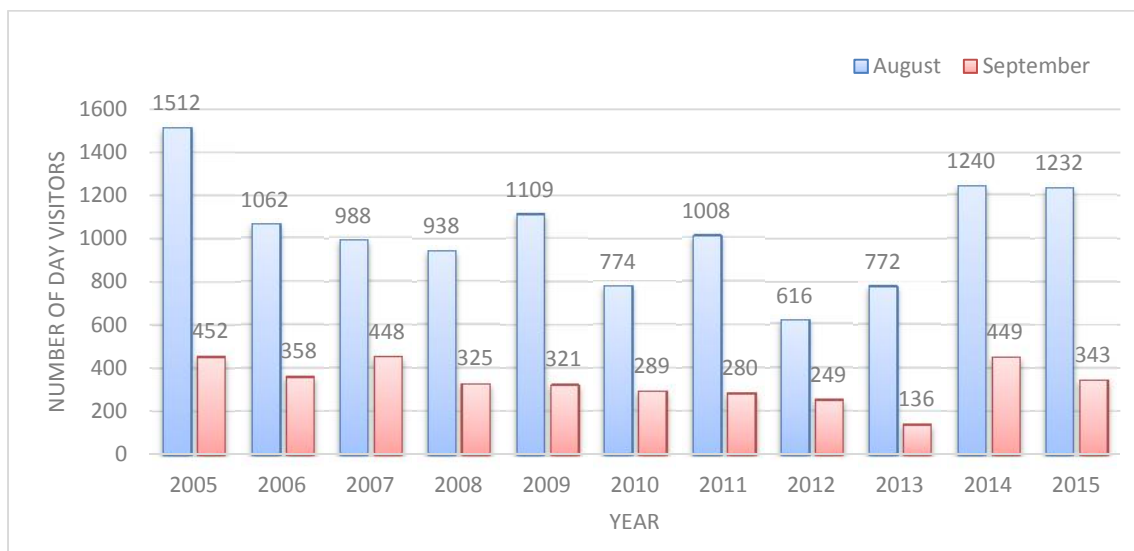
The 2015 season was a tough season with lots of unsettled weather and the second highest no sailings day in recent history. Taking this into account, the island did incredibly well with 15,079 day visitors and 1,113 staying overnight in the hostel. This brings the grand total to 16,192 visitors in 2015.

Figure 3 Total number of visitors including hostel guests, day visitors and private landers over a 10 year period.



The total visitors visiting Skomer in 2015 was slightly down compared to 2014. The figure is slightly down compared to last year probably due to the number of no boat days in 2015, explained a little further on, however, the figures are still positive when taking into account the bad weather and the figures over a 10 year period.

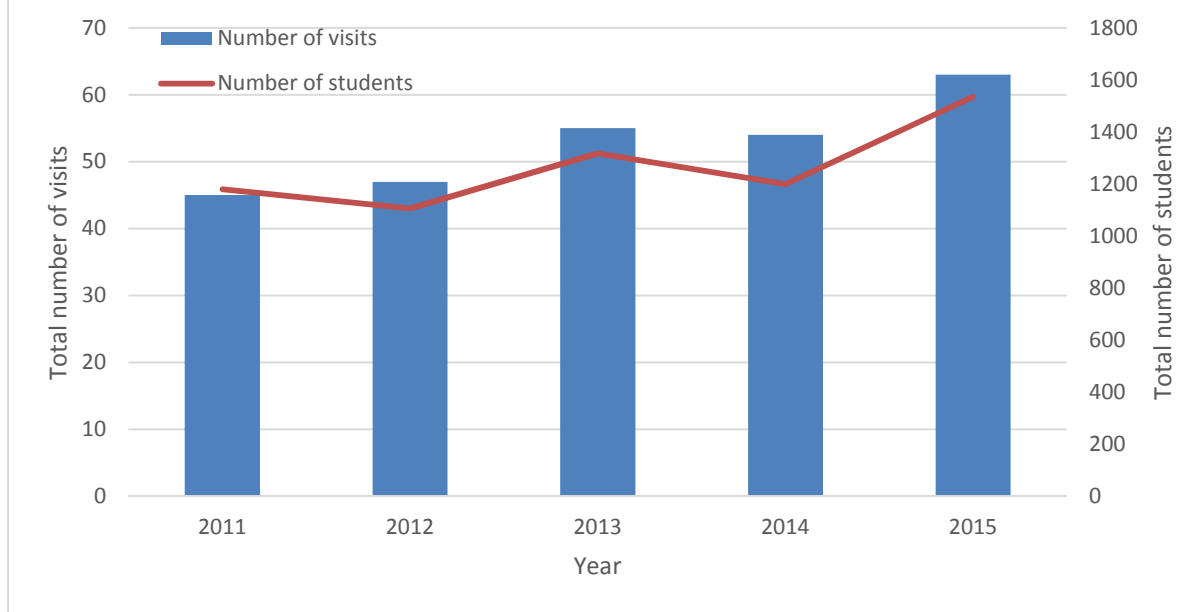
Figure 4 Total number of day trips in August and September over the past 10 years.



