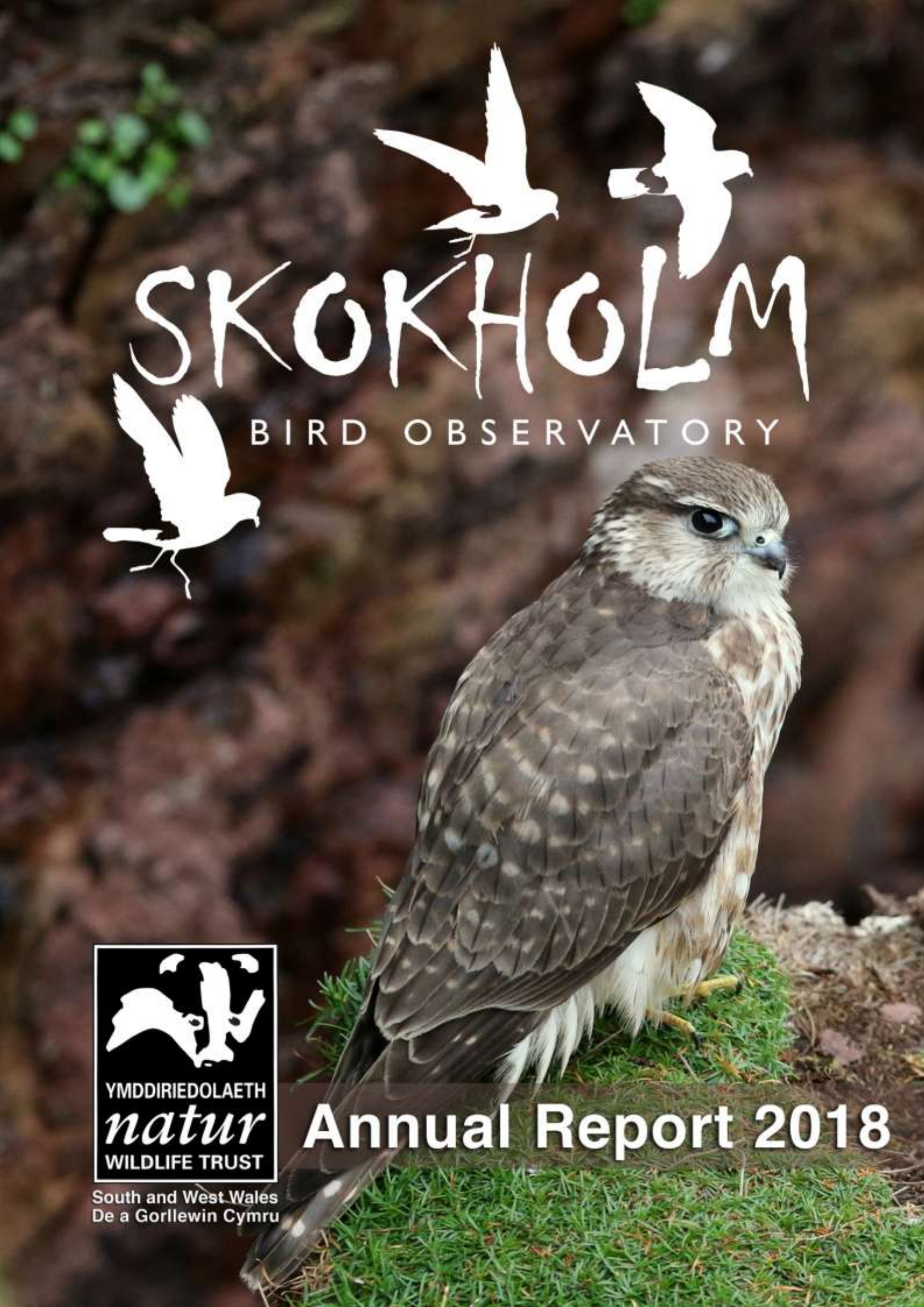
SKOKHOLM

BIRD OBSERVATORY



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WILDLIFE TRUST

South and West Wales
De a Gorllewin Cymru

Annual Report 2018

Wardens' Report

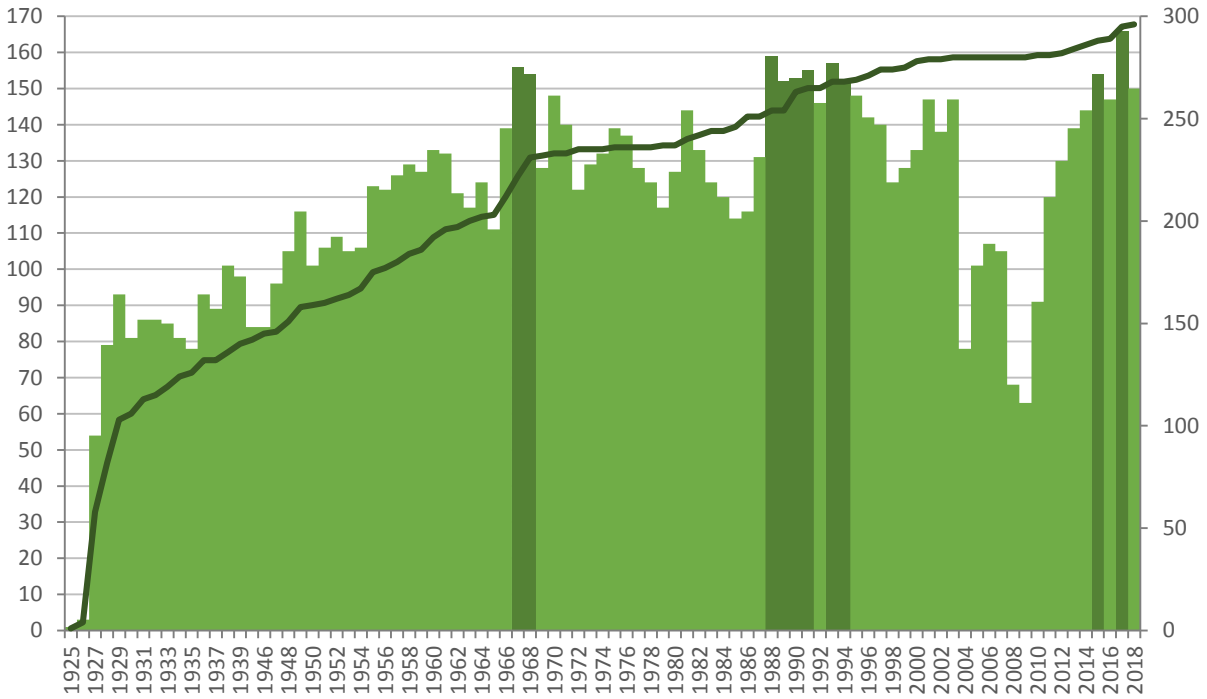
Introduction to the Skokholm Island Annual Report 2018

Our sixth year on Dream Island was another rewarding and successful one. Several events will live long in the memory, particularly heavy snowfall in March, the hottest summer on record, a whole Island Manx Shearwater census and the discovery that breeding Storm Petrels had occupied boxes in the Petrel Station for the first time. It was always going to be difficult to match the unprecedented 2017 season for scarce and rare birds, indeed it proved an impossible task, however we were still treated to some great birding, a few good Island scarcities and, almost at the death, a Pallid Swift which was an addition to the Island list. New moths and a new plant were also discovered and exciting research projects continued, in particular the Wheatear studies which provided some fascinating new insights into their social interactions. As always it was the people who helped to make the 2018 season so special; yet again an amazing team of volunteers donated their time and energy, repairing the damage done by Storm Ophelia and maintaining the accommodation during another busy year, whilst fascinating researchers and brilliant guests contributed to that special Skokholm atmosphere. It has been a pleasure documenting all of the information collected during such an exciting season; we hope you get as much enjoyment from reading it as we did from writing it.

This report follows the same format as in the previous five years. It provides a full account of the 2018 season, documenting the fortunes of Skokholm's breeding birds, along with a detailed record of migrant birds and the non-avian wildlife encountered this year. Each species of bird logged during 2018 is addressed separately and every piece of information we have gathered during the season can be found under that species title; thus details of first and last dates, numbers, breeding, ringing totals, ringing recoveries, specific projects and all other relevant information can be found in the one

place. Following the success of our five previous online reports, the Skokholm Annual Report 2018 has again been produced in a free to download PDF format. For any readers wishing to contribute to our work, a 'donate now' button is available on the source page.

The number of bird species logged in each year since 1925, with the ten most productive years in darker green, and the cumulative number of species logged on Skokholm (which had reached 296 by the end of 2018).



The 2018 Season and Weather Summary

The season ran from 6th March to 26th November and we welcomed visitors from 20th April to 30th September. Anticyclone Hartmut, popularly known as the 'Beast from the East', hit Great Britain and Ireland on 22nd February, bringing with it cold Arctic air. This, combined with Storm Emma on 2nd March, resulted in strong winds, heavy snowfall and unusually low air temperatures. Upon the Wardens' arrival on a fine and sunny 6th, it was apparent that the snow driven movement of plovers and thrushes noted over mainland Pembrokeshire had also taken birds to Skokholm; Golden Plover and Redwing numbering into the hundreds were struggling in the freezing conditions and several corpses were found. Frozen snow drifts still present in the sheltered areas of the Island were testament to the severity of conditions during the previous week.

The period that followed was wet; rain or drizzle fell on all but two of the 11 days leading up to the 'Mini Beast from the East' which arrived on the 17th, this a less severe recurrence of the conditions experienced during late February. Nevertheless it brought snow fall so intense that the St. Ann's Foghorn was triggered. The freezing air temperatures and frozen ground allowed snow to lie across the entirety of the Island, including on the salt exposed cliffs; the accompanying force five southeasterly made for bitter conditions and a wind chill of -9^{0}c. The remainder of March was a mixed bag; isolated showers or drizzle fell on five dates and prolonged heavy rain came on the 29th, whilst typically calm winds freshened on five dates and temperatures returned to average for the time of year. Rough weather returned during early April, with winds veering southeast on the 1st and strengthening to gale force by the afternoon. Moderate gales continued until the 7th, although an eight day calm spell followed. For over half of the month easterly winds dominated and precipitation was logged on 14 dates; on most occasions rain fell as brief showers or drizzle, but there were

heavier spells on the 1st, 17th and 23rd. Periods of light winds brought warm temperatures which peaked at 17.8^{0}c on the 21st.

Heavy showers or moderate drizzle fell on eight May dates and occasional light showers fell on an additional five. It was, however, a largely calm and sunny month, with winds only exceeding force four on four occasions. Temperatures peaked at 20.4^{0}c on the 29th, although the mean temperature for this period was only 11.2^{0}c. June began with a day of rain on the 1st , but what followed was a calm, sunny and hot spell which ran through to the 13th, providing ideal field conditions for the whole Island Manx Shearwater census. A northwesterly near gale blew on the 14th and backed southwesterly on the 16th, resulting in rough seas. A thick fret which covered the Island on the 20th cleared by the evening, giving way to another very calm, sunny and hot period which lasted until the end of the month and included the hottest day of the season; a peak of 23.6^{0}c was logged on the 28th. The Met Office declared June 2018 to be the hottest ever in Wales and the subsequent summer months to be the joint hottest on record. The calm and sunny weather continued into July, lasting almost the entire month. However a severe southwesterly gale blew on the 28th, with gusts registered at 64mph by the Mid Channel Rock Beacon off St Ann's Head; it was accompanied by heavy rain and lightning storms, with very rough seas which remained until the end of the month. Whilst there were no notable weather events in August, it was an unsettled period with showers or prolonged rain noted on over 60% of dates. Most of the heavy showers fell overnight, although persistent rain on the 26th flooded parts of the Island. Mist descended on four August dates and southwesterly winds blew for half of the month, creating warm and humid conditions with an average temperature of 15.8^{0}c and a peak of 20.4^{0}c on the 5th.

September was similarly damp with less than 30% of days remaining dry, the majority of which occurred in the latter part of the month. However most rain fell as isolated, brief showers which gave way to blue skies and sunshine. It was another classic September which saw winds, often brisk, from all points of the compass and stronger blows from the north on the 3rd, from the southwest on the 9th and 19th (the latter gale force winds producing a very rough sea) and from the west on the 20th. Temperatures were typical for the month, with a high of 18.2^{0}c logged on the 2nd and an average of 14.0^{0}c. As was the case in 2017, October brought increasingly overcast conditions,

although it was a largely dry month with rain or drizzle falling on just ten dates. Winds were fresh to strong and mostly from the westerly quarter until the 10th when they backed to a near gale southeaster. On the 12th a force ten storm hit, bringing with it regular hurricane force gusts, lashing rain and extremely unpleasant conditions; the St. Ann's Mid Channel Rock Beacon logged nine metre waves for most of the day and substantial 11 metre waves on occasion. The remainder of the month was however a pleasant one, with predominantly dry and sunny conditions and light winds which only exceeded force four on three dates.

November dawned brisk but sunny, with the moderate sea produced by late October southeasterlies dampened by a switch to weaker winds from the northwest. This was however short-lived; what followed was an extended period of stiff southerlies which yo-yoed between the east and west, maintaining a near constant moderate to rough sea state. Whilst several sunny days were enjoyed, dull and overcast conditions dominated and resulted in warm diurnal temperatures which peaked at 13.4^{0}c on the 4th. Heavy showers were noted on seven dates and occasional light showers interrupted the sunnier days. Winds which from the 15th blew consistently from the east, backed northeast on the 24th, calming the chop enough for the Wardens to depart on the 26th.

Spring Work Parties

The 2018 spring work party ran from 30th March to 13th April. Following the damage inflicted upon the Lighthouse windows and interiors by Storm Ophelia in October 2017, the building had spent the winter in a damp state with salt clad rooms which continuously drew moisture from the air. The first week was thus spent solely at the Lighthouse. The entire building was cleaned from the lantern to the old generator room; a brilliant group of enthusiastic volunteers washed down and scraped back mouldy walls and glosswork, removing as much of the salt and storm damage as possible. They made such an amazing difference to the building, providing the clean foundations from which to dry and repair the interiors. Additionally a dehumidifier was purchased to remove moisture from the rooms, damp which would otherwise end up in the walls and furniture. The window in the upstairs living room was put back in and the broken windows and door in the old generator room were repaired or replaced. The generator room door was fixed, the external toilet pipes were secured and the downpipes repaired. The remainder of the work party was focussed on the annual lime-washing, painting and cleaning at the Farm; the accommodation was left looking stunning, probably the best it has ever been. The solar panels at the Farm were rewired in an arrangement which has greatly

improved their efficiency. The delicious and hearty food provided by our volunteer chefs kept morale and energy levels high.

Spring Long-term Volunteers

On 30th March we were joined by Long-term Volunteers Eleanor Absalom and Michelle Underwood who spent the next three months on Skokholm, assisting with core seabird monitoring and the running of the Bird Observatory. They began by helping with the pre-season building preparations, cleaning and painting the accommodation, whilst also monitoring Puffin attendance around the Neck (a survey now in its fifth year). They established the 2018 Fulmar productivity plots and gained valuable experience in many other areas of seabird research. They contributed to the whole Island Manx Shearwater census and the Storm Petrel annual census. They also helped to keep the communal areas of the visitor accommodation clean and tidy.

On 28th May Zoe Deakin, Kirsty Franklin, Amy Sherwin and Stephen Vickers arrived as volunteers to assist with the whole Island Manx Shearwater census. The following week Alys Perry joined the survey team. This cracking group worked tirelessly alongside the Island staff, playing a recording of the raucous dueting of Manx Shearwaters down 7564 burrows. We could not have carried out such a large scale survey without their competency and diligence.

On 11th June we welcomed back Katy Westerberg, who in 2017 had undertaken her undergraduate research on Skokholm; she returned this year as our 2018 Storm Petrel Volunteer. Katy took the lead on the core Storm Petrel survey work, which includes the annual playback transects and productivity monitoring, along with assisting in the mist netting of adults in South Haven. Her passion and enthusiasm for this, and all other aspects of seabird monitoring on Skokholm, was hugely valued. Katy also made some excellent observations during countless hours of seawatching, with a Basking Shark perhaps the highlight. She also provided much appreciated assistance during the cleaning of the accommodation on changeover days.

Spring Migration Highlights

A **Magpie** on 13th March was just the 18th record for Skokholm. A **Little Owl** on the 17th was wearing a ring and was perhaps thus a wanderer from Skomer Island; given the penchant this species has for Storm Petrels, it was perhaps fortunate that this, one of only two individuals seen since 1993, was

not encountered again. A **Red Kite** on the 25th was the first of five 2018 bird-days; there had only been eight previous records. A first-winter **Iceland Gull** on 27th March was the eighth Island record. A **Brambling** on 13th April was just a 31st spring bird-day, the first of which was in 1934. A female **Pied Flycatcher** trapped on the 29th had been ringed as one of four chicks in a nest at Lake Vyrnwy in the June of 2017. A male **Pintail** on the 4th and 7th made this just the sixth May with a sighting. A **Pomarine Skua** went south along the west coast on the 17th and a **Tree Sparrow**, sat on top of the Lighthouse on the 26th, was the first since May 1994. Two **Barnacle Goose** which lingered on North Pond between 29th May and 2nd June were the seventh and latest spring record. A female **Firecrest** on 31st May was one of only three 2018 birds; there had only been records in four previous Mays. A summer-plumaged **Sanderling** on the 1st was the third June sighting for Skokholm and a **Turtle Dove** on the 9th was the first since June 2016. An adult **Little Ringed Plover** on the 20th was only the second to be seen here in June and the tenth spring record to date.

The Breeding Season

Shoveler bred for only the third time since 1999. **Water Rail** held territory, but there was no indication of a breeding attempt. Only one pair of **Peregrine** attempted to breed, this following two years with two nesting pairs, whilst two pairs of **Chough** nested for a fifth successive year. Two **Chiffchaff** were observed nest building but the adults were not seen to provision chicks. **Shag**, **Short-eared Owl** and **Reed Warbler** did not breed.

A summary of the status of seabirds breeding on Skokholm in 2018.
The lower limits given here, taken from the Skokholm Island Management Plan, have been established by the Wildlife Trust of South and West Wales and endorsed by the Seabird Subgroup of the Islands Conservation Advisory Committee. A green box is an attribute above its lower limit, a red box an attribute below the lower limit stipulated in the plan.

		Whole Island or Annual Plot Total (2017-2014 in parenthesis)	Productivity (2017-2014 in parenthesis)
Storm Petrel		**Study plot population:** any measurable decrease in the population	
Population	Not set	**Productivity:** limit not yet set due to a lack of data	
		83 transect responses (89, 76, 87, 82)	0.55 (0.50, 0.58, 0.55, 0.69)
Fulmar		**Whole Island population:** not to drop below the 2013-2017 mean of 187	
Population	Productivity	**Productivity:** 3 in any 5 consecutive years with less than 0.50 chicks per breeding pair	
		217 aia (213, 194, 179, 179)	0.49 (0.45, 0.57, 0.47, 0.53)
Manx Shearwater		**Study plot population:** any measurable decrease in the population	
Population	Productivity	**Productivity:** 3 in any 5 consecutive years with less than 0.69 chicks per breeding pair	
		373 responses in 8000m^2 (295, 297, 269, 241)	0.70 (0.80, 0.68, 0.68, 0.63)
Great Black-backed Gull		**Whole Island population:** not to drop below the 2013-2017 mean of 85	
Population	Productivity	**Productivity:** 3 in any 5 consecutive years with less than 1.10 chicks per breeding pair	
		93 nests (93, 93, 83, 84)	1.40 (1.54, 1.38, 1.66, 0.93)
Herring Gull		**Whole Island population:** not to drop below the 2013-2017 mean of 295	
Population	Productivity	**Productivity:** 3 in any 5 consecutive years with less than 0.70 chicks per breeding pair	
		320 nests (302, 322, 289, 300)	0.73 (0.70, 0.86, 0.66, 0.70)
Lesser Black-backed Gull		**Whole Island population:** 3 in any 5 consecutive years with less than 4600 pairs	
Population	Productivity	**Productivity:** 3 in any 5 consecutive years with less than 0.60 chicks per breeding pair	
		1069 aia (1123, 1397, 1486, 1588)	0.63 (0.38, 0.23, 0.15, 0.30)
Guillemot		**Whole Island population:** not to drop below the 2013-2017 mean of 3714	
Population	Not set	**Productivity:** not monitored on Skokholm	
		4316 aol (4038, 3949, 3603, 3512)	- (0.55-0.61 in 2013)
Razorbill		**Whole Island population:** not to drop below the 2013-2017 mean of 2292	
Population	Productivity	**Productivity:** 3 in any 5 consecutive years with less than 0.80 chicks per breeding pair	
		2585 aol (2491, 2242, 2382, 2052)	0.69 (0.40, 0.39, 0.21, 0.40)

Puffin		Whole Island population: not to drop below the 2013-2017 mean of 6212
Population	Productivity	Productivity: 3 in any 5 consecutive years with less than 0.74 chicks per breeding pair
8762 adults (7800, 6692, 6665, 5070)		0.75 (0.80, 0.73, 0.75, 0.74)

A summary of breeding birds on Skokholm in 2018. Productivity is the average number of fledglings produced by each breeding pair ('-' indicates insufficient data).

	Total (2017-2013 in parenthesis)	Productivity (2017-2013 in parenthesis)
Canada Goose	4 pairs (7, 7, 10, 11, 18)	0 (0, 0, 0, 0, 0)
Shelduck	1 pair produced ducklings (2, 2, 1, 3, 1)	0 (0, -, 0, 0, -)
Shoveler	1 pair produced ducklings (1, 0, 1, 0, 0)	0 (0, 0, 0, 0, 0)
Mallard	6 pairs produced ducklings (4, 3, 2, 1, 2)	0 (0, 0, 0, 0, 0)
Shag	0 (0, 0, 0, 0, 1 nest)	0 (0, 0, 0, 0, 0)
Buzzard	1 nest (1, 1, 1, 1, 1)	1 (1, 1, 2, 1, 1)
Water Rail	1 territory (0, 0, 0, 0, 1)	0 (0, 0, 0, 0, 0)
Moorhen	2 pairs (3, 3, 3, 3, 2)	3.50 (2.67, 2.67, 2.33, 1.00, 1.00)
Oystercatcher	52 pairs (61, 54, 55, 51, 40)	1.62 (0.57, 0.82, 0.36, 1.55, 1.00)
Short-eared Owl	0 nests (1, 0, 0, 0, 0)	0 (2+, 0, 0, 0, 0)
Peregrine	1 nest (2, 2, 1, 1, 1)	0 (0.5, 0.5, 0, 0, 3)
Chough	2 pairs (2, 2, 2, 2, 3)	1.00 (4.00, 2.50, 1.00, 1.50, 0.67)
Jackdaw	22 pairs (20, 20, 20, 19, 16)	- (-, -, -, -, -)
Crow	10 nests (9, 9, 8, 8, 8)	0.60 (1.11, 1.78, 1.88, 1.25, 0.38+)
Raven	2 nests (2, 2, 2, 2, 3)	4.00 (4.00, 3.00, 4.50, 4.00, 3.33)
Skylark	19 territorial males (21, 16, 12, 11, 10)	- (-, -, -, -, -)
Swallow	4 nests (4, 4, 6, 4, 5)	4.00 (3.25, 5.75, 2.50, 2.00, 4.00)
Chiffchaff	2 birds nest building (0, 0, 1, 1, 0)	0 (0, 0, 1, 0, 0)
Sedge Warbler	15 pairs (13, 11, 7, 9, 8)	- (-, -, -, -, -)
Reed Warbler	0 pairs (1, 1, 0, 0, 0)	0 (0, 3, 0, 0, 0)
Wren	63 territorial males (58, 60, 52, 57, 55)	- (-, -, -, -, -)
Blackbird	6 pairs (6, 7, 7, 6, 5)	3.33 (2.83, 2.29, 1.29, 2.17, 2.80)
Wheatear	18 pairs (25, 20, 16, 13, 12)	3.89 (2.12, 2.65, 4.00, 3.38, 2.67)
Pied Wagtail	5 pairs (5, 4, 3, 3, 3)	3.60 (3.60, 5.25, 4.33, 3.67, 5.00)
Meadow Pipit	40 territorial males (40, 40, 30, 28, 28)	- (-, -, -, -, -)
Rock Pipit	41 territorial males (61, 53, 44, 34, 32)	- (-, -, -, -, -)
Reed Bunting	4 pairs (7, 7, 7, 5, 5)	2.50+ (1.86, 1.43, 2.00, 1.80, 2.40)

Autumn Migration Highlights

A first-summer **Grey Plover** on the 2nd was the second July record for Skokholm. The only **Little Egret** to be seen this year was logged on the 7th; this was still only the 28th Island record. A vocal **Wood Sandpiper** at 0300hrs on the 26th was the fifth July record since the first in 1994. A **Sooty Shearwater** on 16th August was the first of five 2018 singles and a **Balearic Shearwater** two days later was likewise the first of five. A **Great Shearwater** on the 18th was the fifth to be seen from Skokholm. An adult **Roseate Tern** on the 27th was the first since July 1999. A **Wryneck** found on 31st August was probably the same bird seen regularly to 12th September; these sightings took the bird-days total for the last six years to 52. An **Osprey** on 2nd September was the 16th Island record, six of which have been logged in the last seven years. A **Melodious Warbler** found at Boundary Hill on the same date was assumed to be the bird ringed on the 5th. An adult **Roseate Tern** was again logged on the 3rd. A juvenile **Robin** trapped on the 5th had been ringed in Tyne and Wear during June. A **Common Rosefinch** found on the 16th was probably the same bird seen intermittently until the 27th; there has now been a minimum of six individuals in eight years. A juvenile **Buff-breasted Sandpiper** near the

Lighthouse on the evening of the 27th was the fourth record for Skokholm. A **Tree Sparrow** at the Well on the 29th was the first in September since a single in 1989.

A **Turtle Dove** on the 4th was only the 30th October bird-day and a **Lapland Bunting** on the same date was the only sighting this year. A juvenile female **Great Spotted Woodpecker** ringed on the 7th was another fourth for Skokholm. A **Great Tit** ringed on the same date, the first to be seen since 2011, was present until the 15th and was controlled at Mullock, Dale on the 16th and 27th December. A **Siberian Chiffchaff** was also trapped on the 7th, with a second bird present between the 20th and 28th. A **Cattle Egret**, which roosted with Great Black-backed Gulls on the 9th, was the second Island record. The following day saw a **Richard's Pipit** logged, this the third of the last three years. A **Yellow-browed Warbler** ringed on the 14th was different to the bird ringed the following day; there have now been 17 records during the last six years. A **Grey Phalarope** in Broad Sound on the 17th was the first since October 2001 and a **Hooded Crow** the following day was only the second autumn record following one in September 1952. Seven **Crossbill** on 26th October formed the second largest crookedness to be seen on Skokholm and made this only the ninth year with a record. If accepted as such by the British Birds Rarities Committee, a **Pallid Swift** which spent most of 4th November feeding along the north coast will be a first for Skokholm and the 296th species to be recorded here.

A minimum of 407 **Mediterranean Gull** in Broad Sound on the same date was a new record count. Two **Tufted Duck** at North Pond on the 7th was the first November record for Skokholm, whilst a flyover **Pintail** on the same date was the fourth sighting to be logged in this month. A **Siberian Chiffchaff** sheltered below Howard's End Hide during a gale on 8th November.

Autumn Long-term Volunteers

Kirsty Franklin and Stephen Vickers left Dream Island following the completion of the whole Island Manx Shearwater census and headed for southern Portugal where they spent the next two weeks monitoring Storm Petrels. They returned to Skokholm on 29th June, this time as our Autumn Long-term Volunteers; unsurprisingly given their recent stay, they settled in very quickly. Their first task was to pick up where Eleanor and Michelle left off, continuing with the Fulmar and Manx Shearwater productivity survey. During their three months they assisted with our core seabird monitoring projects and were prolific when it came to Puffin and Great Black-backed Gull colour ring resightings, the latter a job which requires skill and dedication. As experienced trainee ringers, they were quickly awarded their C-permits; this meant that they could soon ring unsupervised. It was a great benefit to the Wardening team to have skilled volunteers who could take charge of trap rounds and the mist nets when staff were occupied elsewhere. Both Kirsty and Stephen spent many hours ringing Manx Shearwater fledglings after dark, along with dazzling roosting ducks, waders and gulls. They ran the moth trap as often as they could and were instrumental during the Storm Petrel ringing sessions in South Haven. They truly gave their all to the Bird Observatory and the Island, enriching the visitor experience for our autumn guests.

Autumn Work Party

The autumn work party ran from the 10th to 14th September; for a second year running the week of work was cut short by an ominous weather forecast. Despite works on three fewer days than were planned, a huge amount was achieved. The easterly face of the Lighthouse was pressure washed to remove salt and algae before being painted; this was the third aspect of the building to receive attention in recent years.

Window frames were also scraped down and retreated. The calm and sunny weather provided perfect painting conditions, even allowing an opportunity to climb to the top of the lantern and gold

paint the weathervane. Meanwhile a team inside the Lighthouse gave the old generator room its first coat of paint since Storm Ophelia filled it with glass and saltwater. At the other end of the Island, much needed attention was given to the vehicles; rust patches were scraped back and primed before being painted with several coats, turning the green buggy black and the yellow dumper blue (colour choices determined by the shades of donated paint available). Just as everyone else was finishing work for the evening, the chef was reaching the busiest part of their day; the resulting meals were some of the finest yet enjoyed at a work party and eagerly devoured.

Skokholm Bird Observatory

Ringing Projects

Colour ringing birds allows us to recognise individuals without the need to retrap them; such projects thus provide new insights into survival and movements. The Skokholm Bird Observatory has focussed its attention on such worthwhile studies. In 2015 we joined an Oystercatcher colour ringing project run by the Pembrokeshire Ringing Group and funded by the Crown Estate; efforts to colour ring Skokholm's breeding birds continued this year, with adults captured on the nest and fitted with an orange darvic ring inscribed with a unique black alpha-numeric code. The Great Black-backed Gull colour ringing scheme, established in 2014, continued for a fifth year; both breeding adults and their fledglings were fitted with red darvic rings inscribed with unique white alpha-numeric codes. A 2017 project monitoring adult survival in Herring Gulls was continued for a second year, this an extension of a study originally established on Skomer Island; breeding adults were trapped on the nest and fitted with red darvic rings inscribed with white alpha-numeric codes.

The exciting long-term Wheatear project, designed and implemented by visiting ringer Ian Beggs, continued for its second year. Adult breeding birds and their offspring were colour ringed in order to determine survival rates, pairings and movements without the need to retrap returning birds. The findings will be compared to those made by Peter Conder between 1947 & 1952, work which was published as part of his seminal monograph, The Wheatear (1989). Any conclusions will be published to support conservation work on Skokholm and elsewhere. Study birds are fitted with a green darvic ring on their left leg, each inscribed with a unique white alpha-numeric code which can be read in the field. This year 28 colour ringed adults returned from their sub-Saharan wintering grounds and an additional 70 individuals were colour marked, taking the two year ringing total to 44 adults and 95 fledglings.

Visiting Ringers

Skokholm Bird Observatory continues to attract visiting ringers who assist us with our monitoring work and provide additional coverage on the Island between April and September; the benefits of increased ringing effort to the Observatory mean that accommodation is provided at a discounted rate. There are many other benefits for the ringers involved; apart from the thrill of ringing on Skokholm during the spring and autumn migration periods, two of the big draws are our long-term studies targeting the Manx Shearwaters and Storm Petrels. These are species which most ringers rarely have the privilege of encountering on their own patch and which we are particularly interested in monitoring. This year we welcomed a total of 47 individual ringers, taking the 2013 to 2018 total to a fabulous 250. The Manx Shearwater transect again proved popular, with a total of 1754 birds handled (988 in 2017, 1761 in 2016, 1688 in 2015 and 3388 in 2014), 1226 of which were new (721 in 2017, 1166 in 2016, 1188 in 2015 and 2104 in 2014). From mid-July efforts were again focussed on ringing Storm Petrels in South Haven, resulting in a total of 1063 adult birds trapped (646 in 2017, 699 in 2016, 919 in 2015 and 688 in 2014), 89% of which were new (84% in 2017 and 91% in 2016) and 4% of which were controls ringed elsewhere (4% were also controls in both 2017 and 2016). Visiting ringers also assisted with other long-term projects such as the ringing of adult

Puffins in Crab Bay (as part of a continuing study into adult survival) and the colour ringing of Great Black-backed Gulls, Herring Gulls and Oystercatchers as outlined above.

Birds Ringed in 2018

A total of 8417 birds of 71 species were caught and processed this season, a total which was the second highest of the last seven years and 24.5% up on the 2013-2018 mean (6759.33 ±sd 1568.27). Seabirds comprised 53% of new birds ringed (44% in 2017, 51% in 2016 and 45% in 2015) and Manx Shearwater accounted for 64% of these and 34% of the overall total (27% in 2017 and 32% in 2016). Seabirds made up 43% of the retrap total (birds caught which had previously been ringed on Skokholm), and Manx Shearwater accounted for 87% of seabird retraps and 37% of overall retraps (46% in 2017 and 45% in 2016). It proved a good year for controls (birds caught which had been ringed elsewhere) with 25 more than in 2017. Seabirds contributed 78% of that total and Storm Petrel were responsible for 76% of these and 59% of controls overall. This increase is primarily due to fine weather conditions allowing for the largest Storm Petrel catch of the last six years. There were 14 passerines encountered wearing rings from elsewhere (ten in 2017, 14 in 2016, ten in 2015, seven in 2014 and six in 2013). There were more species handled than in any of the preceding six years, with **Mallard**, **Shag**, **Golden Plover**, **Whimbrel**, **Woodcock**, **Snipe**, **Common Sandpiper**, **Great-spotted Woodpecker**, **Great Tit** and **Sand Martin** taking the total number of species ringed on Skokholm since 2012 to 105. Details of each control, of the more interesting retraps and of where the birds we ringed have been found are given within the Systematic List of Birds, as is the total number of each species ringed between 1933 and 1976 and between 2011 and 2018.

The total number of New Birds, Retraps and Controls processed between 2012 and 2018, along with the number of different species handled.

	Total Birds Processed	New Birds (full grown)	New Birds (pullus)	Retraps	Controls	Species processed
2018	8417	6123	325	1905	64	71
2017	6030	4285	295	1411	39	69
2016	5979	4263	274	1394	48	59
2015	7245	5367	270	1563	45	67
2014	8439	5785	313	2303	38	59
2013	4446	3436	297	680	33	64
2012	697	648	2	46	1	25
Total	**41,253**	**29,907**	**1776**	**9302**	**268**	**105**

Catching Methods

There are three Heligoland traps on Skokholm (at the Well, in the Cottage Garden and alongside the Wheelhouse), two of which are constructed on the footprints of those originally erected by Ronald Lockley in 1933. These provide an invaluable method of trapping birds when blustery weather prohibits the use of mist nets. The Heligolands were driven regularly on every day of the season and with increased frequency on good fall days. There are five permanent mist nets at the Well: Well 6, Well 9 (with a six metre extension) the Stream Net (a new site in 2015) and the Reedbed Net (a new site in autumn 2018). Around the Farm there are a further four permanent nets: the Courtyard Net, the Wheelhouse Net and the Library Net (the latter of which was extended with a second net in the autumn of 2017). The mist nets were opened on most occasions when conditions were suitable. Additionally four potter traps, eight spring traps, two very large spring traps and a perch trap were used to target rails, gulls, chats and pipits. Seabirds were caught using a variety of methods, although the majority were trapped by hand in the colony. Adult and fledgling Manx Shearwaters were trapped in study burrows, but also by hand along the Manx Shearwater transect. Adult Great Black-backed Gulls and Herring Gulls were trapped on the nest using a remote-controlled leg-noose

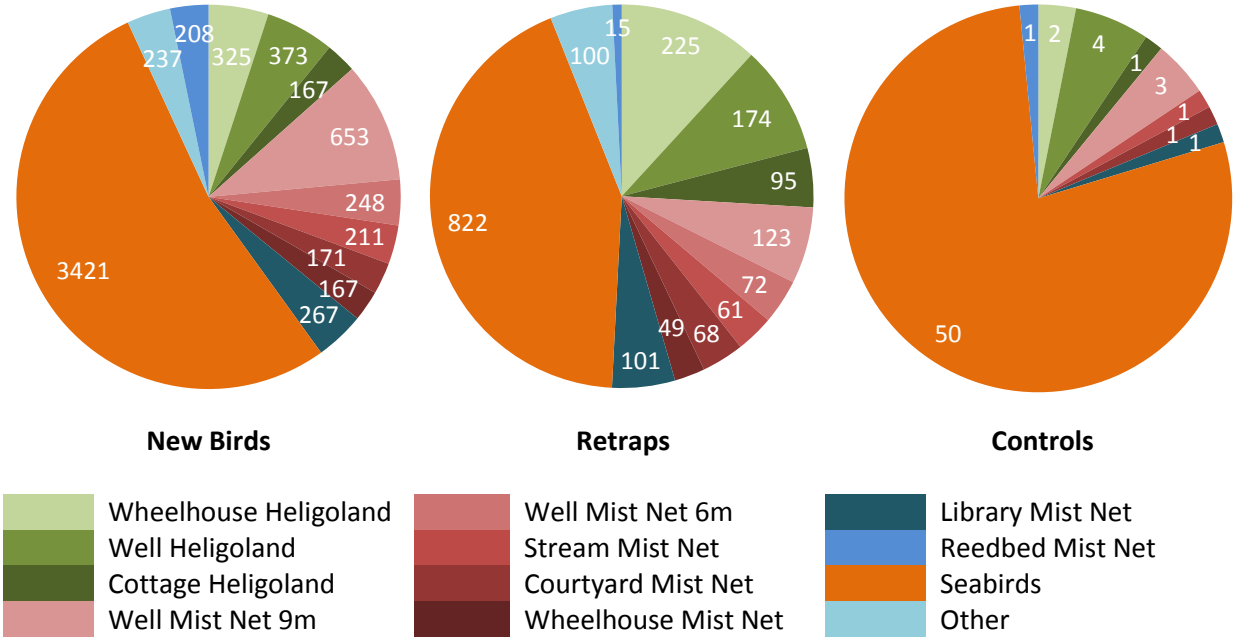
and noose carpet. Lesser Black-backed Gulls and Herring Gulls were caught using a baited Gull Trap on Home Meadow. Adult Puffins, trapped as part of our colour ringing studies, were mist netted in the colony at Crab Bay. Adult Storm Petrels were mist netted in South Haven using a tape lure to attract the birds towards the net.

The Heligoland traps produced 865 new birds, 29% of the new non-seabird total; there were 1125 in 2017 (44% of the total), 952 in 2016 (46%), 1237 in 2015 (40%), 1426 in 2014 (57%) and 818 in 2013 (70%). There were 501 retraps (302 in 2017, 291 in 2016, 448 in 2015, 500 in 2014 and 242 in 2013) and seven controls (five in 2017, seven in 2016, one in 2015, five in 2014 and two in 2013). The Well, for a sixth consecutive season, proved the most productive of the three Heligolands for new birds, providing 43% of the total (42% in 2017, 52% in 2016, 49% in 2015 and 48% in 2014). The Cottage Trap once more caught the fewest, contributing 19% of the new birds total (21% in 2017, 17% in 2016, 14% in 2015 and 11% in 2014). The proportion of birds caught in each trap is unsurprisingly quite similar year on year, with the continuing success of the Well Heligoland no doubt due to the corridor of vegetation which runs from South Haven and funnels migrants towards a trap where more extensive cover and standing water hold birds for longer. The three most abundant species were the same for each trap and the same as in 2017. **Willow Warbler** was again the most commonly encountered species, with 288 new birds from the three traps (398 in 2017). **Chiffchaff** was the second most regularly trapped with 188 new birds (224 in 2017) and **Blackcap** the third with 114 new birds (92 in 2017). Highlights from the Well Heligoland included three **Water Rail**, the first **Woodcock** in seven years, two **Snipe**, a **Collared Dove**, a **Cuckoo**, a **Yellow-browed Warbler**, a **Melodious Warbler**, a **Pied Flycatcher**, a **Stonechat** and a **Tree Pipit**. Highlights from the Wheelhouse Heligoland included a **Fieldfare**, a **Yellow-browed Warbler**, a **Garden Warbler**, a **Black Redstart**, a **Redstart**, a **Stonechat** and a **House Sparrow**. Although it catches fewer individuals, the Cottage Heligoland still provided some good birds including two **Pied Flycatcher** (one of which was a control), two **Redstart** and a **Wryneck**.

The permanent mist nets produced 1925 new birds (1300 in 2017, 1110 in 2016, 1673 in 2015, 1182 in 2014 and 556 in 2013), 489 retraps (329 in 2017, 397 in 2016, 405 in 2015, 351 in 2014 and 155 in 2013) and seven controls (five in 2017, seven in 2016, seven in 2015, two in 2014 and four in 2013). As has been the case for the past four years, the Well provided the majority of birds, with Well 9 and Well 6 catching a combined 47% of new birds (49% in 2017 and 51% in 2016). The least productive was the Wheelhouse Net, catching just 9% of new birds (10% in both 2017 and 2016); this is likely

due to it being opened on fewer occasions owing to its more exposed aspect. The Reedbed Net was erected during the autumn in an area sheltered, and often shaded, by reeds and mature willow; it proved particularly productive, contributing 11% of the new birds total. As was the case at the Heligolands, **Willow Warbler** was most commonly trapped with 453 new birds mist netted during the season (455 in 2017). However the Well nets, in contrast to the Heligolands, saw **Swallow** and **Sedge Warbler** as the second and third most abundant species, with 256 and 201 new birds trapped respectively. Around the Observatory **Chiffchaff** and **Meadow Pipit** were the second and third most encountered species, with 82 and 63 new birds trapped respectively. Highlights from the Well mist nets included three **Snipe**, a **Great-spotted Woodpecker**, a **Great Tit**, six **Sand Martin**, eight **House Martin**, three **Garden Warbler**, two **Firecrest**, two **Whinchat**, two **Stonechat**, four **Wheatear**, a **Grey Wagtail** and four **Lesser Redpoll**. Around the Farm the mist nets produced an **Oystercatcher**, two **Sand Martin**, two **House Martin**, a **Grasshopper Warbler**, a **Fieldfare**, two **Stonechat** and four **Wheatear**.

The number of new birds, retraps and controls trapped during 2018 and the proportion made up of seabirds, birds trapped in each Heligoland and birds from each permanent mist netting site.



Arrival and Departure Dates

The first arrival and latest departure dates of 2018 migrants, along with the extreme earliest and latest dates on which they have been recorded in the past, are documented at the beginning of each species account in the Systematic List of Birds. There were three records of a species outside of its period of previous occurrence this year, one fewer than last year and three fewer than in 2016. This year they were of two **Barnacle Goose** which lingered on North Pond until 2nd June (four on 16th April 1981 were the previous latest), a juvenile **Marsh Harrier** on 4th November (the previous latest was on 15th September 2013) and an adult **Arctic Tern** over North Pond on 18th April (nine days earlier than one in 2016). A male **Wigeon** which frequented North Pond from the 21st to 29th May matched the five which went through Broad Sound on the 29th last year. The following species were recorded close to their Skokholm limits: A **Greenshank** at North Pond on the evening of 12th April (earliest on 5th April 2015), four **Swift** on 25th April (earliest on 15th April 1991), a **Reed Warbler** at the Well on 19th April (earliest on 17th April 2015), a male **Pied Flycatcher** on 19th April (earliest on 10th April 1993), a male **Redstart** on 3rd April (earliest on 1st April 1991) and a grounded **Tree Pipit** on 10th October (latest on 13th October 1959). Additionally a female **Blackcap** in the Courtyard on 24th

November was the third latest individual to date (latest on 2nd December 1996); it would seem likely that later, and possibly even overwintering, birds are going undetected due to an absence of staff during the winter months.

2017 Rarity Decisions and DNA results

A stunning first-summer male **Myrtle Warbler**, singing in the Courtyard on 18th June, was accepted by the British Birds Rarities Committee as the first for Skokholm, the second for Pembrokeshire and the 22nd for Britain, only five of which have occurred in spring. The British Birds Rarities Committee also accepted a vocal **Western Bonelli's Warbler** on 24th September as the second Western Bonelli's and third Bonelli's for the Island. Additionally a flyover **Long-billed Dowitcher** on 1st November was accepted as the second for Skokholm and the fourth for Pembrokeshire. Three **Crane** on 25th March were accepted by the Welsh Records Panel as a first for Skokholm. An exquisite male **Bluethroat** on 27th May, which may subsequently be assigned to a subspecies following the DNA analysis of a retained feather, was accepted as the 13th Skokholm record. A **Siberian Chiffchaff** on 28th May was the latest British spring sighting of this subspecies to be confirmed using mitochondrial DNA analysis and was accepted as such by the Welsh Records Panel. A **Marsh Warbler** ringed on 2nd June was accepted as the first for Skokholm and the second for Pembrokeshire, whilst the **Cattle Egret** which roosted at North Pond on the evening of 17th July was accepted as another first for Skokholm. A **Great Shearwater**, west off the Lighthouse on the morning of 19th August, was accepted as the third Island record. A **Pectoral Sandpiper** at North Pond on 30th August was accepted by the Welsh Records Panel as the 18th record and 22nd bird for Skokholm, whilst a **Barred Warbler** on the 24th and 25th September and a **Melodious Warbler** which lingered between 28th September and 8th October were both also accepted as such.