Visits in August and September were slightly down when compared to 2014, as can be seen in graph 2 above. This is due to very poor weather, in particular September 2015 where there were 10 no sailing days compared to four in 2014, this does not include no boat Mondays. The figures are still very positive though as the totals for August and September from 2015 and 2014 are higher than anything since 2005, when there was a lot of media interest in the island.

## 5.2 Educational Visits

Figure 5 Showing the gradual increase in educational visits over the past five years.



2015 was again the best year in recent history for educational visits with 1535 pupils visiting Skomer, from 63 separate trips.

Analysis of the data also shows that the month with the highest visit rate is June. In 2015, educational visits in June accounted for 13.8% of the total number of people visiting Skomer.

## 5.3 Day Boat Cancellations

Table 5 Number of cancelled visitor boat days in the last three years.

	2013	2014	2015
Weather cancellations	52	27	42
No boat Mondays	25	24	23
<b>Total</b>	<b>77</b>	<b>51</b>	<b>65</b>

2015 had the second highest no boat days in recent history, as seen in table 1 above, and this contributed to our lower than expected landing numbers.



## 5.4 Overnight Guests

2015 saw positive increases in beds sold in the hostel. There were a total of 1900 beds sold, 70 more than 2014. This is a good indicator as to how well we are marketing the island as no sail days generally do not have that much of an influence due to people pre-booking beds in the hostel.

Figure 6 Beds sold in the hostel every year since 2011.

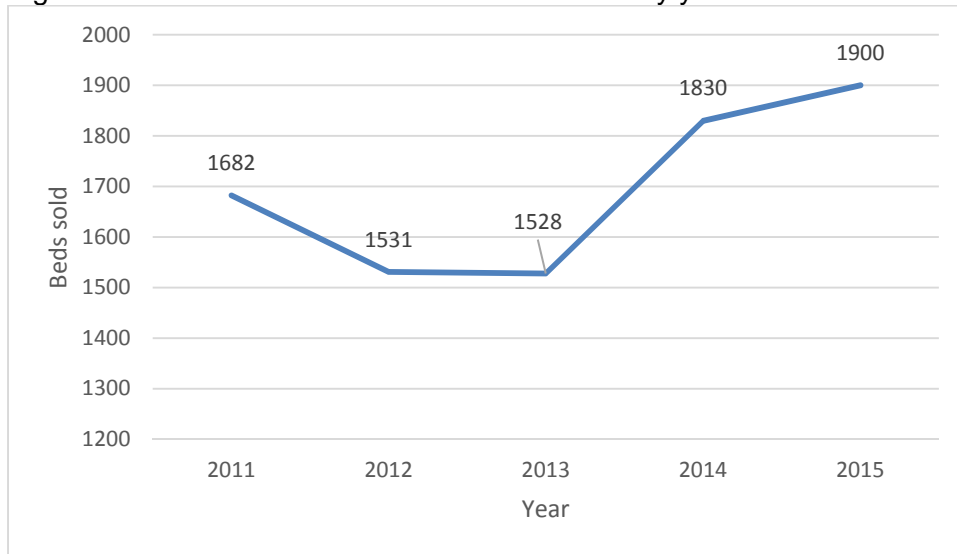
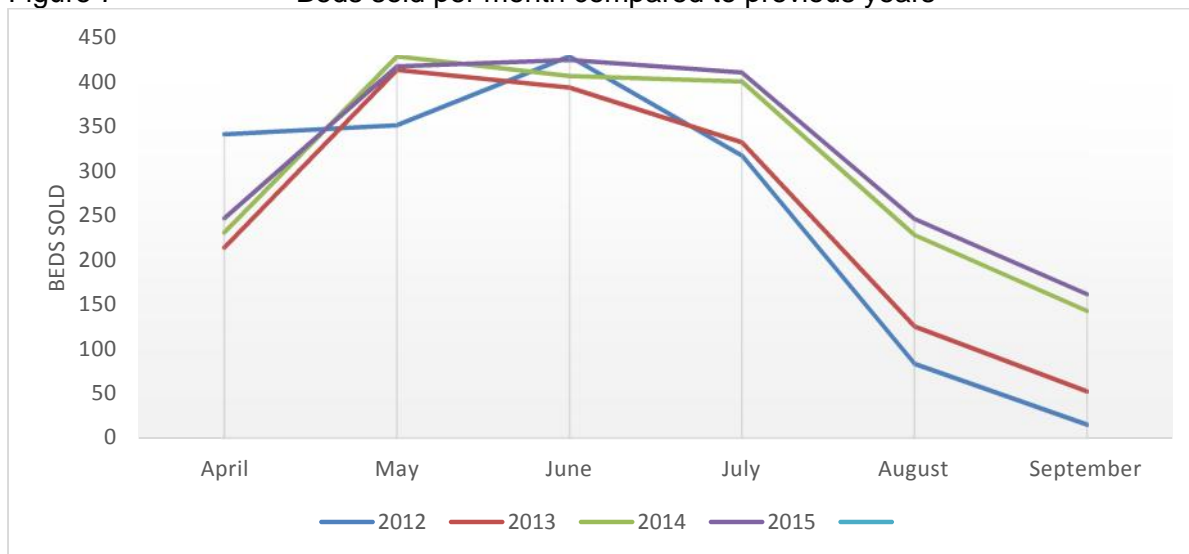


Figure 6 above, shows an overall increase in beds sold since 2011 with bad years in 2012 and 2013.

Figure 7 Beds sold per month compared to previous years



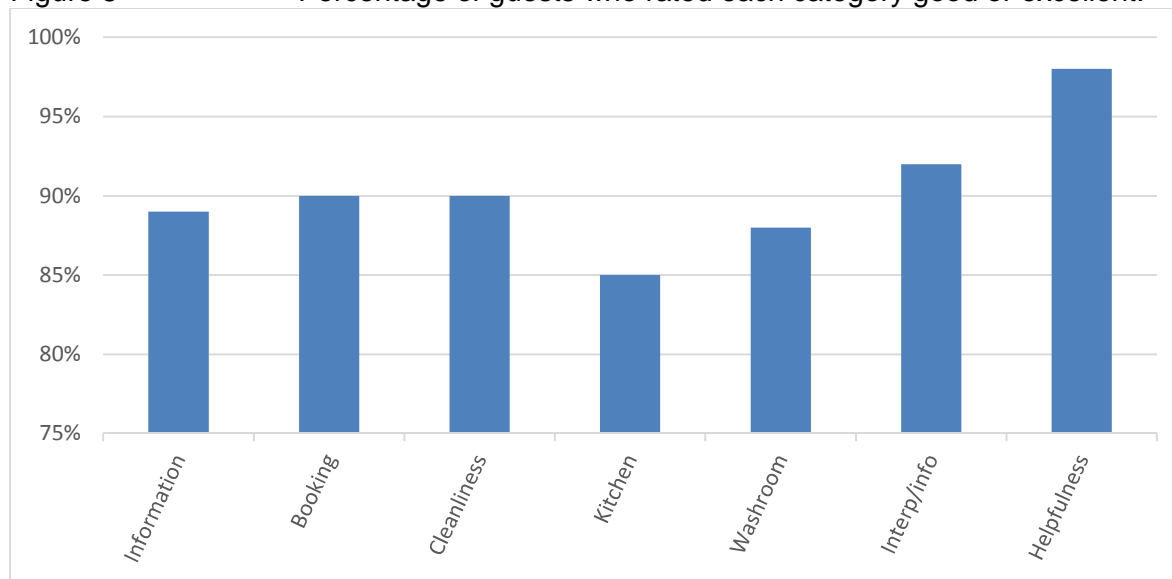
Beds sold per month in 2015 were above the trend for the last three years and important improvements were made especially in August and September, traditionally a quiet time in the hostel.

We continued with last year's trial of two night stays in June and the hostel remained full for the whole month with 18 more beds being sold, the differences arising mainly through single occupancy rates.