The second **Radde's Warbler** for Skokholm, trapped on 26th October, was accepted by the Welsh Records Panel. A grounded **Richard's Pipit** on 2nd November was deemed acceptable by the County Records Panel.

The acceptance of **Cattle Egret**, **Crane**, **Marsh Warbler** and **Myrtle Warbler** by the relevant rarities committees, along with 2017 records of **Bittern** and **Avocet**, takes the Skokholm list to 295 species.

Bird Observatory Fundraising

The Ticks Jar

The Skokholm Bird Observatory Ticks Jar continued to accumulate donations at its permanent position in the Common Room in Lockley's Cottage. This is an Observatory tradition which we started here in 2013; birders and ringers are encouraged to make a small donation if they see or ring a new species during their stay. Despite this being a leaner year for scarcities and rarities, the jar still attracted donations amounting to £135.00, taking the six year total to an impressive £1491.94. This money has enabled us to purchase a variety of items including the Storm Petrel sound system, the eco-fan for the wood-burning stove in the Cottage, two-way radios for communicating sightings to the guests and each other, bat detector accessories, gardening equipment for management of the trapping area, additional ringing equipment, local artwork for bedroom walls and other bits and bobs which help to make Skokholm feel more homely or function more efficiently.

Bird Observatory Merchandise

In 2013 we started selling Skokholm Bird Observatory polo shirts, with 100% of the profits contributing towards the work of the Observatory; the proceeds reside in the Skokholm Bird Observatory account and are used to buy and replace equipment essential for our monitoring work. The polo shirts proved popular, so much so that over the following four years our range has expanded to include fleeces, hoodies and headwear.

Acknowledgements and Thanks

Skokholm Island was once again supported by a huge number of people; it is the generosity of these remarkable individuals which makes it such a pleasure to manage Dream Island. As always, the first

and biggest thank yous go to this year's Long-term Volunteers Eleanor Absalom, Kirsty Franklin, Michelle Underwood, Stephen Vickers and Katy Westerberg; they each gave their all to the Island and their extra presence in the field produced some excellent records. Although our Island is small there is a vast amount of work to be done, not only in terms of the core seabird monitoring but also in the running of the Bird Observatory; it is only with the help of voluntary assistants that this can be achieved. A keenness to share their knowledge of Skokholm and its wildlife with every visitor, along with their dedication to the less glamorous jobs, ensured that our guests could enjoy a memorable stay.

We would also like to thank Zoe Deakin, Kirsty Franklin, Alys Perry, Amy Sherwin and Stephen Vickers for their assistance with the 2018 whole Island Manx Shearwater Census; repetitive work over difficult terrain in hot conditions requires this special brand of fieldworker to keep standards and morale high. Professor Chris Perrins also supported the whole Island survey and, along with Mary Perrins, assisted with the annual Manx Shearwater productivity monitoring. Thanks also to Fiona Gomersall who returned for her third year of vegetation work. An extremely energetic group of ten ex-Southampton University Conservation Volunteers dug accumulated silt from North Pond in August; during three days of hard graft these amazing people shifted 46 dumper truck loads of soil. Alan Wilkins and Nick Davison of the Wildlife Sound Recording Society continued to put a huge amount of effort into their project focussed on how to recognise individual Manx Shearwaters and Storm Petrels by the calls that they make.

We received regular short visits this season from Pembrokeshire locals John Hayes and Jeff Thomas, both stalwarts of the spring and autumn work parties. This remarkable duo prepared and painted the Red Hut, repaired a leaking roof at the Lighthouse and transported many dumper loads of drinking water to the Lighthouse. They also provided a significant amount of entertainment. Howard Driver again dedicated a substantial amount of time, completing a remarkable number of jobs including crucial early season repairs to the Petrel Station; there are virtually no parts of the Island infrastructure which haven't benefited from Howard's skills. Howard also donated a fantastic Manx Shearwater weathervane which looks amazing. Emyr Roberts again spent the late season decorating in the Lighthouse tower; his company and attention to detail are greatly appreciated.

Throughout the year the Island received many generous donations of books, equipment, building supplies, soft furnishings, kitchen items and artworks, all of which are hugely appreciated. A special mention must go to Linda Norris who designed, created and gifted two magnificent windows for the Bridge Toilet. These, along with the stunning stained glass window in the Bird Loo, have made a visit to the Tŷ Bach a highlight of staying on Skokholm. We would also like to say a particular thank you to John Parker of E.H. Smith Builders Merchants who has, for four years, donated a huge quantity of building materials and equipment, supplies which this year were used to repair the Lighthouse following the ravages of Storm Ophelia. Thanks must also go to everyone who donated to the WTSWW Storm Ophelia campaign.

The team at Dale Sailing, particularly John and Gareth Reynolds, kindly delivered all of the materials and volunteers to the Island and allowed materials and equipment to be delivered to and stored at Neyland. This season they also provided a boat so we could complete our annual cliff nesting seabird counts. A special thanks goes to the expert crews who work incredibly hard during the season to bring guests to and from the Island.

It is difficult to express just how grateful we are to all of the work party volunteers who, yet again, gave so much to Skokholm. This spring in particular was testament to their absolute dedication to the Island. Their hard graft and endless enthusiasm at the beginning and end of the season are why the Island infrastructure functions as well as it does and looks so loved. It is important to mention

that the Skokholm army is kept marching thanks to the fantastic volunteer chefs who spend a huge amount of time planning and creating delicious and hearty meals. We must also remember with gratitude the volunteers who accompanied us on our first trip over to Skokholm in March and who regularly show up to assist with huge deliveries of heavy building materials.

We must thank our colleagues at the Wildlife Trust of South and West Wales who take care of all of the behind-the-scenes jobs. We would specifically like to thank Lizzie Wilberforce, our amazing line-manager, for all of her support throughout the year. We must also acknowledge the staff at Natural Resources Wales for their advice and consents, but particularly Mike Alexander for his continued guidance on the Seabird Management Plan. The Seabird Group and NRW helped to fund the whole Island Manx Shearwater census. The Bird Observatories Council continue to support and publicise Skokholm Bird Observatory, making sure we have a presence at high profile events such as the Bird Fair. We continue to benefit from the skills of experts who have offered us identification assistance during the year; Professor Martin Collinson and his team at the University of Aberdeen again carried out DNA analysis on feather samples obtained from migrant birds and Pembrokeshire Moth Recorder Robin Taylor and 2014 Long-term Volunteer Billy Dykes provided moth identification.

The regular arrival of visiting ringers contributes significantly to ongoing research on Skokholm, as well as providing a wealth of interesting information for our visitors and helping to create that special Bird Observatory atmosphere; we are indebted to them all for the extra ringing effort and census coverage which they provide. We would once more specifically like to thank Wendy James and Richard Dobbins, of the Teifi Ringing Group, who made several visits to assist with colour ringing projects and migration monitoring, Chris Brown and Eric Wood, of the Tees Ringing Group, who again spent countless hours in the field colour ringing both Great Black-backed and Herring Gulls, and Ian Beggs who had another remarkable Wheatear season (and provided hugely popular Twitter updates). Richard also came out to assess Giselle for her ringing A-permit, Wendy continued to take charge of the Skokholm Bird Observatory merchandise and Chris was again the brains behind our Annual Report front cover. We must also mention Kenny Cramer and the Northants Ringing Group; for a sixth consecutive season this amazing group made a visit to support the Observatory and yet again filled gaps in the ringing hut inventory. Much of the work carried out at the Observatory relies on birders and ringers, from all over western Europe and northwest Africa, who observe and submit sightings of Skokholm ringed birds; we are hugely appreciative.

The Friends of Skokholm and Skomer continued to provide a remarkable level of support; that we can all stay here at all is primarily thanks to this amazing group. They not only care for the Island, but also for ourselves and our Long-term Volunteers; we are grateful to each and every Friend. We

would like to specifically mention Steve and Anna Sutcliffe who were once more amazing, instrumental in organising and running the work parties and who welcomed us into their home. Shirley Matthews and Renate Thome again took care of supplies for the Skokholm food shop and Renate kindly dealt with all of the guest bed laundry. Mark Burton again took regular deliveries of the Islander's grocery shopping, packed it in a rodent-proof manner and ensured that it made it onto the Dale Princess; this makes life so much simpler and pleasant for us and the Long-term Volunteers. The Friends, guided by Mark, also made refinements to the infrared equipment used to watch the Storm Petrels, improving what we already thought was one of the most awe inspiring wildlife viewing experiences available in the UK.

Finally a sincere thank you to everyone who visited Dream Island this year. You are the people that keep Skokholm buzzing and every visit you make helps to finance the conservation of this remarkable Island. The thousands of records which you have once more contributed, records given whilst sat in front of the roaring fire in Lockley's Cottage during the evening Log, have been added to the longest UK Bird Observatory database. We hope to see you all again.

Richard and Giselle

Definitions and Terminology

The status summaries used in this report follow those established by Betts (1992) and used by Thompson (2007); they refer to the period prior to this season. Where the status has changed in the years subsequent to Betts' 'Birds of Skokholm', the current status is used but the change is noted. The definition of each status is as follows:

Status	Definition
Vagrant	1-10 records since 1927
Rare	11-50 records or breeding records
Scarce	1-5 birds, records or breeding pairs per year
Uncommon	6-50 birds or breeding pairs per year
Fairly Common	51-250 birds or breeding pairs per year
Common	251-1000 birds or breeding pairs per year
Abundant	1001-2500 birds or breeding pairs per year
Very Abundant	More than 2500 birds or breeding pairs per year

The systematic list below follows that of the British Ornithologists' Union (McInerny *et al.*, 2017).

The Systematic List of Birds

Canada Goose *Branta canadensis* **Gwydd Canada**
Uncommon Breeder and Common Visitor four in October 1952 were the first for Pembrokeshire

The majority of spring sightings were again of birds which would attempt to breed on Skokholm, indeed only seven March, April or May daytotals exceeded the eight breeders, including highs of 18 on the 1st, 13 on the 5th and 11 on the 4th and 25th April. Four pairs, all of which made two nesting attempts, was the lowest total since at least 2003; this species colonised in 1996 and the population had increased to seven pairs by 2004 (with egg control measures to protect rare aquatic vegetation taken under licence from 2002). The first incubating bird was found near the Hills on 26th March (the same date as last year) and all of the pairs had eggs by 18th April. All four breeding attempts failed at egg stage, as did the four second clutches; Canada Goose productivity thus remains very poor, with a single fledgling in 2012 and no fledglings at all in the last six years (by contrast there were 38 fledglings in 2006 and a minimum of 40 in 2007). The failed breeders became more mobile towards the end of May and, following a peak of ten on 6th June, there were no more logged after a single on the 9th (two on 8th June was the last spring record of 2017). In July there was a single on the 20th, four on the 23rd and two the following day, these the first birds in this month since 2016.

The number of territorial pairs with the peak coinciding with low disturbance during the renovation period.

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
9	8	6	-	36	41	23	16	18	11	10	7	7	4

The only August sighting was of two birds which arrived on the afternoon of the 31st; this was the lowest August total since 2009, well down on the 74 of last year, the 119 of 2016 and the record 606 of 2010. There were September counts of up to three birds on four dates to the 13th and daily sightings between the 21st and 29th which peaked at 12 on the 23rd and 13 on the 27th; a monthly total of 61 was marginally up on the previous two years but well down on the 809 of 2015 and the record 1856 of 2012. Although a late, typically post-sunset, arrival to the North Pond roost and a very early departure inevitably lead to undercounting, birds were only logged on six October dates, with a northbound skein of 113 on the 7th by far the largest count; the monthly total of 149 was up

on the 104 of 2017 but well down on highs of 860 in 2015 and 673 in 2012. The North Pond roost site was seemingly still out of favour in November, with up to 14 birds logged over five dates between the 10th and 26th; flocks of up to 205 birds have contributed to November totals of up to 1133 in recent years, although there were none logged at all in 2017.

Barnacle Goose *Branta leucopsis* **Gwydd Wyran**
Rare six spring records of up to five birds and 13 autumn records of up to ten birds
Earliest 8th October 1987 **Latest** 16th April 1981 (**2nd June 2018**)

Two on North Pond between 29th May and 2nd June were the first to be seen in either of these months; as with the majority, if not all, of the Skokholm observations, a feral origin would seem probable. There have now been five records since 2015, this a reflection of increasing numbers in Wales. October continues to be the most likely month in which to log this surprisingly rare species, with ten of 13 autumn sightings coming during this period.

Shelduck *Tadorna tadorna* **Hwyaden yr Eithin**
Scarce Breeder first seen with young in 2006 and only eight post-July records before 2013

There were records on 11 March dates between the return of staff on the 6th and the 23rd, all of three or fewer birds bar the seven logged on the 13th. There followed daily sightings between 24th March and 20th June, usually of seven or fewer birds but with highs of ten on 18th April and nine on the 1st, 3rd, 13th and 19th May. Both the peak spring count and the breeding season bird-days total were the lowest of the last eight years, perhaps a reflection of ongoing poor productivity linked to chick-stage losses to the gulls. A distressed female walking along the Lighthouse Track on 3rd June was seemingly searching for her young, although none were observed. The first definite indication of a breeding attempt this year was the appearance of eight ducklings, accompanied by both adults, on North Pond on 9th June; this was 12 days later than the arrival of eight ducklings last year and ten days later than eight in 2016. The eight became seven on the day of their arrival and, although seven were seen early the following day, there was no sign of the adults or their young by 0900hrs on the 10th; the distinctive female was again on North Pond, without young, on the 12th. This was a typically disappointing breeding season; the 2017 chicks lasted for 25 days and 2011 remains the only year in which young definitely fledged (although it is also possible that the adults which swam their young towards St Ann's Head in 2016 managed to protect them through to fledging). A single confirmed

2018 brood was down on the two of 2017, 2016 and 2008; there have also been single broods logged in seven further years since chicks were first noted in 2006, whilst three separate broods were seen in 2014.

Following a three day absence, two different birds flew over separately on 24th June but did not linger. A single west on 12th November was a now typical autumn record and the only other 2018 sighting; a single on 11th November 2013 was only the ninth post-July record for Skokholm, however there were up to three birds present on nine dates in November 2014, up to six birds on nine dates in November 2015, three singles during October and November 2016 and up to two birds on three dates during October and November last year.

Shoveler *Spatula clypeata* **Hwyaden Lydanbig**
Rare Breeder and Uncommon Visitor bred in 1988, 1993-1996, 1999, 2015 and 2017

Following records of a mobile pair on 17th March and the 5th, 10th and 13th April, there were almost daily sightings between 15th April and 26th May, with counts peaking at three males between the 24th and 30th April and two females on the 24th and 25th April. A female accompanied a minimum of eight ducklings at Orchid Bog on 26th May, however what was thought to be the same female was on North Pond later that day and there was no further sign of the young; the appearance of the chicks came four days later than the six logged last year and confirmed only the ninth recorded breeding attempt for Skokholm, none of which have proven successful. There were no further sightings until 8th June when four males lingered for the day; numbers were thus down on June last year when up to six birds were logged on 20 dates. There was no July record for the first time since 2013. A pair seen at Orchid Bog after nightfall on 10th November was the only other sighting this year; there have only been sightings in nine previous Novembers, with a single in 2016, up to two on two dates in 2015 and a single in 2014 being the only other records since 2001.

Wigeon *Mareca penelope* **Chwiwell**
Uncommon Winter Visitor
Earliest 22nd August 1986 (30th August 2018) **Latest** 29th May 2017 (**29th May 2018**)
1936-1976: 1 trapped

A flock of 12 at North Pond, including five breeding-plumaged males, was present upon the return of staff on 6th March, whilst a minimum of 25 including a flock of 22 were noted the following day;

although down on the March 2017 peak of 32, the latter was otherwise the highest daycount since November 1997. There were records on a further eight March dates including highs of 15 on the 8th, ten on the 9th and eight on the 18th; the March bird-days total of 99 was thus down on the 122 of last year but otherwise the highest since the 111 of 1999. A male lingered on North Pond between the 21st and 29th May, this only the sixth May record for Skokholm and with the latter date equalling the latest spring record (logged last year). Two southeast with Common Scoter on 30th August were the first of the autumn and only the third August sighting, whilst a single on the 24th was only the seventh September record this century. There were 20 birds logged over five dates in October, including a high of 13 on the 16th, and 29 over four dates in November, including another peak of 13 on the 8th. Although down on the 103 bird-days counted in autumn 2016, numbers were otherwise the highest logged since December 2000 (a regular staff presence in December would no doubt increase the number of sightings of a duck common in Pembrokeshire during the winter).

Mallard *Anas platyrhynchos* **Hwyaden Wyllt**
Scarce Breeder and Fairly Common Visitor
1 trapped
1936-1976: 10 trapped

There were daily records in March and highs of seven, including five males, on the 17th and five on 12 dates; peak March counts were thus down on the ten of 2017 and 2015 and the 13 of 2013. More birds were seen in April, with daily records and highs of eight, including seven drakes, on the 23rd and seven on six dates when up to two females were logged on each occasion. The first eight ducklings of the year were found at Orchid Bog on 25th April, nine days earlier than the first to be seen last year, whilst a female was still incubating eggs in the Bog on the 29th. Up to eight drakes contributed to May highs of nine on the 5th and 16th, whilst a female arrived to North Pond with nine chicks on the 20th, a brood which had decreased to five by the 21st, three by the 22nd and which had disappeared by the evening of the 24th; Lesser Black-backed Gulls were seen to take ducklings on two occasions. A new brood of four was on Orchid Bog on 22nd May, although these were not seen again, whilst a female accompanied a lone duckling at South Pond on the 7th, 9th and 10th June and another accompanied a new duckling at North Pond on the latter date; although not seen during the intervening period, this North Pond duckling perhaps accounted for an unconfirmed record of a larger chick on the 23rd. A very small duckling at Orchid Bog on 13th June must have been from a sixth 2018 breeding attempt. Six broods of ducklings in a season is seemingly a new Skokholm record, two up on last year and three up on the peak count listed by Thomson (2007) and the three broods noted in 2016. However it is seemingly well over a decade since any young fledged; there were occasional fledglings between 1985 and 2000, with a peak of 25 in 1988 (surprisingly so given that this was a period when gull numbers were more than twice what they are today).

Daily records continued until 7th July, although no more than three birds were logged after 28th June; in 2017 there were daily counts until 17th July, peaking at 12 on the 6th. There followed singles on the 10th and 11th July and after-dark singles on the 11th, 12th, 28th and 29th August. In September there was one at Orchid Bog on the 6th and nocturnal North Pond records of 12 on the 21st and five the following night; this species, as with the other ducks, regularly exhibits a post-dusk arrival and pre-dawn departure from roost sites which makes an accurate assessment of numbers challenging. Following a further September single on the 24th and further nocturnal singles on the 2nd and 6th October, there were sightings on five dates between the 13th and 18th including highs of 42 on the 14th, 43 on the 16th and 32 on the 18th; there have only been ten higher October daycounts. Following another three October counts of up to four, numbers continued to increase in November with records on 15 dates to the 26th, totalling 223 birds and with high counts of 64 on the 5th, 48 on the 8th, 30 on the 7th and 23 on the 23rd; both the peak daycount and monthly total were the highest since 2014 (when a daycount of 68 took the monthly total to 261) and otherwise the highest since 1989 (when a daycount of 250 took the monthly total to 274).

Pintail *Anas acuta* **Hwyaden Lostfain**
Scarce suspected of breeding in 1993 and 1995 but only three records, all in 2014, since 1996

Following a snow driven influx into Pembrokeshire during late February, it was perhaps unsurprising that a male was present on North Pond upon the return of staff on 6th March. More unusual was a male at North Pond early on 4th May (MEL) and again three days later (RDB *et al*.); there have only been May records in five previous years, with three drakes and two ducks logged in the period between 1982 and 1996. A flyover on 7th November was the only other sighting of the year and the fourth November Skokholm record following a pair in 1962, a single in 1981 and two singles in 2014 (RDB). This species was a regular visitor in the period between 1981 and 1996, with 302 bird-days logged and a presence during the first half of the 1990s which led to suspected breeding in two of those years; it was thus surprising that there would be a gap of nearly 18 years until the most recent 2014 records. There followed another three year absence until this year's sightings. The status of Pintail is now similar to that in the period prior to the 1981 arrivals, the period between 1927 and 1980 when birds were only logged in seven years (1940, 1949, 1956, 1962, 1967, 1970 and 1971).

Teal *Anas crecca* **Corhwyaden**
Common Visitor recorded in all months but more regular in winter, possibly bred in 1936
2 trapped
1936-1976: 16 trapped, 2014: 1 trapped

Although the peak March daycount, the 22 birds logged on the 8th, was down on the 27 of last year and the recent March high of 45 in 2014, daily sightings contributed to a monthly total of 284, the highest March total since the 399 of 1999 and the tenth highest tally in this month. As is invariably the case, numbers dropped in April with records on all but one date to the 27th including a high of nine on the 1st and 14th; the April bird-days total of 85 was the 15th highest on record and the highest since 2006. The first of the autumn was dazzled on Orchid Bog at just before midnight on 11th August, another indication as to how many ducks must go undetected during the night. The same bird was present the following day, whilst the only other August record was a single west with Common Scoter on the 23rd; counts in this month are seldom high, but this was the lowest total since the blank August of 2014. It also proved a poor September with nocturnal singles on the 2nd and 9th, the latter of which was dazzled and ringed, and two also after dark on the 22nd. There were records on seven October dates, all of four or fewer birds bar the 62 which were present at North Pond on the morning of the 16th; this was the highest October daycount since the 80 of 2013 and the fifth highest October count to date. There were records on all but eight dates between the 1st and 26th November, totalling 547 bird-days and with highs of 104 on the 4th, 110 on the 5th and 91 on the 7th; both the peak daycount and the monthly total were new November records, the former topping the 96 counted on the 23rd in 2016 and the latter more than doubling the 1967 total of 270.

Tufted Duck *Aythya fuligula* **Hwyaden Gopog**
Rare only 12 previous records but logged in each month between May and October

Two at North Pond on 7th November was the first record in this month for Skokholm (RDB, GE). The only other Skokholm records concern a pair on 4th June last year, a male on 3rd July 2000, a female on 28th August 1999, three on the 21st and two on 29th September 1994, a male for nine days from 1st June 1991, a female on 10th October 1982, a pair on 8th May 1981, two on 3rd May 1972, a single on 8th August 1961 and a female which stayed for 16 days from 5th May 1958. On mainland Pembrokeshire Tufted Duck numbers tend not to build up until November and peak in January and February when birds are thinly distributed across several freshwater sites, whilst cold weather movements result in a further increase in numbers (Donovan and Rees, 1994); a Wardening presence during the winter would perhaps thus increase the number of Island records.