## 5.5 Visitor experience

The hostel received overwhelmingly positive feedback in 2015.

Figure 8 Percentage of guests who rated each category good or excellent.



The graph above shows there is still work to be done on the Kitchen and Washroom areas, however, the news is very positive, especially for the rest of the facilities and services.

## 5.6 Human Impact

### Visitors

The island was regularly warded 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 brought into force in October 2015.

The Wick was manned by staff and volunteers to prevent visitor disturbance and provide information about seabirds to visitors. The Puffin productivity study which was started in 2014 was continued in 2015 to monitor human impact at the Wick on the breeding success of the Puffins. Success is measured by the number of chicks fledged per pair. Two sections of the island were studied, one on The Neck; where there is no visitor disturbance and a new site at The Wick; the busiest area of the island during Puffin season. Productivity at the two sites can then be compared.

Furthermore a new study was set up which compared the number of prospecting birds at the Wick to North Haven to research whether large visitor numbers have an effect on recruitment, see Appendix 3 for full Long-term Volunteer report by Sarah Purdon.

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 2015 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 August we noticed dive boats going into the Wick, getting close to the Kittiwake nests which still contained chicks. 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. 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 2015.

# 6 Staff and Volunteers

## 6.1 Staff

Our new Visitor Officer, Leighton Newman, and our Assistant Warden Jason Moss moved out the island on the 5<sup>th</sup> of March. Ed and Bee (Skomer Wardens) moved out on the 14<sup>th</sup> of March. Elisa Miquel-Riera acted as Field Worker and arrived on the island on the 7<sup>th</sup> of April.

At the other end of the season, Elisa left the island on the 5<sup>th</sup> of August, Leighton was off the island from 23/9-17/10 to help with island bookings and left for the winter break on 7<sup>th</sup> of November. Jason left on the 19<sup>th</sup> of October. Ed and Bee stayed on until the 19<sup>th</sup> of November to finish the seal monitoring contract.

## 6.2 Lockley Lodge

Chrissy and Gary Eade ran Lockley Lodge in 2015 and Mervyn Jones returned as recruitment officer. 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.

## 6.3 Volunteers

### Weekly vols

We had a total of 145 weekly volunteers helping in 2015. Six of them were taking part in the Duke of Edinburgh awards scheme. We are delighted that we can give so many people the chance of hands-on experience in conservation, especially young people who are looking for a career in this field. Moreover we wouldn't be able to run Skomer without the help of our volunteers.

### Long Term Volunteers (LTVs)

The Long Term Volunteers in 2015 were Alice Hadley (April – July), Sarah Purdon (April – August), Tom Gibbins (July – September) and Alex Dodds (August – September). All of the volunteers were excellent in their commitment and work ethic and all became a large part of the island for the time they were there. Alex Dodds arrived as a last minute replacement for a drop out LTV, and Alex then stayed on into October, employed as a Seal Monitoring Assistant. Sarah and Alice did a personal project on top of regular work and published a report in the Friends of Skokholm and Skomer newsletter. See Appendix 3 and 4.

An extra volunteer (Jack Ford) was drafted in to help with seabird counts and Shearwater census in June.

### Work parties

A work party comprising eight volunteers helped with maintenance tasks from 6-13/4. All windows in North Haven were renovated, Bull Hole hide was repaired and on 13/4 we removed ca. six tonnes of scrap and rubbish which had accumulated over the last 30 years.

A huge thanks goes to all of our work party and weekly volunteers, to all the volunteers who came on especially to help with this enormous task and to the researchers, LTV and staff who mucked in. Furthermore we are very grateful to John Reynolds who volunteered his time and boat and patiently waited a whole day for us to load up the Lady Helen. Moreover he arranged for all the rubbish to be unloaded and picked up at Neyland. .

# 7 Reserve administration

## 7.1 Finance

### Landing fees

Landing fees were kept the same for 2015; £10 adults, £9 concession, £5 students, members and children free.

### Overnight accommodation fees

Table 6 Room prices in the hostel for 2015

Room	Curlew	Puffin	Chough	Guillemot	Shearwater
Beds	2 Single	2 Single 1 double	3 Single	2 Single	Bunkroom 5 Single beds
April	<b>£40</b>	<b>£40</b>	<b>£40</b>	<b>£40</b>	<b>£35</b>
May – July	<b>£60</b>	<b>£60</b>	<b>£60</b>	<b>£60</b>	<b>£45</b>
Aug and Sept	<b>£30</b>	<b>£30</b>	<b>£30</b>	<b>£30</b>	<b>£30</b>
Children (12 and under)	Half price	Half price	Half price	Half price	Half price
Single occupancy available?	Price +50%	N/A	N/A	Price +50%	N/A

During September we ran a promotion for buy one night get one half price and will be continuing this on into 2016.