Common Scoter *Melanitta nigra* **Môr-hwyaden Ddu**
Common recorded offshore in all months, but particularly June to September
1936-1976: 11 trapped (oiled birds following rehabilitation)

Following a record breaking 2017 season, Common Scoter counts returned to normal this year, indeed the cumulative year total was down on the recent mean and the lowest since 2012. The only April record was of three on the 21st, whilst May saw two head east on the 11th. The June total was the lowest since 2015, with groups of 22 and 21 southeast on the 13th being the only birds logged. Numbers increased in July with records on six dates from the 5th, totalling 114 bird-days and including highs of 45 on the 10th and 25 on the 28th; this was the lowest July tally since 2012, 72% down on the 2013-2017 mean of 406.6. August observations were more regular, with records on 11 dates and highs of 39 on the 4th and 35 on the 30th taking the bird-days total to 141; the August total was 86.5% down on the record 2017 total of 1044 but the third highest of the last decade. Counts peaked in September for the first time since 1993, with sightings on 14 dates and highs of 31 on the 23rd and 64 on the 29th taking the total to 185, the fifth highest September tally but 54.8% down on last year. Records on four October dates totalled ten birds, whilst the only sightings in November were of six on the 10th and 17th and a single on the 19th which was the last of the year. As is typically the case, the majority of birds seen during the autumn were heading southeast, presumably towards wintering grounds in Carmarthen Bay.

Red-throated Diver *Gavia stellata* **Trochydd Gyddfgoch**
Scarce passing at sea from September to May, not recorded every year but occasionally Uncommon

The only sighting in 2018 was of a single north through Broad Sound on 23rd September; there were

thus seven fewer birds than logged last year, 13 fewer than in 2016 and the same number as in 2015 (when the single was noted one day earlier, on 22nd September). The mean for the last decade is 2.8 birds per year, although there were no sightings at all in five of those years.

Great Northern Diver *Gavia immer* **Trochydd Mawr**
Scarce passing at sea from September to May but not recorded every year
Earliest 11th August 1991 (4th November 2018) **Latest** 30th May 1983

As in 2017, there were only two records this year, namely a summer-plumaged bird west through Broad Sound and then north on 4th November and a winter-plumaged bird east over the same stretch of water on the 17th. The record monthly total is the six logged in the November of 2015 and the maximum daycount is the four noted on 12th November 2015 and 22nd September 1930.

Storm Petrel *Hydrobates pelagicus* **Pedryn Drycin**
Abundant Breeder a 2016 whole Island survey predicted 1910 occupied sites
956 trapped (including 10 pulli), 87 retrapped, 38 controls
1936-1976: 18,526 trapped, 2011-2017: 3136 trapped, 234 retrapped, 124 controls

Despite the sizable breeding population on Skokholm, Storm Petrels usually prove a rare sight at sea, indeed the 43 birds logged over seven dates in 2017 involved an outstanding series of seawatching records; a single, watched heading west off the Lighthouse on 15th August this year, was a more typical annual total. With the exception of a small number of incubating adults visible in shallow crevices or in nest boxes, all other 2018 sightings came at night, although birds occasionally called from holes during the day and vocal responses were elicited for monitoring purposes. A minimum of ten birds watched after dark at the Quarry on 6th May was the first record of the year, 16 days later than the first of 2017. The first diurnal record was of three birds calling from crevices around the Farm buildings on 8th May, 15 days later than the first of 2017 but on the same date as the first of 2016. Nights in May saw small numbers logged at various locations around the Island and infrared viewing equipment allowed counts to be made at the Quarry of at least 150 on the 19th and 110 on the 27th. A visit to the Bluffs Peregrine nest on 2nd June located two Storm Petrels calling from a crevice at the back of the ledge; the only apparent access was past the Peregrines. There were further peak counts from the Quarry of at least 120 birds on the 13th and 27th June and on 1st July.

The total number of apparently occupied crevices (located over ten visits) responding to a recording of male song at each of the seven study sites. Numbers in parenthesis are the totals from the 2m wide Quarry transects (as stipulated in the project guidelines) as opposed to the more wayward crevices included since the project's inception. The mean is that from 2010-2018.

Year	North Pond Wall	Little Bay Wall	North Haven Gully	Quarry transect 1		Quarry transect 2		Quarry transect 3		Quarry transect 4		Quarry total		Total	
2018	6	13	11‡	15	(5)	15†	(10)†	12	(8)	49	(30)	91	(53)	121	(83)
2017	7	20	14‡	15	(5)	13†	(7)†	10	(9)	47	(27)	85	(48)	126	(89)
2016	6	15	17	9*	(4)*	**	**	11	(8)	41	(26)	61	(38)	99	(76)
2015	7	17	17	14	(5)	21	(9)	12	(7)	42	(25)	89	(46)	130	(87)
2014	9	12	13‡	14	(5)	18	(9)	18	(12)	37	(22)	87	(48)	121	(82)
2013	8	15	22	14	(4)	15	(8)	10	(7)	46	(27)	85	(46)	130	(91)
2012	5	9	21	12	(5)	8	(4)	10	(5)	33	(17)	63	(31)	98	(66)
2011	7	5	19	11	(5)	13	(8)	10	(7)	25	(14)	59	(34)	90	(65)
2010	4	9	18	8	(5)	15	(12)	11	(8)	30	(17)	64	(42)	95	(73)
Mean	**6.6**	**12.8**	**16.9**	**12.4**	**4.8**	**14.8**	**8.4**	**11.6**	**7.9**	**38.9**	**22.8**	**76.0**	**42.9**	**112.2**	**79.1**

* Transect 1 was only visited on four occasions in 2016 due to safety concerns.
** Transect 2 was not visited in 2016 due to a rock fall.

† Transect 2 was shortened in 2017 due to the 2016 rock fall.
‡ There was substantial scouring in the winters of 2013-14 and 2016-17 and in October 2017.

Four playback transects established at the Quarry in 2010, along with plots in North Haven Gully and along two of the walls which radiate from the Farm, seemingly provide a sound method for monitoring changes in the Skokholm population. Between 90 and 130 responses were elicited using MP3 playback at these sites in each of the years between 2010 and 2017, although a substantial rock slide in 2016 significantly reduced the area which could be surveyed that year; Quarry transect two, which holds between eight and 21 responding birds, was almost entirely destroyed in 2016 and Quarry transect one was undercut on its southern edge, rendering both transects too dangerous to survey (see the 2016 Seabird Report for photographs and further details). It would seem from the records that the 2016 Quarry rock fall was by far the largest such event for over 30 years. Visits to the Quarry in 2017 established that there had been no further significant slides on any of the transects and the decision was made to reinstate transect one entirely and to use the upper section of transect two, a situation which remained the same this year. It was decided in 2017 that all of the data previously collected for transects one and two would be compared directly with future years; no adjustments have thus been made for the fact that transect two was shorter this year and in 2017 and that transects one and two were missed in 2016.

We were joined by a Storm Petrel researcher this year, with Katherine Westerberg accompanying staff and long-term volunteers to allow the survey work to be completed in the usual period. Ten visits were made to the study areas between 12th June and 11th July. An MP3 recording of male song was played into every crevice encountered along the transects, both numbered (and therefore used previously) and unmarked, with each crevice from which a response was elicited being recorded and marked if new. It was first noted in 2013 how some marked burrows had deviated from the two metre wide transects and in 2014 the data collected since 2010 was reassessed to bring it back in

line with the original protocol. As has been the case since 2014, the playback census this year was focused on the area of the transects delineated by marked burrows, although the results were then divided into those which fell within the true two metre transect and those which fell just outside (see table below). It should be noted in future surveys that some numbered crevices which were once within the two metre transects, and which were confirmed as such during the 2014 re-evaluation, now lie outside of the survey area due to further natural movements.

A significant decline in the number of apparently occupied crevices was observed along Little Bay Wall, indeed a drop of seven was, with the exception of that seen in North Haven Gully following the substantial scouring event of winter 2013-2014, the largest decline observed at any site since 2011; there was however no obvious habitat related explanation for this latest drop in numbers. Interestingly there was a substantial increase at this site last year, an increase which may have been due to a rise in the number of transient, non-breeding birds (Brown and Eagle, 2017). There is a general consensus that the number of pairs utilising the 18th century herringbone walls on Skokholm has declined (Vaughan and Gibbons, 1996; Vaughan, 2001; Thompson, 2003; Sutcliffe, 2010), perhaps due to a loss of suitable nest sites as vegetation and soil fills gaps in the collapsing walls. However, despite the drop in numbers seen this year, 19 elicited responses was only fractionally down on the 2010-2018 mean (19.3 ±sd 5.3); while the 2018 total was the lowest since 2012, the number of responses has fluctuated widely over the last nine years. It would seem that the walls population can still be cautiously regarded as stable, as has been the case for nearly a decade.

The huge swell generated by Storm Ophelia in October 2017, the remnants of the easternmost major Atlantic hurricane on record, caused yet another scouring event in North Haven Gully. Nest boxes installed by Whittington in 2014, the access ladder to the lower portion of the slope and the central section of boulder scree which traditionally held many active crevices were all destroyed, whilst the painted marker stones were again moved from their original locations. This was the third major change to the North Haven landscape in five years, a series of events which has almost certainly contributed to a 38.9% decline in the number of occupied crevices located between 2010 and 2018. Only 11 responses were elicited this year, the lowest total since standardised survey work began in 2010. An ad hoc assessment of current breeding site availability suggests that new crevices have not opened up as others have been destroyed, with recent weather events releasing soil from further up the gully which has seemingly reduced the number of open fissures. How events such as this effect the Skokholm population as a whole is unclear; it would seem likely that nest sites are available away from North Haven and that the birds were not directly impacted (as they were predominantly absent during the scouring events), however the impact of looking for new nest sites on adult survival is something of an unknown. That seven Short-eared Owl victims were located in North Haven between 26th June and 8th July may have also impacted the number of responses.

Although the ephemeral nature of Storm Petrel nest sites has also been evident at the Quarry, primarily due to the 2016 rock fall, the study population here continued to expand. The number of responses elicited along transect one was identical to 2017, indeed the five active crevices found along the two metre wide transect was the same as in seven of the last nine years (this despite the shift in rocks documented in 2016). Surprisingly the number of responses along transect two was the most since 2010, this despite the fact that the lower section can no longer be safely accessed; it was suggested last year that the 2016 rock fall may have displaced breeders into the upper section of the transect, as still seemed to be the case this year. The number of birds along transect three has remained relatively constant over the last nine years, this despite the 2016 rock fall at its westerly edge; the eight sites located this year was almost identical to the 2010-2018 mean (7.9 ±sd 1.9). Transects three and four have been regarded as two of the most static survey areas in recent years, however several small scale movements had occurred at the bottom of transect four at some point between the 2017 and 2018 survey periods. Nevertheless the number of responses elicited along

transect four was the most to date, with 30 occupied sites being a 76.5% increase on the number found in the first year of survey work and a 31.6% increase on the 2010-2018 mean (22.8 ±sd 5.6). In total there were five more active sites located along the Quarry transects, with the 53 responses being a new record and 23.5% up on the 2010-2018 mean (42.9 ±sd 7.2).

The number of crevices which have at some point been occupied over the nine year study (a total of 303), subdivided to show how many years the crevices have been apparently occupied for and the percentage of crevices occupied for a particular number of years. Crevices in the lower half of transect two, not visited after the 2016 rock fall, are not included in this table.

	Quarry Transects	The Walls	North Haven Gully	Total	% of total
1 year of apparent occupancy	56	32	26	**114**	37.62
2 years of apparent occupancy	24	5	16	**45**	14.85
3 years of apparent occupancy	10	8	9	**27**	8.91
4 years of apparent occupancy	15	7	10	**32**	10.56
5 years of apparent occupancy	23	6		**29**	9.57
6 years of apparent occupancy	12	2	2	**16**	5.28
7 years of apparent occupancy	17	3	1	**21**	6.93
8 years of apparent occupancy	7	1		**8**	2.64
9 years of apparent occupancy	9	1	1	**11**	3.63
Total	**173**	**65**	**65**	**303**	

Overall there were 83 responses elicited this year, six fewer than last year (the increase of five at the Quarry being offset by 11 fewer sites across the walls and North Haven). Nevertheless the total was the fourth highest to date and 4.9% up on the mean (79.1 ±sd 9.6). It still seems likely that the Skokholm study population can be regarded as stable, a conclusion which is probably applicable to the Island population as a whole. This is positive news following what may have been a significant population decline between 1996 and 2010 (Sutcliffe and Vaughan, 2011, Wood *et al*, 2017). Perhaps the most important variable highlighted this year was nest site availability within the study areas; birds can only react to the changing landscape and maintain a stable population if further nest sites open up as others are lost. It is clear that some Storm Petrel nest crevices are short lived (a third of those found over the course of this study have only been occupied during a single year), however stable sites are also in existence; over a quarter of the active crevices located during this nine year study have shown signs of occupancy in five or more years and 3.63% of crevices have contained a calling bird in every year. Although changes in the positioning of rocks will mean that some crevices were only available for a single year, it is tempting to suggest that many of the crevices only occupied once are perhaps unsuitable nest sites, indeed such sites may have never actually supported a breeding attempt (just a calling bird).

The proportion of known active wall crevices which responded to a recording of male song during any single visit was very similar to last year but down on the previous three; whereas between 28.7% and 40.0% of active wall sites have responded in the past, the last two seasons have seen between 21.9% and 22.6% respond. This may be cause for concern as it perhaps suggests that the active crevices were occupied less frequently, hinting at an increase in the number of crevices occupied by non-breeders (birds which may leave a crevice unattended or occupy multiple crevices during the study period). In areas of rock fall (in the Quarry and North Haven Gully) the proportion of active crevices which responded on any single visit fell somewhat above that recorded in previous years (see table below). The increase in the rock fall response rate took the overall mean response rate to 31.0%, just above the relatively tight spread observed during the previous four years (between 27.1% and 30.1% of active crevices responded between 2014 and 2017). Although this overall mean response rate has proven consistent between years, there is considerable variation over the ten visits; on one occasion there were no responses from the walls and on another there were ten,

whilst the number of responses at North Haven varied between one and six and at the Quarry between 13 and 39. Despite the observed variation, the use of response rates to produce a correction factor remains the best way to predict the number of birds present in a large area when ten visits are not logistically feasible (for example during the whole Island census). However the uncertainty surrounding this year's figures is a reminder of how difficult it is to assess the breeding population of a species which usually cannot be seen.

The percentage of known active crevices which responded to male song during any single visit, averaged across all visits (the resulting correction factor is given in parenthesis).

Year	The Walls	North Haven	Quarry	Rock fall	Average
2018	22.6 (4.42)	31.8 (3.14)	32.6 (3.06)	32.5 (3.07)	31.0 (3.23)
2017	21.9 (4.58)	30.9 (3.23)	28.1 (3.55)	28.5 (3.51)	27.1 (3.69)
2016	40.0 (2.50)	25.9 (3.86)	23.3 (4.30)	23.9 (4.18)	27.7 (3.61)
2015	28.7 (3.48)	37.4 (2.68)	28.9 (3.46)	30.4 (3.29)	30.1 (3.33)
2014	36.2 (2.76)	40.0 (2.50)	26.2 (3.82)	26.4 (3.79)	28.1 (3.56)

There is an obvious need to know what responding birds are actually doing; it is unclear how many of the 1910 active sites predicted during the 2016 whole Island census were actually occupied by breeding birds. Previous attempts to use an endoscope in natural sites have failed to locate a sufficiently large sample size for monitoring purposes, a failure which was repeated this year. One way to improve our knowledge is to encourage petrels to occupy accessible artificial nest sites. With this in mind a study wall containing 119 nest holes was created during the 2016 season (with the final inspection hatches and endoscope holes being added in April 2017). The early part of this season again saw the regular use of MP3 playback in an attempt to lure prospecting petrels into the crevices, a technique which proved successful on 10th July last year when a bird twice entered the wall. There was considerably more interest in the 'Petrel Station' this year, with a bird first seen to enter on the night of 11th May (a bird which lingered in three different boxes for up to two minutes). Zoe Deakin monitored the wall on most nights during this period, witnessing at least seven different individuals entering on the nights of the 13th and 14th May (including a bird singing from within the wall on the former date), a bird already present prior to playback on 18th May and one which spent the hours of daylight in the wall on 20th May. A pair were present together on the 7th, 8th and 9th June and dueting was heard on the 23rd. The MP3 playback census, conducted on the same dates as the Quarry transect visits, elicited responses from two separate boxes. The use of an endoscope on 14th July revealed four occupied boxes, at least two of which contained birds incubating eggs. Three eggs were seen on 17th July, only one of which was being incubated, two eggs were being incubated on 21st July and three unincubated eggs were logged on the 24th and 30th July and on 13th August; one of the failures was believed to be due to other birds entering the nest chamber (as an exceedingly vocal interaction with much shuffling was sound recorded just prior to the abandonment). A fourth abandoned egg was found in the back of a box on 25th August. Although four egg stage failures is disappointing, it is quite possible that the birds involved were first time breeders; it will be interesting to see if the same boxes are occupied in the 2019 season.

In 2013 a thermal imaging camera recorded a Short-eared Owl hunting Storm Petrels in the Quarry, an event which has subsequently been shown to be quite regular. The remains of six petrels were found that year, with 16 in 2014, 18 in 2015, 51 in 2016 and 98 last year, the vast majority of which were believed to be owl victims. The increase in the number of corpses found during 2017 was primarily due to the presence, for the first time on record, of a breeding pair of Short-eared Owls on Skokholm, an attempt which went on to fledge at least two young. Both adult owls were surprisingly dark of face, probably due to oil regurgitated by Storm Petrels. Short-eared Owls did not breed this year, perhaps due to the demise of a male found following sub-zero temperatures and snow on 23rd March; there were no sightings in April, August or September and only five singles were noted

between 29th May and 10th July. Despite this paucity of records, only five of the 31 Storm Petrel corpses found this year were attributed to gulls (all between 23rd July and 5th August); the majority of the remainder were thought to be the victims of Short-eared Owls due to the presence of feathers or pellets. A Little Owl logged on 17th March was fortunately not seen again; this species is a well-documented Storm Petrel predator, for example the Bird Observatory report of 1936 includes details of a Little Owl nest containing the remains of nearly 200 Storm Petrels.

There were 20 sites discovered this season where an incubating bird was evident early enough in the nesting period to allow a productivity estimate to be made (14 sites in 2017, 12 in 2016, 20 in 2015 and 13 in 2014); the Petrel Station birds were not included as it was felt that the sample could be biased towards younger, less experienced birds. Although some early egg stage failures may have been missed, the study is biased towards birds in shallow crevices or boxes and the sample size is far from great, these visible birds provide a rare opportunity to estimate productivity on Skokholm. Of the 20 monitored nests, seven failed at egg stage (two with damaged eggs, one with the egg removed from the crevice and four with deserted but intact eggs), one failed with a small chick, one failed with a large chick and 11 fledged young; productivity was thus calculated at 0.55 fledglings per pair, a figure similar to the 0.50 observed last season, the 0.58 of 2016 and the 0.55 of 2015 but down on the 0.69 recorded in 2014. The first chick was found along Quarry transect four on 6th July, three days later than the first hatched eggshell of last year and four days later than the first hatched eggshell of 2015 but 11 days earlier than the first hatched eggshell of 2016.

Although only small numbers of accessible chicks are ringed each year on Skokholm, tape luring of adult birds in South Haven is giving some indication as to their post-fledging survival. Of 32 chicks ringed between 2013 and 2015, seven (21.9%) have been mist netted in South Haven in subsequent years (at between one year, 323 days and three years, 344 days later) and an eighth bird, ringed as a chick in October 2015, was controlled at Gwennap Head, Cornwall in July this year; thus at least eight (25.0%) of the 32 survived a minimum of two winters. Intriguingly 12 of the 32 were ringed at either the Quarry or Wall's End and have not been encountered again; although this may infer differing survival rates, it is perhaps more likely that young non-breeders return to sites close to their natal crevice, in this instance sites far enough from the South Haven tape lure that birds are not

attracted. If the Quarry and Wall's End birds are removed from the equation, eight of 20 birds (40.0%) have been reencountered. If only the 2014 data is used, three of seven chicks have survived for at least one year, 323 days since being ringed (42.9%). However, of the six chicks ringed in 2016 and the seven ringed in 2017, none had been retrapped by the end of the 2018 season.

On the night of 25th July a leucistic or progressively greying individual was taken from the South Haven mist net. It had a broken white breast band, a white throat and a white nape patch along with the usual white rump and underwings. Of over 4000 birds handled since 2013, this was the first to show more than a single aberrant feather. Although such individuals are clearly unusual, similar white patches are documented on occasion; a comparable bird photographed on Filfla, Malta in 2001 was recorded in a paper which mentions a few other incidences in Storm Petrels (Sultana and Borg, 2002).

Adult Storm Petrels were lured to the traditional South Haven netting site on 14 nights between 13th July and 30th August, five more nights than in 2017, six more than in 2016 and three more than in 2015. Along with generating some fantastic data, these nights also proved very popular with guests to the Island. The largest catch was the 142 trapped on the night of 21st July; although this peak was well down on the 252 of 24th July 2017 and the 247 of 22nd July 2016, the total number of birds handled during the year was the highest of the last six. Of 1062 adults handled in South Haven this year, 11.4% were already wearing a ring (12.9% in 2017, 6.8% in 2016, 12.3% in 2015, 7.5% in 2014), there was one retrap from 2011, three from 2013, four from 2014, three from 2015, none from 2016, 31 from 2017 and 38 (3.58%) had been ringed elsewhere (4.02% in 2017, 3.03% in 2016 and 3.45% in 2015). Additional to the birds listed below, we received news of six birds ringed at Wooltack Point (4km to the NNE) retrapped on Skokholm (after 382, 27, nine, four, four and three days), two birds ringed on Skokholm and retrapped on Wooltack (one after 1068 days, the other after 21 hours and 45 minutes), four birds ringed on Skomer Island (4km to the NNW) retrapped on Skokholm (one after 1078 days which was retrapped for a second time after 1080 days and others after 18, eight and two days) and five birds ringed on Skokholm and retrapped on Skomer (two after 347 days and others after 346, 329 and 41 days). Since ringing fully recommenced in 2013 we have now received news of 248 Storm Petrels either ringed on Skokholm and found elsewhere or ringed elsewhere and controlled on Skokholm; of these 142 have been exchanged with sites more than 10km away from the Island (see map below). Unless stated otherwise, all of the following recoveries were of birds deliberately mist netted.

Ringing recovery 2423374
Originally ringed as an adult, PORTLAND BILL, DORSET 23rd June 1994
Recovered SOUTH HAVEN, SKOKHOLM 15th July 2018
Distance travelled 238km at 304 degrees (NW)
Days since ringed 8788
At over 24 years of age, this individual has already more than doubled the average lifespan calculated using British Trust for Ornithology survival data. This is the second Portland ringed bird since 2013 to be controlled on Skokholm more than 20 years after ringing.

Ringing recovery 2498638
Originally ringed as an adult, BROWNSTOWN HEAD, WATERFORD, IRELAND 6th August 2018

Recovered SOUTH HAVEN, SKOKHOLM 10th August 2018
Distance travelled 134km at 112 degrees (ESE)
Days since ringed 4

Ringing recovery 2569904
Originally ringed as an adult, PORTH YSGADEN, GWYNEDD 9th July 2017
Recovered SOUTH HAVEN, SKOKHOLM 26th July 2018
Distance travelled 141km at 198 degrees (SSW)
Days since ringed 382

Ringing recovery 2647800
Originally ringed as an adult, BARDSEY ISLAND, GWYNEDD 25th July 2017
Recovered SOUTH HAVEN, SKOKHOLM 14th July 2018
Distance travelled 122km at 197 degrees (SSW)
Days since ringed 354
Coincidentally 2647806, ringed on Bardsey one day later than this individual, was controlled in South Haven on 15th July 2018 after the same period of 354 days.

Ringing recovery 2655569
Originally ringed as an adult, HARTLAND POINT, DEVON 27th June 2017
Recovered SOUTH HAVEN, SKOKHOLM 25th July 2018

Distance travelled 95km at 326 degrees (NNW)
Days since ringed 393
Additionally 2473701 and 2473726, both ringed at Hartland Point on 5th July 2018, were retrapped on Skokholm on 25th July and 4th August after 20 and 30 days respectively.

Ringing recovery 2661459
Originally ringed as an adult, STRUMBLE, PEMBROKESHIRE 24th June 2012
Recovered SOUTH HAVEN, SKOKHOLM 5th August 2018
Distance travelled 40km at 202 degrees (SSW)
Days since ringed 2233
This is the second individual ringed at Strumble in 2012 to be found on Skokholm, the first having been controlled on 24th August 2014.

Ringing recovery 2683366
Originally ringed as an adult, HOT POINT, THE LIZARD, CORNWALL 17th June 2015
Previously recovered SOUTH HAVEN, SKOKHOLM 16th July 2015
Previously recovered SOUTH HAVEN, SKOKHOLM 26th July 2015
Recovered SOUTH HAVEN, SKOKHOLM 4th August 2018
Distance travelled 193km at 358 degrees (N)
Days since ringed 1144
Additionally 2714404, ringed at Hot Point on 16th August 2015, was controlled on 22nd July 2018 after 1071 days, 2714578, ringed at Hot Point on 22nd June 2017, was controlled on the same date after 395 days, 2726139, ringed at Hot Point on 26th June 2017, was controlled two days later after 393 days, 2726229, ringed at Hot Point on 1st August 2017, was controlled on 19th July 2018 after 352 days and 2726255, ringed at Hot Point on 1st August 2017, was controlled on 22nd July 2018 after 355 days. In the period between 2013 and 2018 there have been 26 Lizard ringed birds controlled on Skokholm, more than from any other site.

Ringing recovery 2699054
Originally ringed as an adult, PORTLAND BILL, DORSET 5th July 2017
Recovered SOUTH HAVEN, SKOKHOLM 15th July 2018
Distance travelled 238km at 304 degrees (NW)
Days since ringed 375
Additionally 2699061, ringed at Portland on 10th July 2017, was controlled on 21st July 2018 after 376 days. Six further Portland Storm Petrels ringed 26990** have been controlled on Skokholm.

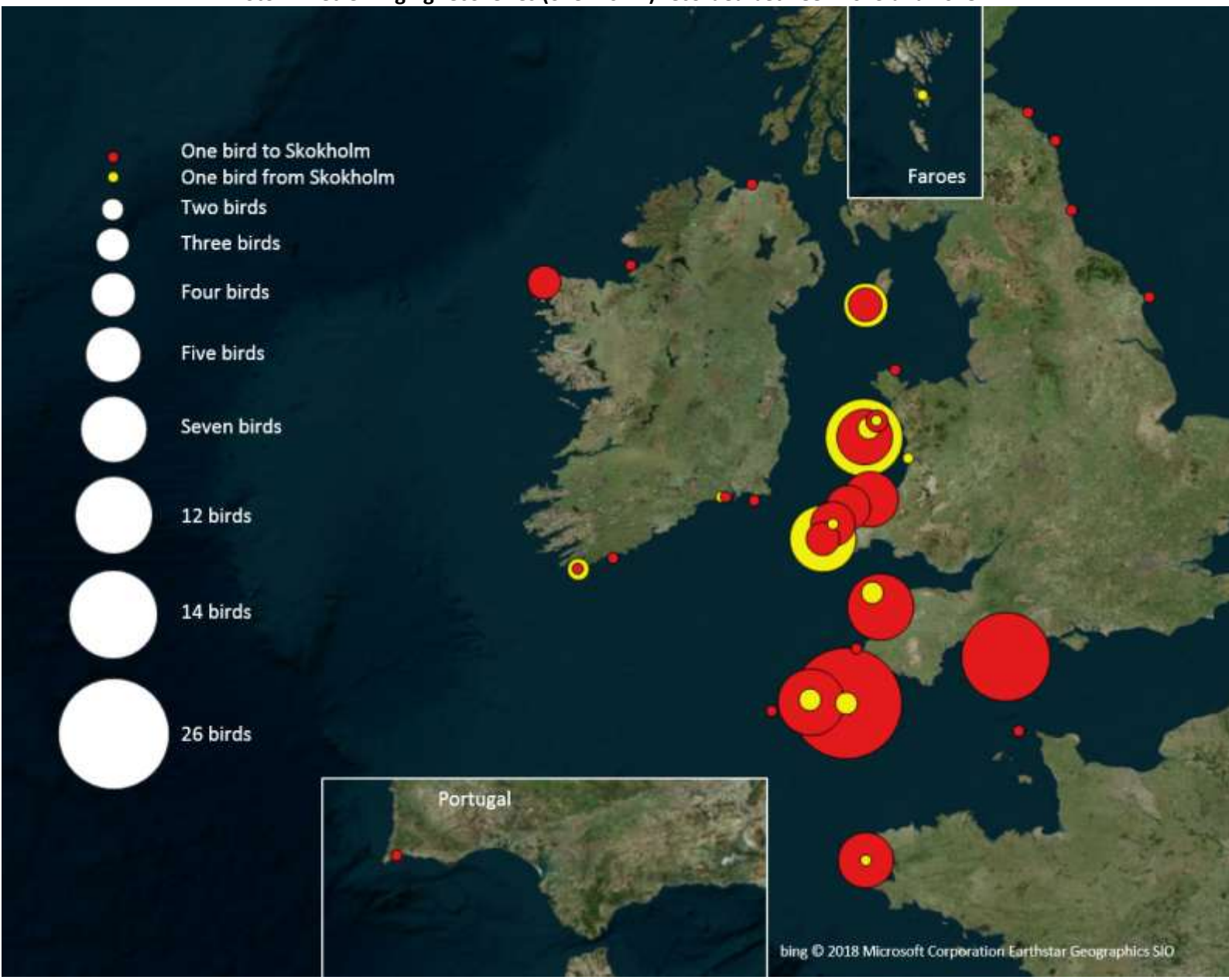
Ringing recovery 2702990
Originally ringed as an adult, ANNAGH HEAD, MAYO, IRELAND 28th July 2017
Recovered SOUTH HAVEN, SKOKHOLM 9th August 2018
Distance travelled 429km at 132 degrees (SE)
Days since ringed 377
Additionally 2753603, ringed at Annagh Head on 28th July 2018, was controlled on Skokholm on 6th August 2018 after nine days.

Ringing recovery 2706016
Originally ringed as a pullus, SKOKHOLM 2nd October 2015
Recovered GWENNAP HEAD, PORTHGWARRA, CORNWALL 15th July 2018
Distance travelled 188km at 189 degrees (S)
Days since ringed 1017
This is the first of 32 individuals ringed as chicks between 2013 and 2015 to be retrapped away from Skokholm; a further seven of the chicks have been found back on the Island. The same journey was

made by 2740041, ringed on Skokholm as an adult on 14th July 2018, which had reached Gwennap Head 23 hours and ten minutes later.

Ringing recovery 2706797
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 25th July 2017
Recovered BARDSEY ISLAND, GWYNEDD 5th July 2018
Distance travelled 122km at 17 degrees (NNE)
Days since ringed 345
Additionally 2722502, ringed on Skokholm on 4th August 2017, was controlled on Bardsey on 23rd July 2018 after 353 days and 2740021, ringed on Skokholm on 14th July 2018, was on Bardsey eight days later.

Storm Petrel ringing recoveries (over 10km) recorded between 2013 and 2018.



Ringing recovery 2714046
Originally ringed as an adult, BALLYREAGH, LONDONDERRY, NORTHERN IRELAND 17th July 2017
Recovered SOUTH HAVEN, SKOKHOLM 11th August 2018

Distance travelled 398km at 167 degrees (SSE)
Days since ringed 390

Ringing recovery 2720208
Originally ringed as an adult, GALLEY HEAD, CORK, IRELAND 29th July 2018
Recovered SOUTH HAVEN, SKOKHOLM 4th August 2018
Distance travelled 254km at 86 degrees (E)
Days since ringed 6

Ringing recovery 2722531
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 5th August 2017
Recovered CALF OF MAN, ISLE OF MAN 18th July 2018
Distance travelled 263km at 7 degrees (N)
Days since ringed 347
Additionally 2740324, ringed on Skokholm on 25th July 2018, had reached the Calf 29 days later on 23rd August.

Ringing recovery 2722979
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 14th July 2018
Recovered CAPE CLEAR, CORK, IRELAND 27th July 2018
Distance travelled 294km at 265 degrees (W)
Days since ringed 13
Additionally 2740371, ringed on Skokholm on 25th July 2018, had reached Cape Clear on 27th July after 69 hours and 20 minutes.

Ringing recovery 2726360
Originally ringed as an adult, GWENNAP HEAD, PORTHGWARRA, CORNWALL 15th July 2018
Recovered SOUTH HAVEN, SKOKHOLM 4th August 2018
Distance travelled 188km at 9 degrees (N)
Days since ringed 20
Additionally 2726369, 2726370, 2726460 and 2726480, all ringed at Gwennap Head on the same date, were controlled on Skokholm on the 5th, 11th and 4th August and 22nd July after 21, 27, 20 and seven days respectively.

Ringing recovery 2740238
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 19th July 2018
Recovered LUNDY ISLAND, DEVON 1st September 2018
Distance travelled 70km at 144 degrees (SE)
Days since ringed 44
Additionally 2740263, ringed on Skokholm on 19th July, was also controlled on Lundy 44 days later.

Ringing recovery 2740650
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 5th August 2018
Recovered HVALNES, SKÁLAVIK, SANDOY, FAROE ISLANDS 14th August 2018
Distance travelled 1131km at 356 degrees (N)
Days since ringed 9
This is the first Skokholm ringed bird to be found in the Faroes since ringing recommenced in 2013. Although nearly 300 British ringed petrels have been controlled in the Faroes, this movement was particularly swift, with an average of over 125km being covered each day as it worked north.

Ringing recovery SE31257
Originally ringed as an adult, LE CONQUET, FINISTÉRE, FRANCE 21st June 2017

Recovered SOUTH HAVEN, SKOKHOLM 10th August 2017 (sic)
Distance travelled 375km at 355 degrees (N)
Days since ringed 50
This is the fifth individual ringed in this region of France to be found on Skokholm since 2013. The commune of Le Conquet is home to Banneg, the largest Storm Petrel colony in France, an island thought to be home to just under a thousand pairs which primarily nest in abandoned Rabbit burrows. Intriguingly this nesting habitat was not found to be in use on Skokholm during the 2016 whole Island census.

Fulmar *Fulmarus glacialis* **Aderyn-drycin y Graig**
Fairly Common Breeder first bred in 1967
1 pullus trapped
1936-1976: 34 trapped, 2017: 3 pulli trapped

Following the return of staff on the 6th, there were over 100 birds ashore on ten March dates including highs of 149 on the 7th, 148 on the 23rd and 144 on the 29th; these arrivals contributed to daily maxima of 183 on the 7th and 207 on the 8th, although there were lows of five on the 14th, 12 on the 17th and nine, all at sea, on the 20th, whilst no birds were seen at all on the 18th and 19th. April saw regular departures from the cliffs, with lows of between 26 and 54 noted on nine dates (five dates in 2017) but three-figure counts logged on 11 (eight dates in 2017). Following a 2nd May total of 105, there was the usual prelaying exodus with 13 days when counts ranged between 69 (on the 3rd) and 17 (on the 7th). Numbers then increased, with 88 on the 16th, 96 on the 17th, 112 on the 18th, 124 on the 20th and 149 on the 22nd. The first egg was seen in North Gully on 19th May, the same date as the first of last year, one day later than the first of 2016 and two days earlier than the first of 2015; the first egg of 2014, following prolonged and severe winter storms, was on the 28th.

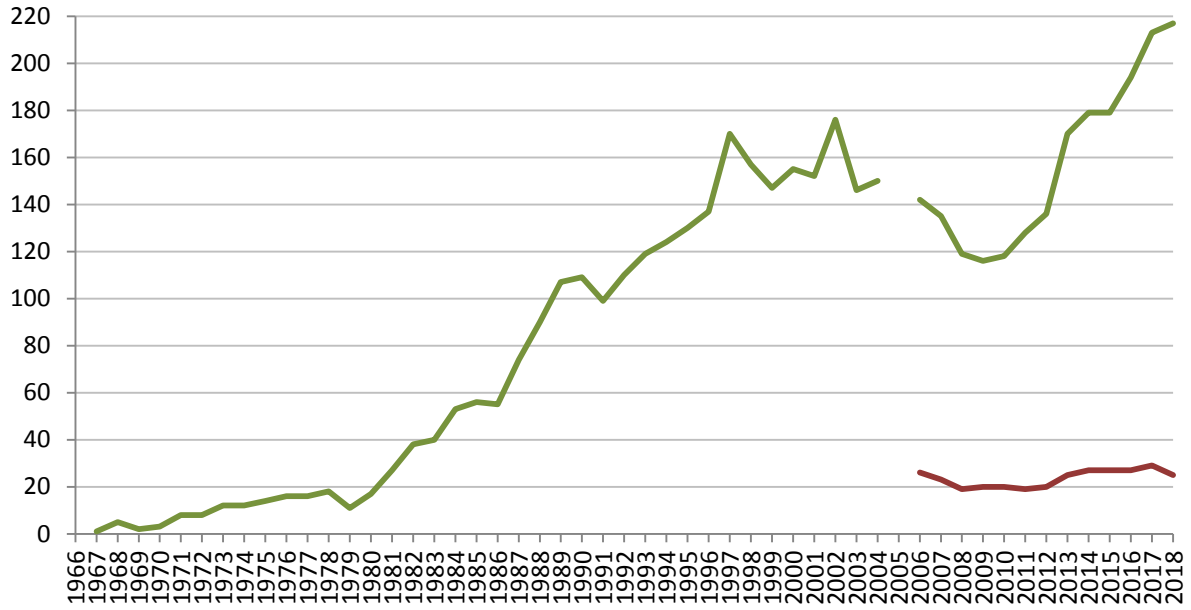
The whole Island totals (apparently incubating adults), mean plot totals, the range of totals over ten study plot visits, the standard deviation observed over the ten visits since 2013 and the percentage of the Island total made up of study plot birds. (*includes a boat-based count)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Island	116	118	128*	136	170*	179*	179*	194*	213*	217*
Plots	20	20	19	20	25	27	27	27	29	25
Range	(16-27)	(17-24)	(16-22)	(16-25)	(22-28)	(23-29)	(26-29)	(25-29)	(26-31)	(23-27)
±SD					2.07	1.79	1.14	1.26	2.00	1.26
Plot %	17.2	17.0	14.8	14.7	14.7	15.1	15.1	13.9	13.6	11.5

The six study plots counted annually since 2006 were visited on ten dates between the 2nd and 11th June. Up until the 2017 season only three of these plots had contained Fulmars, however an apparently incubating bird occupied a niche in the top third of the North Gully auk colony for five dates from 1st June last year; the only Fulmars logged this year were in the usual three plots (at Little Bay, Middlerock and Guillemot Cliff). The mean of 25 apparently incubating birds was four down on the record total of last year and the lowest since 2013; this 13.8% decline in numbers was not spread evenly across the plots, indeed the Guillemot Cliff total remained at five for a fifth successive year and there was an extra pair at Middlerock, with six nest sites equalling the record set in 2016. The number of occupied sites at Little Bay has been steadily declining from a high of 19 in 2013; there were 18 in 2014, 17 in 2015, 16 in 2016 and 14 this year following an increase to 18 in 2017. Quite why there were four fewer is something of an unknown although, given the close proximity of the Little Bay nest ledges to each other, the intraspecific interactions noted in recent years may have had an effect. The number of apparently incubating adults logged was more consistent between visits, with a range of five being the second tightest spread to date, equal with that seen in 2016 and only one up on 2015.

The whole Island count of apparently incubating adults (aia) undertaken between the 4th and 10th June yielded an average of 217aia, an increase of 1.9% on the 213 logged in 2017 and the highest total yet recorded on Skokholm. Despite this slight increase, there were notable declines in and around Hog Bay, where there were six fewer sites, and around the Little Bay study plot area mentioned above, where there were also six fewer sites overall. The only other decline was noted at the Bluffs where there was one less site. The largest increases were noted between Purple Cove and Twinlet and between the Jogs and the Dents, both areas seeing four extra sites this year, whilst three extra sites were mapped between Near and Far Bays and around Peter's Bay. The more recently colonised southerly sections of Skokholm again saw an increase in the number of breeding Fulmar, with two new sites noted around the Quarry and a new site to the west of Crab Bay (an attempt which went on to fail).

The total number of apparently incubating Fulmar recorded on Skokholm since breeding began in 1967 and the number within the study plots since 2006.

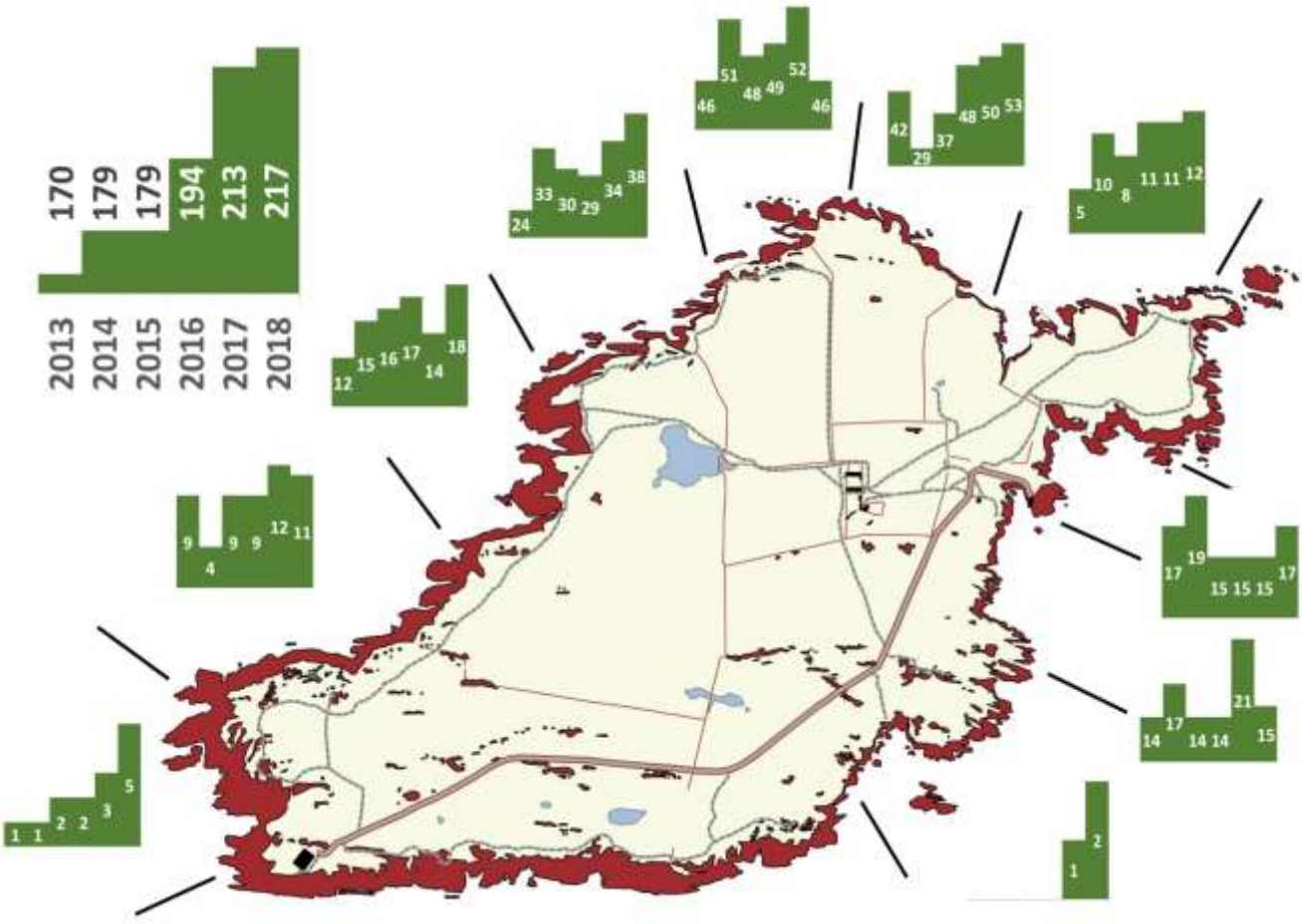


The 2018 whole Island count again includes approximately 40 pairs which would be difficult or impossible to see from the Island itself (birds seen from a boat north of North Gully, north of Wreck Cove, on the Little Neck and in hidden crevices between Smiths Bay and Little Bay Point). The drop in numbers observed between 2006 and 2012 may perhaps thus be linked to a lack of boat access, although the study plots broadly mirrored the dip in the Island total. The proportion of the Island total made up of study plot birds dropped to 11.5% this year (from a high of 17.2% in 2009); this was the lowest recorded since the plots were begun and probably an indication that they are not, due to a lack of space for expansion, representative of the Island as a whole.