June was once again a two night only stay with changeover days on Tuesday, Thursday, Saturday and Sunday, allowing a one night stay from Saturday to Sunday. This has been so successful in allowing the staff and volunteers more time and guests more time to enjoy the island that it has now been extended into May for 2016. Occupancy rates are also some of the highest they have ever been.

### Membership

2015 saw another record broken in terms of membership recruitment with 74 new members recruited by staff and volunteers on the island. The table below shows the breakdown of categories of membership.

Table 7 Membership categories of people signed up on the island.

Individual	Family and Friends of Skokholm and Skomer	Joint	Family	Individual Concession	Joint Concession
5	1	41	6	11	10

## **Sales**

The sales point was pulled down at the end of the year to make way for a new smaller one. The new posts and internal frame work were put in during October/November. Erecting the new sales point proved to be more difficult than expected as we had to dig into solid rock to install the post. The idea is to have the majority of it removable to store over winter, hopefully extending its lifespan significantly. The new posts are also plastic and not wood to combat rotting, something the old sales point suffered from.

We were also in the process of designing a new map for the sales point display, with the help of Lucy and Chris from Island Friends, as the old map was badly worn and not appropriately branded.

In 2015 we received a new stock of Wildlife Trust branded Opticron binoculars. These binoculars have a much better build quality and hopefully we will see in the coming years reduced maintenance costs at the end of the year due to this build quality. In 2015 we only sent three pairs away for repair, a significant improvement on the 20 we sent away in 2014.

## **7.2 Training**

Staff and LTVs were also trained up on Tractor driving by the wardens. Leighton and Jason went on a First Aid course.

# 8 Reserve Management

## 8.1 Management Plan

In May the NNR audit was undertaken by NRW and the new management plan was formally accepted. The wardens were trained in the use of CMSi, the bespoke software into which the management plan is written.

## 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.

## 8.3 Signage

Some new signs were made for us by Dave Gadd, one of our most valued volunteers and we were working towards replacing all signs on the island. There are still some old signs with the CCW logo on them and these will be the priority to replace in 2016.

# 9 Media, Interpretation and Events

## 9.1 Media/Filming Visits

The media request form which was introduced at the end of 2014 has helped to keep up with media request coming in.

Below is a summary of the main media goings on in 2015.

### April

Nick Wilcox-Brown came over on 8<sup>th</sup> April to carry out a recce for filming in May

### May

S4C came to film on the 13<sup>th</sup> May

Wildlife cameraman Ted Giffords stayed on 17<sup>th</sup> May to do some filming

### June

IBEX filmed 4<sup>th</sup> June

Lonely Planet voted Skomer Island in the top ten for family holiday destinations in Europe

Western Telegraph interviewed Leighton about Lonely Planet article

Radio Wales interviewed Leighton about Lonely Planet article on 25<sup>th</sup> June

### July

Weatherman walking filmed on the island on the 16<sup>th</sup> and 17<sup>th</sup> July

Ed and B were interviewed for Radio Wales on 14<sup>th</sup> July, it was aired on Sunday 2<sup>nd</sup> August

### August

Sky came to film on 25<sup>th</sup> of August with Freddie Flintoff to film Shearwaters at night

### September

National Trust filmed on 15<sup>th</sup> September. This was part of the Marloes Peninsula film which was part of the wider Pembrokeshire film series. Andy Davies was the camera man and Grant Sonnex was the sound recordists for a longer audio piece for the National Trusts website

The community channel filmed on 23<sup>rd</sup> September to promote Skomer Island as a whole including shearwaters and the hostel. Aired on 22<sup>nd</sup> November

### October

Canadian film company, Blue Ant Media, filmed using drones on Skomer on 6<sup>th</sup> October

### Winter

Skomer was voted Britain's Favourite Nature reserve in a survey carried out by LandLove Magazine

## 9.2 Interpretation

Children's maps of the island produced by Lucy Griffiths and Chris Thomas were on display at the sales point and the Farm and the children's trail was popular in 2015. The visitor centre is in need of new interpretation, furthermore the interpretation signs on the reserve need to be replaced and a new history trail needs to be set up.