On 24th May 49 incubating adults were selected for productivity monitoring (eight at Twinlet, seven at North Gully, 19 around Little Bay Point, four at Rat Bay and 11 at Peter's Bay); birds seen with eggs or those apparently incubating for ten consecutive days from this date were included in the sample (thus more birds were initially monitored but were soon found not to be incubating). It was again found that eggs were easier to see following heavy rain as energetically preening adults were more likely to reveal their nest scrape. There were three early egg stage failures, after approximately eight, 16 and 18 days, the former of which was regularly left unincubated to the side of the adult present. A further 16 failures became apparent at the time that the eggs of neighbouring pairs were hatching, however the nest contents were not seen in 15 cases and it was thus not clear if the failures were at egg stage or small chick stage; one pair remained with an egg for the full incubation

period, although the egg was regularly left unincubated by the adult present and failed to hatch. Four pairs failed with small chicks less than eight days old. One of these youngsters, which inadvertently fell from its natal ledge at Middlerock, survived for three days on a ledge below its presumed parents before perishing; only upon its death were both adults seen to attend the youngster, with one attempting to incubate it two days after its demise. Further chicks perished at minimums of 20 and 31 days of age; the former looked particularly weak before its death and both bodies remained on the cliffs for some days before being scavenged. Similar large chick failures were observed in 2014 and 2015 but not in 2016 or last year.

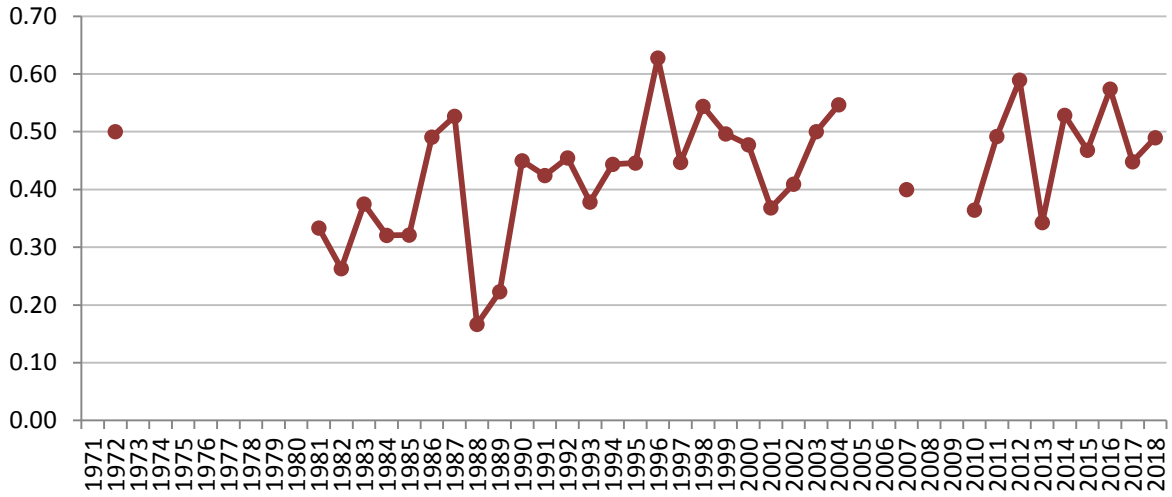
The distribution of apparently incubating Fulmar 2013-2018.



Of the 49 monitored breeding attempts, 24 (48.98%) were successful; a productivity estimate of 0.49 fledglings per pair is 8.9% up on the 0.45 of last year and 11.4% up on the post 1972 average of 0.44, but 14.0% down on the 0.57 logged in 2016. An above average productivity estimate, coupled with the observed increase in the whole Island population, leads to a predicted 106 Skokholm fledglings in 2018, a total only exceeded previously by the 111 predicted in 2016. Poor productivity at Peter's Bay between 2013 and 2015 influenced the overall figure for those years; Peter's Bay productivity in 2013 was 0.06 (compared with an overall figure of 0.34), in 2014 it was 0.33 (compared with 0.53 overall) and in 2015 it was 0.18 (compared with 0.47 overall), however the 2016 season saw 0.54 fledglings per pair (virtually identical to the overall value of 0.57). Last year again saw below average productivity at Peter's Bay, with 0.31 fledglings per pair (compared with 0.45 overall) and this year also followed the trend, with productivity at Peter's Bay of 0.36 fledglings per pair. The reason for this near annual discrepancy is still unclear, with neither environmental factors, predation pressure nor the behaviour of the birds themselves being obviously different at this site.

It is likely that the continuing increase in Fulmar numbers will affect other species; recent years have seen both adult and young Herring Gulls oiled by nesting Fulmars, Razorbill adults and chicks evicted from ledges by prospecting birds and an oiled juvenile Peregrine. More intraspecific interactions were noted last season, with a heavily oiled adult at Little Bay and birds at both Middlerock and North Gully oiled by aggressive neighbours; in both the latter cases the egg was lost early in the breeding season (prior to the whole Island census). Although no interspecific or intraspecific aggressions were witnessed this year, a small number of adult Fulmar seen sat on gull nests suggested that there was ongoing competition for isolated nest ledges (below photograph).

Fulmar productivity (total number of fledged chicks per monitored pair) for each year that it has been calculated between 1972 and 2018. The 1972-2018 mean is 0.44 ±se 0.02 fledglings per pair.



The first fledgling of the year left its natal ledge in Peter's Bay on 21st August, one day earlier than the first two of 2017 and the first single of 2016 (the first departures were on 20th August in 2015, 23rd August in 2014 and 25th August in 2013). All of the study chicks departed over the following 14 days (two more days than last year but five fewer than in 2016), with 20.8% having fledged by 24th

August (38.5% last year), 50.0% by 29th August (also 50.0% last year), 83.3% by 1st September (80.8% last year) and 95.8% by 2nd September (96.2% last year). The last study chick fledged on 4th September, one day later than the last of 2017 but four days earlier than the last of 2016 and six days earlier than the last of 2015. The number of birds around the cliffs again dropped rapidly as the fledglings departed, although there were offshore rafts containing 72 birds on the 4th and 74 birds on 5th September which contributed to daycounts of 138 and 137 respectively. Daycounts dropped to 41 on the 8th, 35 on the 9th and 23 on the 13th when the last bird was seen ashore (6th September last year). Following a count of 14 at sea on the 21st, 11.5 hours of seawatching effort between the 22nd and 28th produced only singles on the 23rd, 24th and 28th. Despite considerable seawatching effort, the only October records were of a single off Warden's Rest on the 21st and four close in on the 31st. There were November records on all but six dates prior to the departure of staff on the 26th, including highs of 108 in Broad Sound on the 3rd, 100 on the 13th and 173 on the 14th. A single was back on the cliffs on 6th November, the same date as the first 33 returned ashore in 2017, four days before the first five of 2016 and five days before the first single of 2015. There were birds ashore on ten further dates to the 16th, including a peak of 52 on the 13th when birds occupied ledges at Little, Near and Far Bays, the Jogs and Twinlet.

Sooty Shearwater *Ardenna grisea* **Aderyn Drycin Du**
Scarce but occasionally Uncommon recorded most autumns from mid-July onwards
Earliest 3rd July 1968 (16th August 2018) **Latest** 26th October 1994 (8th September 2018)

The first of the autumn went south over the western reaches of Broad Sound on 16th August. A similar passage was made by one the following day, whilst further singles on the 18th and 19th went west off the Lighthouse. The fifth and last 2018 sighting of this southern hemisphere breeder was also of a west bound bird, off the Lighthouse on the evening of 8th September. This remains a surprisingly scarce Skokholm species, with this year's records taking the 21st century total to just 43 bird-days, 22 of which came in 2011 and only 12 of which have come in the last three years.

Great Shearwater *Ardenna gravis* **Aderyn Drycin Mawr**
Vagrant only three previous records totalling four individuals

A substantial amount of seawatching effort in recent years has proven this to be a truly rare species in this part of the world, however it is perhaps surprising that one which passed over rough seas off the Lighthouse on three occasions between 1525 and 1540hrs on 18th August was just the fifth for Skokholm (DA, ME). This came one day earlier than the fourth for Skokholm logged last year, with the only other records to be accepted by the Welsh Records Panel being of two logged on 9th September 1993 and a single on 9th August 2000. A probable was noted on 11th September 1969 and singles in the Septembers of 2007 and 2011 have subsequently been deemed 'not proven'.

Manx Shearwater *Puffinus puffinus* **Aderyn Drycin Manaw**
Very Abundant Breeder a 2018 census estimated approximately 88945 pairs (63980 in 2012-2013)
2174 trapped (including 114 pulli), 714 retrapped, 6 controls
1936-1976: 169,895 trapped, 2011-2017: 8058 trapped, 3345 retrapped, 16 controls

Multiple birds calling in the early hours of 14th March were seven nights earlier than the first to be heard last year, 12 earlier than the first of 2016 and the earliest since one on the same date in 2013. Three watched at sea off the Lighthouse the following evening was the earliest at sea sighting for over 15 years. The first two to be eaten by Great Black-backed Gulls were noted on the 24th, from when birds were obvious each night. Numbers increased quickly but, as in the previous three years, seawatching during April produced some surprisingly small counts, with highs of just 4400 on the 24th and 3730 the following day. A count of 28200, made during a southwesterly gale on the 1st, was the highest May daytotal of the last six years; there were further May highs, made during calmer

conditions, of 25200 on the 2nd, 12800 on the 29th and 31st and 12500 on the 30th. The maximum June daycount was the lowest of the last six years, with 2800 on the 20th being well down on the peak of 16000 logged last year. Calm conditions at the start of July saw the two largest daycounts of the year, with 44568 on the 1st and 45016 on the 3rd, the latter of which was the highest July count and the second highest daycount of the last six years. There were five further five-figure counts during the month, including highs of 28040 on the 27th and 35560 on the 28th, only two of which were made during strong winds. There were seven five-figure August daycounts, four fewer than last year, with highs of 16956 on the 11th, 19847 on the 17th and 20524 on the 19th logged during periods of moderate or strong, south or southwesterly winds.

Three areas of study burrows, that is to say natural burrows where a paving slab covers a manmade access point to the nest chamber, were established in 2012 and 2013; all birds encountered within the burrows are ringed. Of 309 breeding adults bearing rings in 2017, 236 were found this year (76.38%). This figure is not an accurate estimate of adult survival as there was no searching for marked birds in neighbouring, non-study burrows; the number of birds known to be alive will thus be revised upwards as they are discovered in future years. For example 82.27% of 2013 adults were encountered in 2014, but we now know that at least 88.65% of birds were alive (see below table). There is a large discrepancy in return rates depending on the breeding success of the previous year; of 252 birds successful with their 2017 breeding attempt, 202 were found in 2018 (80.16%), whereas only 33 of 57 unsuccessful birds returned (57.89%). Of 84 birds which went missing in 2018, 33 (39.29%) had either failed with their 2017 breeding attempt or had been found without an egg in a burrow in which they had previously bred. It could thus be concluded that some of the missing birds have not perished, but rather opted for more suitable nesting sites. It was noted last year that Storm Ophelia had caused considerable damage to the Lighthouse Study Plot, a destruction of burrows which no doubt led, at least in part, to the reduced number of recaptures in 2018. Ultimately the study burrows give a better insight into burrow fidelity and show an interesting correlation with the stability of the colony; in the fragile Lighthouse colony 30 of 107 marked birds were in the same burrow this year as that in which they bred in 2013 (28.0%), whereas in the more stable Crab Bay colony 32 of 55 birds were still in their 2013 burrows (58.2%). The fragile nature of the Lighthouse colony, along with the high density of burrowing birds and occasional storm events, sees the structure of the breeding tunnels change annually; clearly some lose their suitability as nest sites.

The number of Manx Shearwaters breeding in the study plots encountered the following year and the number to have been found by 2018.

	Birds found the next year		Birds found by 2018	
Birds breeding in 2017	236 of 309	76.38%		
Birds breeding in 2016	238 of 287	82.93%	261 of 287	90.94%
Birds breeding in 2015	230 of 283	81.27%	244 of 283	86.22%
Birds breeding in 2014	215 of 278	77.34%	236 of 278	84.89%
Birds breeding in 2013	116 of 141	82.27%	125 of 141	88.65%

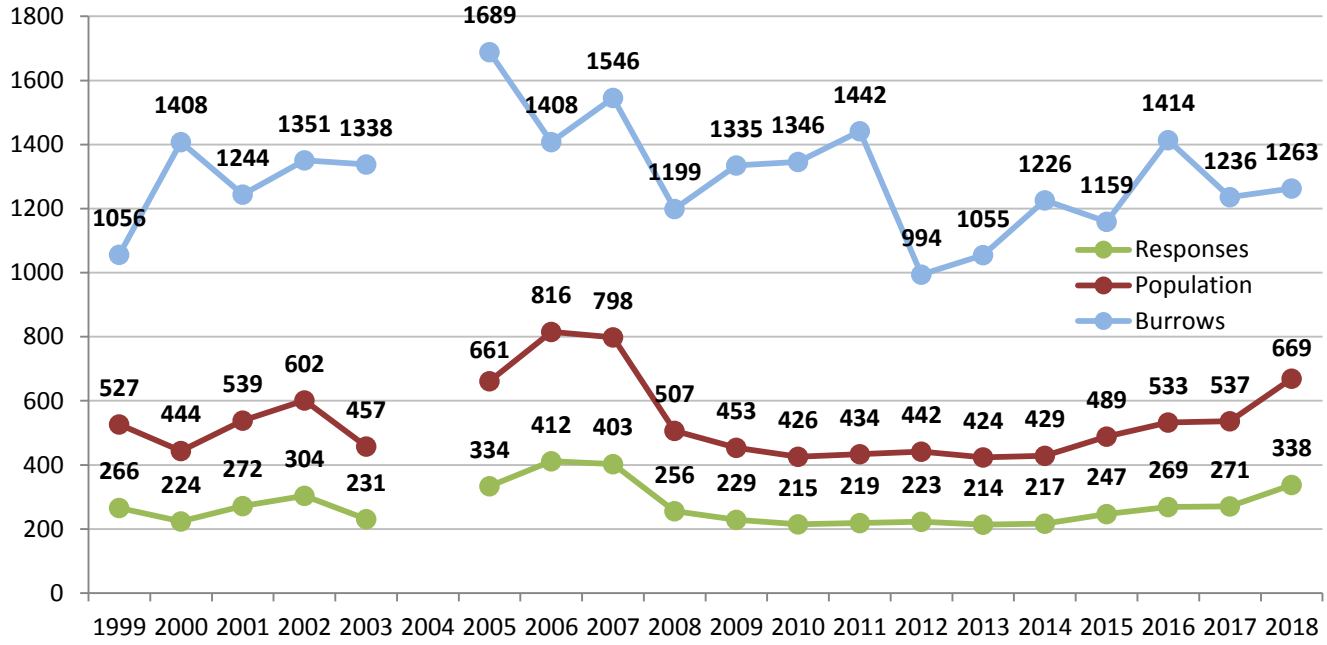
A Manx Shearwater ringing transect was established in 2013. It was defined as the track between the Observatory and the Lighthouse and the length of a landing net to either side; ringers were not to deviate from the track. The aim was to see whether, by ringing birds on the surface in this defined area, the retrap data could be interpreted to provide large sample size estimates of adult survival and the recruitment of juveniles to the breeding population. This is still a project in its infancy which is producing a substantial amount of data, data which is currently impossible to examine in any detail as the British Trust for Ornithology changes its recording system from IPMR to DemOn. Of the 4719 adult birds ringed along the transect between 2013 and 2018, 1460 have been retrapped or found dead on Skokholm subsequently (with these recaptured individuals accounting for 2559 separate handlings); the breakdown of how many ringed in each year have been found in subsequent years is not currently available. Last year it was noted how the proportion of birds

retrapped increases with cohorts ringed longer ago, for example 291 (33.26%) of 875 adults ringed in 2013 had been found in later years, including 12 seen during 2017 but in no other year. There were almost certainly some first-time recaptures during 2018 which would increase this proportion still further. There have also been 2576 fledglings ringed along the transect between 2013 and 2018.

The study burrows facilitate an accurate assessment of breeding success on Skokholm. There were 125 burrows at the Lighthouse occupied by a pair which produced an egg, seven burrows contained an egg along the Quarry Track and 24 pairs produced an egg inland of Crab Bay. There were thus 156 burrows this year from which productivity could be assessed (159 in 2017). Of these 30 definitely failed at egg stage and 11 failed at egg or very small chick stage (but neither eggs nor dead chicks were found). Five pairs failed with chicks which were yet to put on any significant primary growth, only two of which were found dead, and the chick of one pair went missing with a wing of at least 114mm. For a chick to be assumed to be of fledging size it was required to reach a wing length in excess of 200mm (although not ready to fledge, we have shown that chicks larger than this size may swap to a different burrow and therefore go undetected). There were 109 chicks which reached this size in 2018. Productivity was thus 0.70 fledging-sized chicks per breeding pair (69.87% of pairs produced a fledging-sized chick). This is 12.5% down on a remarkable 0.80 logged last year, but only 1.4% down on the 2013-2017 mean of 0.71 ±se 0.02. It should be noted that this is the number of chicks which attained fledging size and does not reflect the number of fledglings which are lost to Great Black-backed Gull (and to a lesser extent corvid) predation as they exercise their flight muscles and make their first flights. Having said that, none of the 114 fledglings ringed in the study plots were found predated this year (two of 135 were found eaten last year).

In 1999 nine study areas, each a circle of 1000 square metres, were established to allow a reasonable subset of the Skokholm Manx Shearwater population to be monitored from year to year. Two of these plots were discontinued, one in 2006 and one in 2007, as the survey work was disturbing the Lesser Black-backed Gull colonies. New plots were established in 2006 and 2015 to maintain a good sample area, however only seven plots have been sampled for a full 19 years. On each annual visit the number of burrows within the area is counted, along with the number of burrows from which a response is elicited when the call of a male bird is played down them. The standard correction factor (1.98) is then used to estimate the population within the area (see the 2013 and 2014 Seabird Reports for checking of the correction factor).

The total number of burrows, responses and the corrected population estimate for the 7000 square metres sampled annually since 1999.

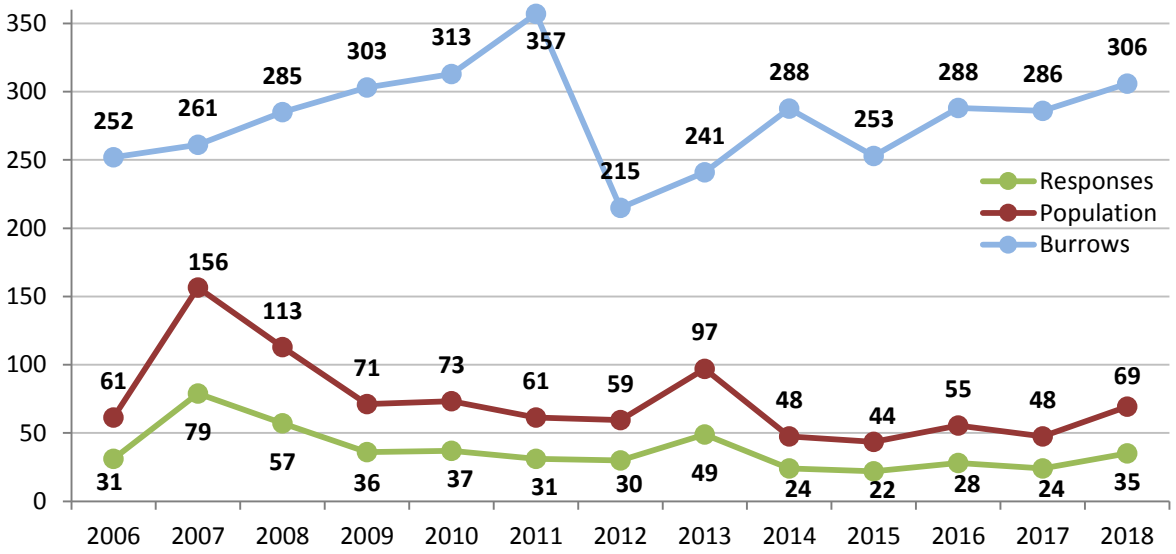


The drop from 2007 numbers was previously attributed to the collapse of many burrows in the more fragile areas of Skokholm, particularly near the Lighthouse which was at one time the densest area of breeding Manx Shearwaters on the Planet (Smith *et al*., 2001). Although this may certainly have played a role, it seems unlikely that it would be a major factor as there are considerably more burrows than pairs and the number of burrows appears to fluctuate independently of the number of tape playback responses. The eighth sample plot, begun in 2006, shows nicely the apparent lack of connectivity between the number of burrows and the apparent number of breeding pairs (see graph

below); a 39.8% decline in the number of burrows between 2011 and 2012 coincided with virtually no change in the number of apparently occupied burrows, whereas a 154.8% increase in the number of responses between 2006 and 2007 coincided with an increase of just nine burrows. These discrepancies may be attributable to the number of burrows frequently being altered by Rabbits, the weather, in some areas by Puffins and perhaps most markedly in some places, the digging of non-breeding Manx Shearwaters.

The overall number of responses across 8000 square metres was the highest since 2007, 26.2% up on last year and 23.6% up on the 2006-2017 mean (597.25 ±sd 154.00). This was the result of a drop of between three and seven responses in four plots (the largest decline being near Spy Rock) and an increase of between nine and 67 at four plots (the largest increase coming at Quarry Track Rise). It would appear that the Skokholm breeding population can still be cautiously regarded as stable, although the observed variance in the percentage of birds which respond to the playback on any given day highlights both the degree of error in these numbers and the importance of continued monitoring (see Brown and Eagle, 2013 and 2014). That the number of pairs producing eggs in the study burrows is also stable lends support to this theory. Further evidence for a stable population comes from the adult ringing programme, with a steady recapture rate of between 84.89% and 90.94% logged between 2013 and 2017 (see above).

The total number of burrows, responses and the corrected population estimate for the 1000 square metre plot sampled annually since 2006.



The estimated number of pairs in the 8000 square metres sampled since 2006.

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
869	954	620	525	499	495	501	521	477	533	588	585	738

As part of Seabirds Count, the fourth census of all breeding seabirds in Britain, a whole Island Manx Shearwater survey was conducted by the Wildlife Trust of South and West Wales with support from the Seabird Group and Natural Resources Wales. The methodology was much the same as that used during the 2012-2013 census, although a dual-sex recording was used to elicit responses as it has been shown that this both increases the response rate and reduces daily variability in the response rate (Perkins *et al*., 2017). A team of nine, namely Alys Perry, Amy Sherwin, Eleanor Absalom, Giselle Eagle, Kirsty Franklin, Michelle Underwood, Richard Brown, Stephen Vickers and Zoe Deakin elicited 2431 responses from 7564 burrows between the 2nd and 9th June. The response rate to the dual-sex recording was checked at 50 study burrows on ten dates between the 2nd and 19th June when responses were elicited at approximately 72% of active sites, well up on the 49% typically achieved

using the male-only recording. Playback at study burrows which did not contain a nest attempt elicited a response on an average 24% of occasions, owing to the presence of non-breeding birds. The whole Island estimate, based on an assessment of suitable breeding habitat and the number of active burrows sampled within each hectare, will be approximately 88945 pairs, although with confidence intervals of nearly 22000. The 2012-2013 whole Island census predicted a total of 63980 breeding pairs, with a standard error of 8134 and 95% confidence limits putting the actual total somewhere between 48037 and 79923 pairs (Perrins, *pers. comm*.). Even the lowest extreme of the 2012-2013 census was up on the 1998 estimate of 46184, although different methodologies were used for each survey. Despite considerable footfall away from the path network, only 35 burrows were damaged and repaired during the census; fortuitously, no eggs or birds were harmed. A full report on the 2018 survey will be produced in due course.

In the period between 1957 and 1997 the number of dead Manx Shearwaters located on Skokholm was recorded in the daily census log. The corpses were either stored or thrown into the sea to ensure that birds were not counted more than once. The practice was stopped in 1997 as it was felt that the removal of the corpses would be impacting the specialist community of species evolved to exploit this food source. However, with a Great Black-backed Gull population more than twice the size it was when the counting was stopped, the study was begun again in 2014. To limit the impact on the scavenging community, the birds were left in situ but their wings were painted with stock marker so that they were not double counted. This year, as in the previous three, corpses were marked by neatly slicing the flight feathers of both wings with a pair of scissors (using scissors has the added advantage that it makes it easier to check for rings on tightly inverted corpses). Although the vast majority of Manx Shearwater kills are made by Great Black-backed Gulls, a Raven was watched as it extracted a shearwater from its burrow and killed it on 2nd April and a corpse found at the base of the Lighthouse following thick fog on the night of 17th April was probably a collision victim (it had been ringed as a juvenile in 2015); further birds had been heard to strike the Lantern and the Cottage roof that night.

The number of Manx Shearwater corpses found between 1957 and 1983 from Gynn (1984) plus data from 1984 to 1991 and 2014 to 2018. The number of Great Black-backed Gull breeding pairs is also included for each year.

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Corpses	2465	1886	924	1354	1089	640	688	1059	857	946
GBBGU	27	30	30	10	12	5	7	12	8	10
	1967	**1968**	**1969**	**1970**	**1971**	**1972**	**1973**	**1974**	**1975**	**1976**
Corpses	816	841	829	304	606	1350	1082	869	1051	1266
GBBGU	10	3	14	11	16	12	12	7	7	7
	1977	**1978**	**1979**	**1980**	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**
Corpses	1913	1820	1153	1024	1080	1479	1373	1316	1571	1068
GBBGU	6	10	10	10	11	16	11	14	11	10
	1987	**1988**	**1989**	**1990**	**1991**	**2014**	**2015**	**2016**	**2017**	**2018**
Corpses	1759	1760	1694	1915	2703	4271	4123	3782	3449	3270
GBBGU	11	12	15	16	20	84	83	93	93	93

As might be expected with a larger Great Black-backed Gull breeding population, the number of corpses marked over the last five years has been the most ever. However the average number of corpses per Great Black-backed Gull pair has been lower than in all years except 1959, 1970 and 1971. One possible explanation for this reduction in kills per pair is that the breeding gulls were routinely disturbed between 1949 and 1985 which, while reducing the number of breeding pairs, probably inflated the non-breeding flock which would still be taking shearwaters. The data collected over just the last five years suggests that, despite the record equalling number of breeding Great Black-backed Gulls, the number of Manx Shearwaters being eaten is declining (see below table).

Although the number of adult corpses located over the last three years has been relatively consistent, the 2018 adult total was 24% down on that of 2013; this is ostensibly good news, however a substantial decline could actually be cause for concern. It is often suggested that the majority of predated shearwaters are younger, less experienced birds, those which spend longer on the surface as they prospect for burrows and mates; a reduction in corpses may thus reflect a reduction in the abundance of these more vulnerable birds, a decline which would perhaps not be obvious during the playback and study burrow surveys but which could have a substantial effect on the future growth of the population. However the 54 ringed adults found eaten this year do little to support this theory (see below table); although several more years of ringing data would be helpful and there is no information on the breeding status of those eaten (so they could perhaps still have been unpaired or burrowless birds spending longer on the surface), there is no evidence that the birds being eaten are younger. Other factors which may impact predation rates are vegetation heights, the number of gulls specialising in shearwaters (Westerberg *et al*., 2018), the complexities of the weather and moon cycle and the size of the Rabbit population (Rabbits being the other main prey item on Skokholm). The prevalence of puffinosis may affect juvenile losses (see below).

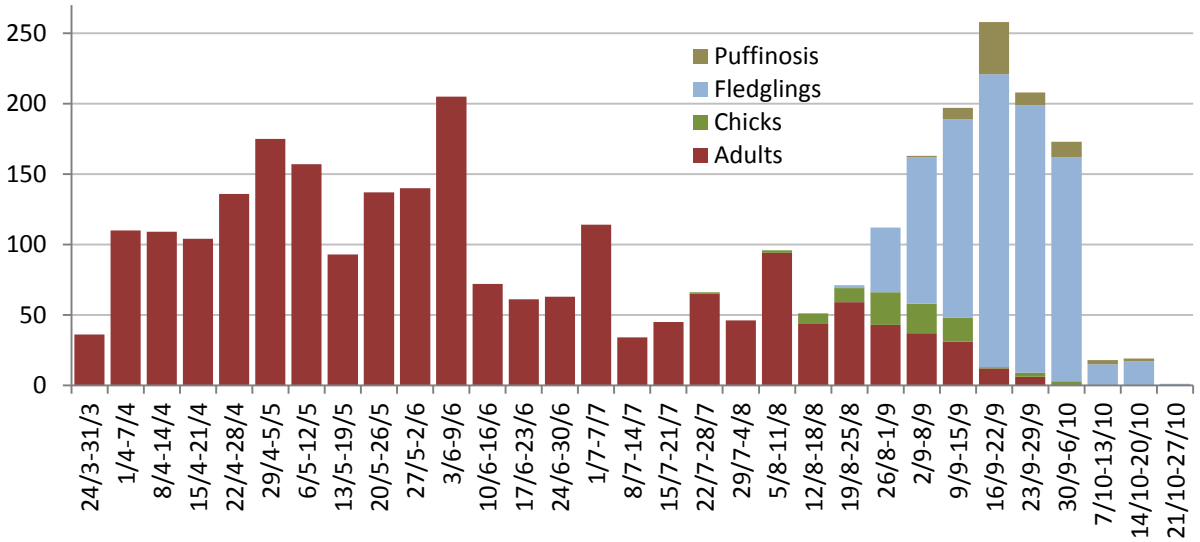
The number of adult and juvenile Manx Shearwater corpses found each year, along with the number of untouched puffinosised bodies.

	2014	2015	2016	2017	2018
Adults	2931	2702	2299	2071	2228
Juveniles	1287	1324	1398	1289	971
Puffinosis	53	97	85	89	71
Total	**4271**	**4123**	**3782**	**3449**	**3270**

When the 54 marked adults found eaten in 2018 were ringed. Note that the four pre-2013 birds were controls ringed elsewhere and that intensive ringing on Skokholm recommenced in 2013.

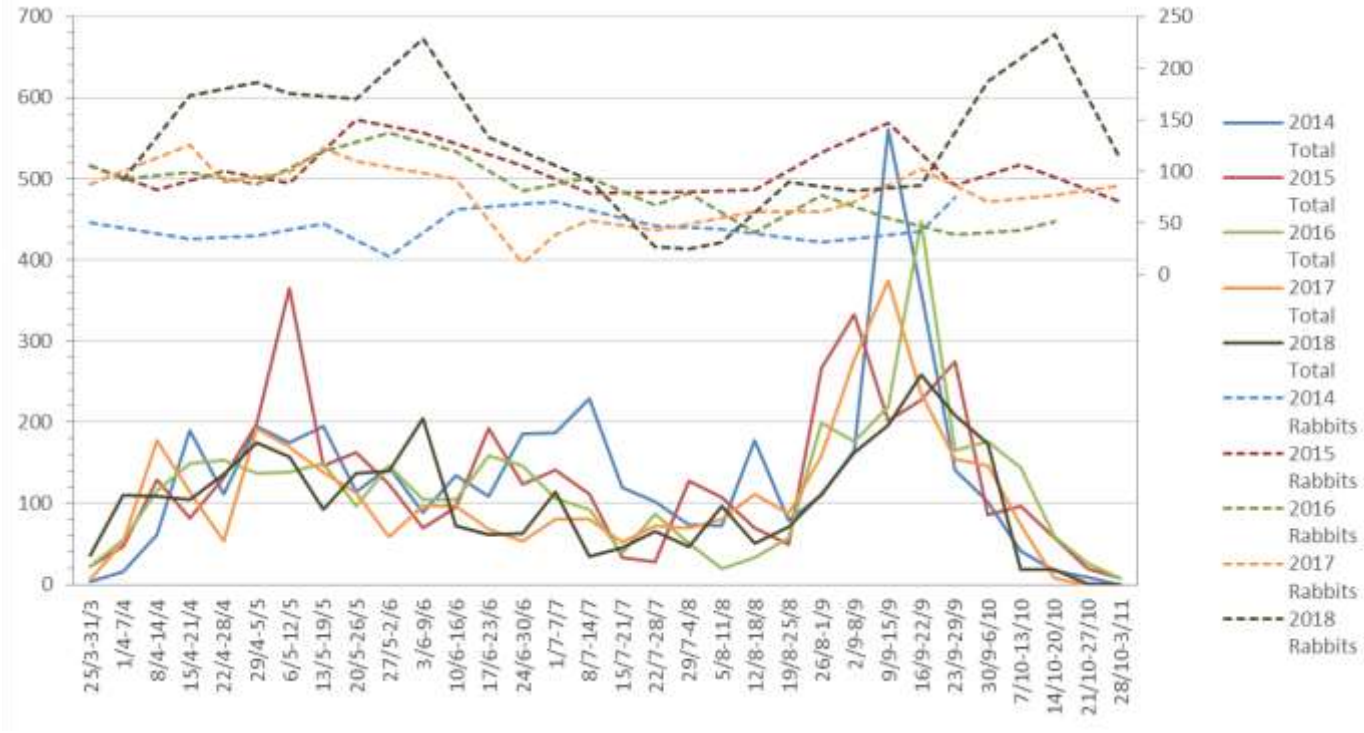
Chick 1984	Adult 1991	Adult 2001	Adult 2011	Adult 2013	Chick 2013	Adult 2014	Adult 2015	Chick 2015	Adult 2016	Chick 2016	Adult 2017	Adult 2018
1	1	1	1	10	2	10	11	1	11	2	2	1

The number of corpses found during each week from 24th March until 22nd October.



The data from the last five years lends some support to the theory that Rabbit numbers influence Manx Shearwater predation, with the North Plain Rabbit population being considerably lower in 2014 when adult shearwater mortality was at its highest. Likewise the increase in the Rabbit population witnessed this autumn may have resulted in the 24.7% drop in the number of juveniles found eaten this year. One potential issue with this comparison is that North Plain Rabbit counts are probably not representative of the Island as a whole, with the effects of Viral Haemorrhagic Disease seemingly differing in different parts of the Island at different times. The Rabbit population has been considerably lower than average during the five years of this carcass marking study; for example in 2013 the highest plot count was 463 on 22nd May, this compared with a count of 233 in October 2018 which was the highest count of the last five years. A return to 2013 Rabbit numbers would provide ideal conditions for monitoring their influence on shearwater predation

The total number of Manx Shearwater carcasses found each week 2014-2018 and the number of Rabbits counted in the North Plain census plot during the same period.



The first fledglings were encountered on the evening of 27th August, six days later than the first of 2017 and 2015, four days later than in 2016 and 2013 and two later than in 2014. The first fledglings showing signs of puffinosis were found on the night of 1st September; these were eight days later than the first of last year. Puffinosis is a mysterious affliction which, possibly due to the actions of a virus which leads to bacterial infection, sees the development of conjunctivitis, blistered feet and problems with limb control; it is often fatal. The number of puffinosised birds found dead has been relatively consistent over the last five years, with between 53 and 97 corpses attributed to the disease (71 this season). However considerably more infected birds are seen than found dead; unlike predated birds, which are usually taken to open areas, puffinosised birds may die deep in the Bracken and go undetected. In an attempt to achieve a better understanding of how puffinosised birds are distributed across Skokholm during the course of the autumn and of how the number of infected individuals changes from year to year, a transect walked by Island staff over eight September nights was established in 2015 (the 2015 report gives details of the route). The position of each fledgling is recorded using a GPS unit before they are inspected for signs of puffinosis.

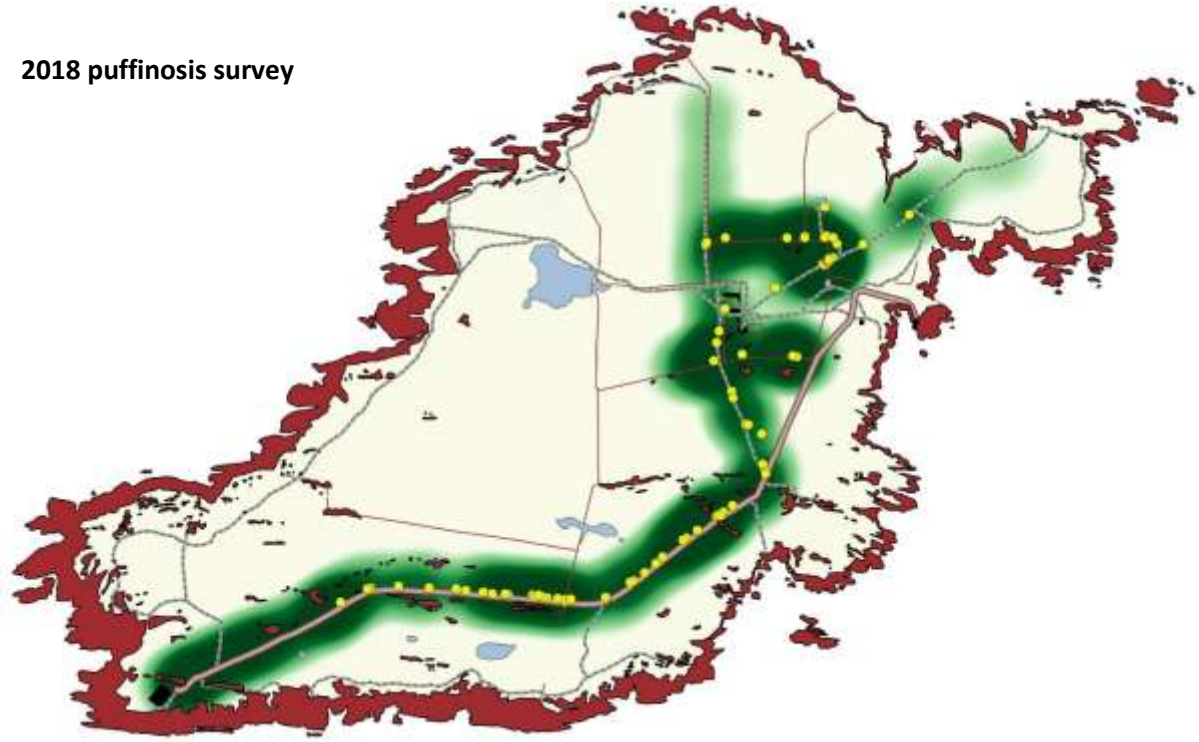
The number of Manx Shearwater fledglings located along the transect is likely to be different between years, not just because of fluctuations in productivity, but more critically due to differences in the weather and moon cycle which influence their surface behaviour. In total over the eight visits there were 500 more fledglings encountered this year than in 2017, with a total of 1008 being the most yet recorded. Although the number of apparently infected birds was fractionally up on last year (88 compared to 78), the proportion of birds showing signs was considerably down on the previous three years, with a mean of 8.7% infected birds compared with 15.4% in 2017, 13.5% in 2016 and 29.1% in 2015. As in previous years, puffinosised birds were primarily distributed in wet areas, away from more exposed aspects which also typically lack Bracken (see below maps). Given that there is seemingly a link between wet areas and diseased birds, one possible explanation for the substantial decline in the proportion of puffinosised individuals was that 2018 proved an exceptionally dry year. That a significant drop in the proportion of infected birds came in the same year as a significant drop in the overall number of predated juveniles is intriguing (see above); it is quite probable that puffinosised birds are easier for predators to catch, leading to higher mortality in high puffinosis years (it would usually be difficult to tell that an eaten bird had been suffering from disease). However the number of juvenile corpses located in 2015, the worst puffinosis year of this study, was not significantly higher than in 2016 and 2017 when the proportion of puffinosised birds was lower.

The number of fledgling Manx Shearwaters encountered along the transect between 2018 and 2015, the number which showed signs of puffinosis and the proportion of encountered birds made up of those showing signs.

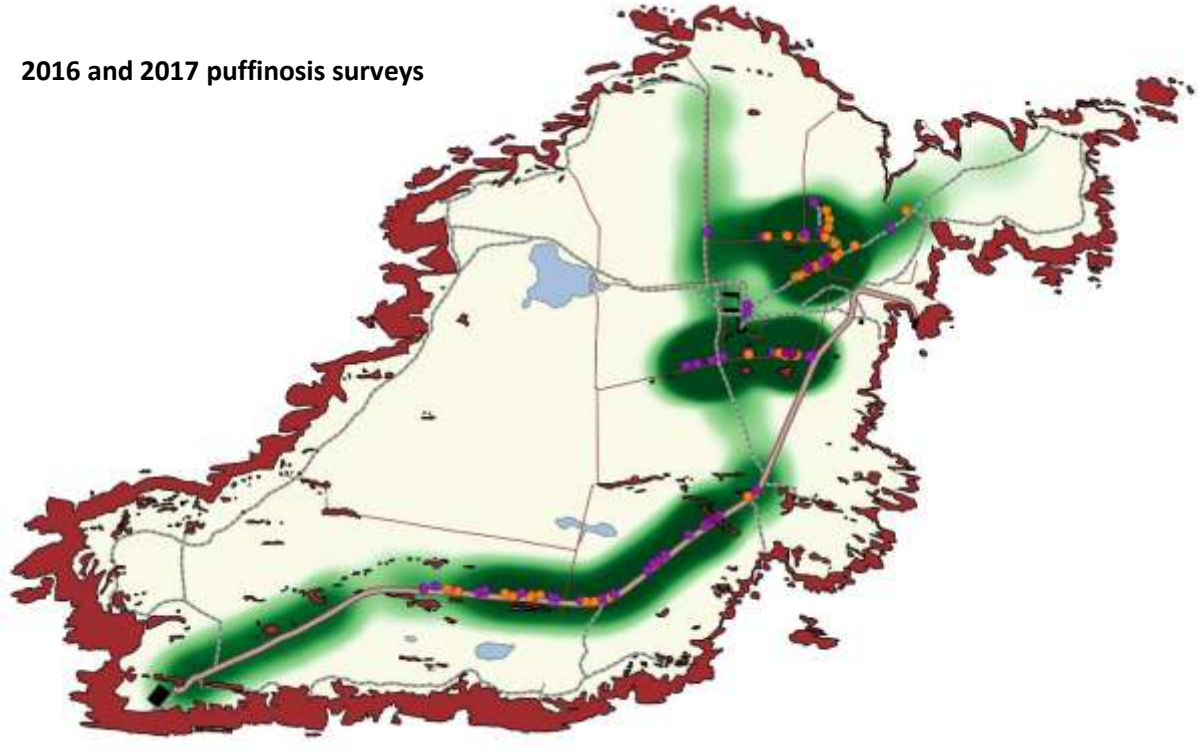
2018	1st-2nd	4th-5th	7th-8th	9th-10th	12th-13th	15th-16th	18th-19th	21st-22nd	Total
Birds	72	142	139	197	155	167	88	48	**1008**
Puffinosised	2	3	11	16	23	21	10	2	**88**
% Puffinosised	2.8	2.1	7.9	8.1	14.8	12.6	11.4	4.2	**8.7**
2017	**1st-2nd**	**4th-5th**	**8th-9th**	**11th-12th**	**14th-15th**	**17th-18th**	**20th-21st**	**23rd-24th**	
Birds	44	77	100	115	66	43	42	21	**508**
Puffinosised	4	13	16	10	4	16	14	1	**78**
% Puffinosised	9.1	16.9	16.0	8.7	6.1	37.2	33.3	4.8	**15.4**
2016	**2nd-3rd**	**5th-6th**	**8th-9th**	**11th-12th**	**14th-15th**	**17th-18th**	**20th-21st**	**23rd-24th**	
Birds	110	194	159	88	42	33	43	51	**720**
Puffinosised	20	18	22	13	8	5	5	6	**97**
% Puffinosised	18.2	9.3	13.8	14.8	19.1	15.2	11.6	11.8	**13.5**
2015	**1st-2nd**	**4th-5th**	**7th-8th**	**10th-11th**	**13th-14th**	**16th-17th**	**19th-20th**	**21st-22nd**	
Birds	54	164	219	155	162	101	58	41	**954**
Puffinosised	3	29	63	31	55	55	32	10	**278**
% Puffinosised	5.6	17.7	28.8	20.0	34.0	54.5	55.2	24.4	**29.1**

The 2018 and 2016-2017 puffinosis surveys. Manx Shearwater fledgling density is shown in green, with the darker areas holding more birds. Each puffinosised bird encountered over the eight visits is marked by a circle, yellow in 2018, orange in 2017 and purple in 2016.

2018 puffinosis survey



2016 and 2017 puffinosis surveys



Survey work on 11th September revealed that 56% of youngsters had departed their study burrows. Of 1498 fledglings ringed this year, two disorientated individuals were found on the mainland, with birds at Newgale on the 19th and Angle on 21st September released back to sea unharmed. The last adult bird to be encountered along the study transect was trapped on 22nd September, two days

after the last of 2017 but four days earlier than the last of 2016. September seawatch counts were well up on the previous five years, with highs of 20115 on the 8th (when a minimum of 18000 were in Broad Sound), 2143 on the 9th and 7840 on the 17th; recent September maxima have been 2260 in 2017, 732 in 2016 and 9523 in 2014. Counts dropped dramatically towards the end of September, with 85 on the 24th, one in a three hour watch on the 25th and no more than 27 each day until the end of the month. The only seawatching records in October were of singles on the 8th and 10th and nine west off the Lighthouse on the evening of the 26th, whilst the only signs of a continued presence after the 10th were freshly eaten fledglings on the 17th, 20th and 22nd and one calling after dark on the 31st. A late fledgling was sat on a hummock near the Lighthouse on 1st November, a bird was calling near the Lighthouse later the same night, seven on the 3rd included six in Broad Sound and one off the Lighthouse, one was off the Lighthouse on the 4th and one calling after dark on the 5th was the last record of the year; there have only been November records in nine years since 1927, including four of the last five.

Ringing recovery EA11076
Originally ringed as a juvenile, SKOKHOLM 4th September 2018
Recovered PROA AL MAR, PLAYA HERMOSA, URUGUAY 8th November 2018
Finding condition Dead on beach, over a week old
Distance travelled 10799km at 208 degrees (SSW)
Days since ringed 65
There have only been 22 previous recoveries of BTO ringed Manx Shearwaters in Uruguay.