## 9.3 Events

A series of events were run on the island in 2015. These helped to raise the profile of the island, increase visitor numbers and raise island income.

### West Coast Birdwatching events

Dave Astins ran two guided birdwatching weekend trips this year. Both were well attended with April selling out and September had two spaces due to a last minute cancellation.

Dave also scheduled six exclusive Monday guided walks on the island, however, only five went ahead due to weather cancellations. All five were well attended though, and three were fully booked.

### Wednesday activities in August

During August we planned to run an activity every Wednesday for families and children, ranging from owl pellet dissection to reptile rambles. As part of one of these Wednesday activities we also planned to have an Island Friends reading event, similar to 2014. However, the weather unfortunately cancelled three out of four of these events including the Island Friends reading.

These activities were free to attend apart from the usual landing fee and boat fare and were intended to increase visitor numbers during August.

### Skomer's Hidden Secrets

This was a new event set up this year to entice families onto Skomer for two, two night stays, and was aimed at showing them the side of Skomer they wouldn't normally see. Activities included rockpooling, reptile rambles, moth trapping and weighing Shearwater chicks. Unfortunately one of these event was cancelled due to weather, but the second event was well attended with three families all thoroughly enjoying themselves.

Skomer's Hidden Secrets had no extra charge for 2015 and so families were charged the normal £60 for two nights and £30 for children.

### Shearwater Week

Continuing on from its initial set up in 2014, Shearwater week was another success in 2015, filling 126 beds in a little over a week and generating an extra £4360 in the hostel. It was also attended by Dr Gary Mantle MBE, who's currently the CEO of Wiltshire Wildlife Trust and he wrote a blog about his experiences having enjoyed it so much.

The price for Shearwater week was £70 for adults and £30 for children. From this event the Trust generated an extra £4360 and filled 126 beds in the hostel.

### Pembrokeshire Coast National Park walks

This year we scheduled four Pembrokeshire Coast National Park walks, two on Seals and two on History of the island. The walks are free to attend (The usual landing fee and boat fee still applies) and are led by volunteers from Pembrokeshire Coast National Park. Again the weather disrupted these events as well and two were cancelled. The two walks that did go ahead, however, were well attended.

## 9.4 Marketing and Publicity

2015 saw significant increases in social media popularity with Facebook "Likes" increasing from 3000 to 4700 by the end of 2015.

Twitter also gained many new followers and now stands at 4,100 whilst Instagram now has 125 followers. A bigger effort will be made in 2016 to increase the followers on Instagram by posting "of the moment" photos using a smart phone out in the field.

## 9.5 Wildlife Adoption Scheme

Reports completed for the Seal and Puffin adoptions.

# 10 External groups and liaison

## ICAC

The Islands Conservation Advisory Committee (ICAC) meetings were held on 6/3 (Cilgerran), 26/4 (Marloes) and the 16/8 (Skomer). The wardens were able to attend only the meeting on Skomer. The seabird monitoring subcommittee met at Cilgerran on 4/12.

## Friends of Skokholm and Skomer

The Friends of Skokholm and Skomer committee meeting was held on the 15<sup>th</sup> of February which was attended by Andy Bramwell (Visitor Officer). The Friends reunion was held the next day and was another great success.

## 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.

## 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), H.M. Coastguards and of course Dale Sailing. Cooperative work was also undertaken between WTSWW and the Pembs Ringing Group.

# Acknowledgements

Thanks go to many parties and individuals that helped with the successful running of Skomer Island in 2015. Apologies to anyone left off this inevitably incomplete list.

Many thanks go to all staff and volunteers (long-term and weekly volunteers and anyone drafted in at last minute to get us out of trouble), staff at the MCZ (especially Mark Burton) and Dale Sailing (Kenny, Carl, Pete, Derek, Jamie, Gareth and John Reynolds in particular), Lizzie Wilberforce (Conservation Manager for WTSWW), Gina Gavigan, all staff at Cilgerran and Tondy, Lucy and Sash Tusa, Anna and Steve Sutcliffe, The Friends of Skokholm and Skomer, all contractors and volunteers (especially Henry Lloyd who is our volunteer electrician and Peter Barlow (Outersight)), all members of the ICAC and other helpful wildlife consultants, 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.