Ringing recovery EA11496
Originally ringed as a juvenile, SKOKHOLM 9th September 2018
Recovered VALERO OIL REFINERY, ANGLE, PEMBROKESHIRE 21st September 2018
Finding condition Collected by ringer and released to sea
Distance travelled 19km at 96 degrees (E)
Days since ringed 12

Ringing recovery EA11648
Originally ringed as a juvenile, SKOKHOLM 13th September 2018
Recovered PWLL MARCH, NEWGALE, PEMBROKESHIRE 19th September 2018
Released GOODWICK HARBOUR, FISHGUARD, PEMBROKESHIRE 19th September 2018
Finding condition Collected by ringer and released to sea
Distance travelled 20km at 32 degrees (NNE)
Days since ringed 6
Two examples of how poor weather, coupled with disorientating lights, can lead to Manx Shearwaters arriving on the nearby mainland. Ringing has shown that birds helped back out to sea can go on to breed on Skokholm.

Ringing recovery EF98315
Originally ringed as a pullus, LUNDY ISLAND, DEVON 7th September 2007
Previously recovered MANX SHEARWATER TRANSECT, SKOKHOLM 18th August 2016
Recovered MANX SHEARWATER TRANSECT, SKOKHOLM 10th April 2018
Finding condition At colony but not necessarily breeding
Distance travelled 74km at 325 degrees (NW)
Days since ringed 3868

Ringing recovery EX74428 (now EZ86248)
Originally ringed as an adult, LUNDY ISLAND, DEVON 6th June 2013
Recovered MANX SHEARWATER TRANSECT, SKOKHOLM 19th May 2018
Finding condition At colony but not necessarily breeding

Distance travelled 74km at 325 degrees (NW)
Days since ringed 1808
Rats had officially been eradicated on Lundy by 2006 (although the last recorded activity was in February 2004). By 2013 the Manx Shearwater population there had increased by over 3000 pairs. Recoveries from this population are proving to be a more than annual event on Skokholm.

Ringing recovery EY41716
Originally ringed as an adult, CRAB BAY STUDY PLOT, SKOKHOLM 30th May 2013
Recovered RUSH, DUBLIN, IRELAND 8th July 2018
Finding condition Dead on beach, over a week old
Distance travelled 210km at 345 degrees (NNW)
Days since ringed 1865

Ringing recovery FB08349
Originally ringed as an adult, BARDSEY ISLAND, GWYNEDD 27th May 2001
Recovered SKOKHOLM 18th April 2018
Finding condition Dead, eaten by Great Black-backed Gull
Distance travelled 122km at 197 degrees (SSW)
Days since ringed 6170

Ringing recovery FB35217
Originally ringed as an adult, BARDSEY ISLAND, GWYNEDD 27th April 2011
Recovered SKOKHOLM 24th August 2018
Finding condition Dead, eaten by Great Black-backed Gull
Distance travelled 122km at 197 degrees (SSW)
Days since ringed 2676

Ringing recovery FR50832
Originally ringed as a pullus, SKOMER ISLAND, PEMBROKESHIRE 24th August 1984
Recovered MANX SHEARWATER TRANSECT, SKOKHOLM 14th May 2018
Finding condition Dead, eaten by Great Black-backed Gull
Distance travelled 5km at 149 degrees (SSE)
Days since ringed 12316

Ringing recovery FR97091
Originally ringed as an adult, SKOMER ISLAND, PEMBROKESHIRE 25th June 1991
Recovered SKOKHOLM 24th June 2018
Finding condition Dead, eaten by Great Black-backed Gull
Distance travelled 5km at 149 degrees (SSE)
Days since ringed 9861

Balearic Shearwater *Puffinus mauretanicus* **Aderyn Drycin y Baleares**
Scarce to Uncommon first recorded in 1960
Earliest 15th May 1997 (18th August 2018) **Latest** 29th October 1990 (22nd September 2018)

The first of the year headed south over the western reaches of Broad Sound on 18th August; this was 22 days later than the first of last year and the latest arrival since 2014. One headed west off the Lighthouse on the evening of 19th August and two did likewise the following day (one of which was close enough in for the below photograph to be taken). The only other 2018 record concerned one feeding off the Lighthouse on 22nd September. An annual total of five bird-days was one down on last year and, equal with 2014, the lowest total since the single of 2013; recent highs have been the 15 bird-days logged in 2016 and the ten of 2015. The majority of 2018 sightings again occurred

during periods of moderate or strong winds from the westerly quarter, although the September bird occurred during a day of light but freshening easterlies.

Cattle Egret *Bubulcus ibis* **Crëyr y Gwartheg**
Vagrant one previous record

One which spent the morning of 9th October in the Great Black-backed Gull roost to the north of the Sugarloaf was only the second for Skokholm (RDB); this was hot on the heels of a stunning breeding-plumaged individual which also roosted with gulls on 17th July last year. The first for Pembrokeshire was not logged until 11th December 1980, since when there have been approximately 18 further records, all but one of which occurred after 1997. This species was removed from the British Birds Rarities Committee description list on 1st January 2009, will be removed from the Welsh Records Panel description list on 1st January 2019 and has now bred in Wales on more than one occasion.

Grey Heron *Ardea cinerea* **Crëyr Glas**
Uncommon but in some years Scarce

A minimum of four on 23rd June were ten days later than the first to be logged last year and six days later than the first of June 2016. There were two the following day, a single east on the 29th and five on 10th July was the highest daycount of the year; although down on the eight logged on 13th June last year and the Island record 11 counted on 13th September 2000, the latter equalled the third

highest daycount of the last seven years. There followed a northbound flyover on 22nd July, a mobile bird four days later, a flyover on 14th August, one south and far to sea on 21st August, singles calling just after midnight on 26th August and 8th September, lone flyovers on the 3rd and 7th October and one on 19th November which was the last of the year; the latter was the first November record since 2013 and only the tenth to be logged in this month. A cumulative 2018 total of 21 bird-days was down on the 37 of last year and the second lowest total of the last five years.

Little Egret *Egretta garzetta* **Crëyr Bach**
Rare 27 previous records, usually of singles but with eight together on 25th September 2014

A mobile bird on 7th July, first seen over the Lighthouse and Horse Bottom, was the only record of the year (IB); although this species has now been recorded annually since 2013, this was the poorest showing since that year (when it was also a single logged). The first for Skokholm was not until 18th May 1983, the second was on 10th October 1993 and all subsequent records have occurred after 1996. Little Egrets have been seen in every month between March and November inclusive, now with two records in April, five in May, two in June, nine in July, four in August, two in September and two in October.

Gannet *Morus bassanus* **Hugan**
Very Abundant but Uncommon between November and March

Considering the presence of roughly 36,011 breeding pairs on Grassholm (JNCC, 2015), only 14km to our west and the third largest Atlantic gannetry, it is perhaps a surprise that the number seen from Skokholm is so small. However recent studies using GPS tracking devices on Grassholm birds have shown that the majority head west and south from the gannetry before returning by a similar route (Morgan, 2013). Skokholm counts followed the same general pattern as in the previous four years, with numbers steadily increasing until an early autumn high, however the 2018 peak totals were again later, with the highest daycount coming in September. The majority of peak 2018 counts, namely the 598 of the 28th, the 620 of the 29th and the 570 of 31st July, along with the September maxima of 641 on the 21st and 636 on the 26th, were of birds pushed inshore by gales (although increased seawatching effort on such days inevitably adds some bias). However the latter September count, which included 456 birds in a single hour, came during a period of light southwesterlies. The largest single group observed this year was of 140 birds feeding around Common Dolphins on 16th August. Records of one south over the middle of the Island on 11th June and of one over the Farm buildings on 3rd September were unusual, however there were no birds seen ashore this year. The cumulative year total of 20,558 bird-days was up on the 18,478 of last year and the recent maximum of 19,695 logged in 2013.

The total number of Gannets logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2014 to 2017 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	68	360	1203	1777	3340	5395	7830	478	107
2017	60	443	762	1326	2841	4239	8619	176	12
2016	85	945	1425	1458	2161	3552	6694	437	227
2015	119	391	1632	566	3094	3415	3324	345	106
2014	119	533	1131	1473	2111	5640	3150	1222	25
2018	21	58	144	230	620	479	641	122	55
2017	13	65	118	290	383	496	951	35	5
2016	22	348	435	186	345	710	1003	51	47
2015	19	69	279	93	830	320	455	61	41
2014	38	84	95	159	449	612	735	225	7
	15th	24th	8th	14th	29th	16th	21st	9th	3rd

A live bird seen entangled in a trailing rope attached to lobster pots in Little Bay on 15th June was eventually dragged under as the tide rose. Untangled dead birds floated past on 19th May and 19th August.

Shag *Phalacrocorax aristotelis* **Mulfran Werdd**

Common Resident and Irregular Scarce Breeder last attempted to breed in 2013

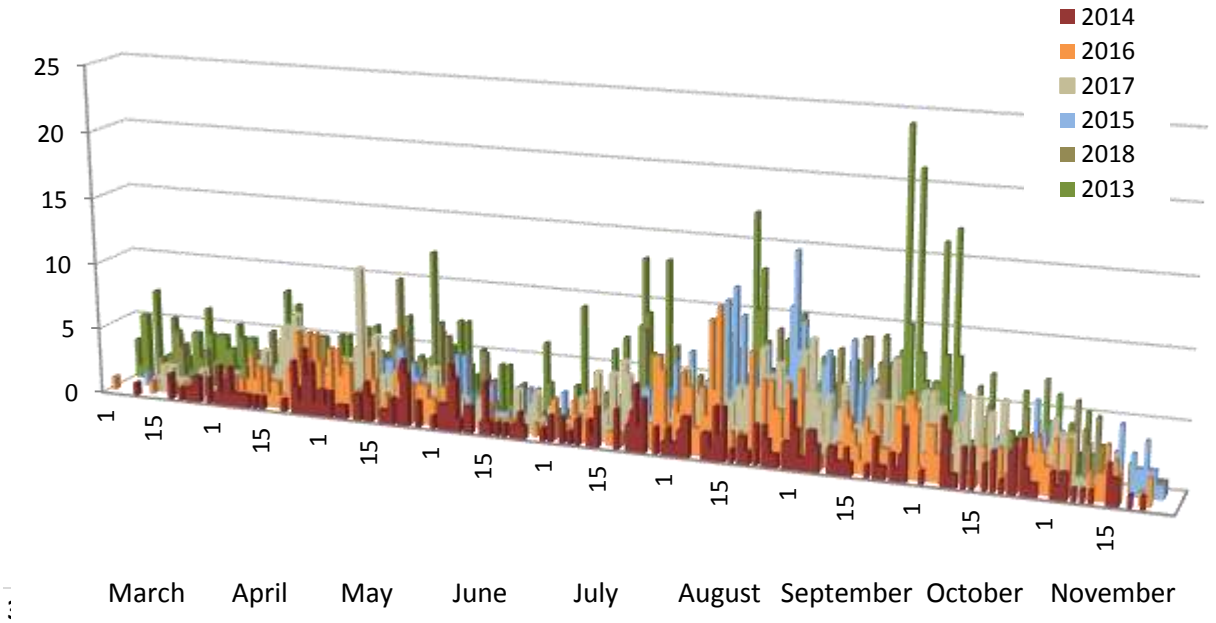
1 control

Shag numbers were heavily impacted by prolonged and severe storms in the winter of 2013-2014, with the total logged in 2014 being 67.3% down on the record set in 2013. The first five months of 2015 provided little evidence of a comeback, with maximum daycounts and monthly totals very much comparable with 2014; indeed counts during March, April and June 2015 were even lower than in 2014. There was however a significant increase in numbers during autumn 2015 with both adult and juvenile birds becoming much more frequent around the coast, a reflection of both adult post-breeding dispersal and a better than average breeding season at the Middleholm colony. Disappointingly there has been little evidence of a continued recovery, with both the 2016 and 2017 year totals and peak counts being down on 2015. This year was similarly disappointing; although the cumulative year total of 611 bird-days was fractionally up on the previous three years (range of 515-565), the peak daycounts logged in May, August and September were down on or equal to last year.

Comparing the number of Shag seen during the 2018-2013 seasons.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Maximum count	4	5	10	5	8	9	9	5	6
Bird-days	18	50	100	40	55	130	124	55	39
Maximum count	2	7	11	3	6	10	9	6	5
Bird-days	12	64	69	24	61	108	125	79	17
Maximum count	1	6	5	4	7	11	7	4	4
Bird-days	5	67	74	28	57	114	83	57	31
Maximum count	1	3	5	5	6	15	10	6	5
Bird-days	8	24	66	32	40	171	127	55	42
Maximum count	2	5	5	5	5	4	5	5	3
Bird-days	12	38	37	35	35	47	42	39	19
Maximum count	7	8	12	7	13	17	24	17	5
Bird-days	84	86	104	63	90	147	189	146	20

2018 2017 2016 2015 2014 2013



An adult was displaying to an attentive partner at the Anticline on 16th March, at Rat Rock on 26th April and at the Stack on 27th April, however there was again no indication of a breeding attempt this season, with the Smith's Bay site last used unsuccessfully in 2013 showing no signs of occupation. Shag last bred successfully in 1987 when a pair fledged two young. A juvenile controlled in November highlighted how the Shags seen around Skokholm are not necessarily connected to the local Middleholm colony.

Ringing recovery 1469590
Originally ringed as one of two chicks, YNYS GWYLAN-FAWR, GWYNEDD 17th May 2018
Recovered as a juvenile, LIME KILN, SKOKHOLM 11th November 2018
Distance travelled 127km at 199 degrees (SSW)
Days since ringed 178
Although seemingly healthy, this is the first Shag to be found in the back of the Lime Kiln.

Cormorant *Phalacrocorax carbo* **Mulfran**
Common Visitor particularly in late August and September

Although not recorded every day, Cormorants were again common around Skokholm, with the majority of records being of loafing birds on the Stack, between Mad Bay and North Haven and in Crab Bay. Unlike Shag, which were severely affected by the winter storms of 2013-2014, there was no indication that this species was impacted, perhaps due to their readiness to move inland during the winter. There was again little evidence of a spring movement, with two over on 5th April, eight north on 10th April, four south on 18th April, four north on 25th April, three northwest on 8th May and two west on 12th May the only movements logged. However there was a significant increase in the number of birds counted this year, with the peak April daytotal equalling the highest since 1992, the cumulative number of April bird-days being the highest since 2000, the peak May daytotal being the highest since 2005 and the May bird-days total being more than double the recent mean and the highest since 1990. It is tempting to link this increase in spring numbers to disturbance at the nearby Thorne Island colony, which the Cormorants have now abandoned, as increases on other Milford Haven stacks are probably not sufficient to account for the missing birds (Sutcliffe, *pers. comm.*). Although the Middleholm colony increased to 11 pairs in 2018, there has been a rapid drop on Skomer from seven to zero. One swimming at Skokholm's North Pond on 20th March was unusual.

The total number of Cormorants logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2014 to 2017 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	14	56	104	66	77	118	202	57	31
2017	10	51	58	46	93	117	66	67	23
2016	10	39	38	27	102	98	174	42	12
2015	15	55	50	41	52	133	179	56	10
2014	2	49	54	44	51	90	177	59	12
2018	3	11	9	5	7	27	23	15	6
2017	2	7	5	4	8	17	14	24	6
2016	3	5	4	3	21	13	57	11	4
2015	2	5	5	6	4	15	28	19	3
2014	1	9	6	4	4	26	51	19	3
	31st	10th	30th	3 dates	24th	30th	5th	14th	26th

There were 16 dates between July and September when birds were noted high over the Island, three fewer than last year, however the number of birds logged during this period was up. The vast majority of passage birds were again heading in a southeasterly direction, as previously noted by

both Betts (1992) and Thompson (2007); the largest movements were of 20 on 30th August, 12 on the 3rd, 16 on the 5th, eight on the 22nd and 13 on 28th September and of seven on 14th October. Ten north on 23rd September was the proverbial exception to the rule. Although the post-June total was up on the previous four years, the peak daycount of 27 logged on 30th August was down on six recent highs, most notably the 57 of 13th September 2016, the 51 of 21st September 2014 and the 97 of 28th September 2013.

Osprey *Pandion haliaetus* **Gwalch y Pysgod**
Rare singles in the Septembers of 1966 and 1988 and 13 records from 1992 including six in spring
Earliest 2nd April 2012 **Latest** 21st September 1996 (2nd September 2018)

One chased south by a Raven on 2nd September was the first since 24th May 2016 and the ninth Skokholm sighting in this month. Six of 16 Island records have occurred in the last seven years.

Sparrowhawk *Accipiter nisus* **Gwalch Glas**
Uncommon Visitor occurring in all months but more frequent outside of the breeding season
1936-1976: 10 trapped, 2013-2017: 7 trapped, 1 retrapped

There were no March records for the first time since 2015, with a female on 9th April being the first of the year and the only spring bird; although never a common species at this time of year, with recent spring highs of only eight bird-days in 2016 and 2015 and nine in 2014, a lone spring sighting is poor, three down on last year and, equal with 2009 and 2005, the lowest tally this century. A female which probably took a Robin on 23rd August was the first of the autumn, this the same date as the first of autumn last year but 26 days later than the first autumn bird of 2016. There were further records of a juvenile female on the 25th, 27th and 29th, a female on the 30th and what was definitely an adult female on 31st August. There followed sightings of females on 18 dates between 5th September and 8th October, the last of which was eating a Blackcap and two of which, on the 5th and 17th September, were aged as juveniles. There were also males on five dates between the 10th and 24th September, with birds on the 12th and 16th definitely juveniles, and up to two unsexed birds on three dates between the 14th and 23rd. Given the mobile and often secretive nature of this species, daycounts of multiple individuals were usually due to differences in the age or sex of the birds concerned; rarely was it possible to prove the presence of two birds of the same age and sex, an uncertainty which must lead to undercounting. Such differences allowed for the peak daycount of two to be made on four September dates, although it was felt that a second female was probably present on the 24th which would have taken the daytotal to three. The only other 2018 records were of females on the 18th and 30th October and on 4th November. The autumn bird-days total of 36 was ten up on last year, but down on recent highs of 41 in 2016, 66 in 2015 and 44 in 2014.

Marsh Harrier *Circus aeruginosus* **Bod y Gwerni**
Scarce recorded in every month from March to September but with only one adult male
Earliest 10th March 2015 (20th May 2018) **Latest** 15th September 2013 (**4th November 2018**)

A cream crown hammered by gulls on 20th May was the first since 23rd May 2016. The first of the autumn was another cream crown, logged on 26th July, this only the second Skokholm record in this month following one on the same date in 1999. Two juveniles watched over different areas but at the same time on 29th August was the first Island record of multiple individuals on the same date. September saw lone juveniles noted on the 2nd and 3rd, the latter of which was hunting around North Pond. In October there was a cream crown west then north on the 11th, a juvenile hunting on the 16th and daily sightings of what was probably the same juvenile between the 25th and 28th; these were the first October records for Skokholm. The last of the year, and again perhaps the same returning youngster, was logged on 4th November. A 2018 bird-days total of 13 was a new record, up on the six of 2015 and the seven of 1998. There have been sightings in 20 previous years, including

six of the last eight and totalling at least 31 birds, however probable repeat visits from nearby Marloes Mere by long-staying cream crowns have made an accurate count of individuals difficult. Birds in the springs of 1987 and 2001 remain the only definite males to be recorded.

Hen Harrier *Circus cyaneus* **Bod Tinwen**
Scarce Winter Visitor but no records between 2004 and 2011 inclusive
Earliest 5th September 2012 (26th September 2018) **Latest** 17th April 2016 (30th March 2018)

Sightings of a ringtail on the 7th and 30th March were the only spring records; there have now been birds in ten springs, including five of the most recent seven. There were daily sightings of a ringtail between the 26th and 28th September, taking the all-time September bird-days total to just 23 but with the first encounter being 18 days later than the first autumn record of last year. There followed lone ringtails on 13 October dates, including what was confirmed as an adult female on the 16th and 18th. An adult female was also present on the 30th and 31st when it was joined by an unaged ringtail on the former date and a juvenile on the latter. November proved the most productive month for this species since records began, with lone ringtails on 12 dates between the 1st and 26th and two birds noted on six further dates; it was again likely that an adult female and a juvenile accounted for the majority of sightings. Good views of the adult obtained during this period revealed that it was not ringed and was thus different to the presumed returning adult female of 2015 and 2016 which had a metal ring on its right tarsus. Although it was felt that in the majority of cases birds were arriving and departing during the same day, a juvenile roosted near South Pond between the 4th and 5th November. A 2018 bird-days total of 46 is a new Skokholm record, up on the 38 of 2003.

Red Kite *Milvus milvus* **Barcud Coch**
Vagrant only eight previous records but becoming Scarce

One north on 25th March was two days later than the first of last year (GE); three of the previous eight Island records have also occurred in spring, with singles on the 23rd and 24th March 2017 (probably the same returning individual), 15th April 2015 and 28th March 2012. At least two birds, and possibly three, on 28th September was the first Skokholm record of multiple individuals (RL, SWO *et al*.). One over the Bog the following day was perhaps one of the same birds. The last of the year arrived from the east on 7th October (RDB *et al*.). Five 2018 bird-days is a new annual record,

although it again proved difficult to ascertain the number of individuals which were visiting. An increase in the Pembrokeshire breeding population is inevitably going to lead to an increase in the number of Skokholm sightings, although an open sea crossing to the Island is seemingly not appealing to a species which is much more regular on the mainland and islands just offshore.

Buzzard *Buteo buteo* **Bwncath**
Scarce Breeder and Uncommon Visitor
1 pullus trapped
1936-1976: 11 trapped, 2013-2017: 7 pulli trapped

Although a pair yet again held territory in Wreck Cove from March and toured widely, this proved an unobtrusive species which was not recorded every day. In spring the only indication that birds other than the Skokholm breeders were present came on 24th March, when two adults escorted a third bird towards the mainland, and on 25th March when three were again logged. The same rocky shelf used as a nest site between 2013 and 2017 was again occupied and three eggs were again produced. Only one chick was present on 10th June, a bird which was ringed 13 days later (on which date three adults were logged for only the third time this year). A juvenile in North Haven on 20th July was not confirmed as the Skokholm youngster, however a juvenile watched regularly in Crab Bay thereafter was seen to be wearing a ring on the 14th and 21st August. This was at least the sixth year in succession that a Wreck Cove pair have managed to fledge young, although only in 2015, when two fledged, have they produced anything more than a singleton.

There were more records of non-Skokholm birds this autumn, with regular counts in excess of the Wreck Cove pair and their lone fledgling. Following five birds logged on 14th August, there were four individuals noted on six further August dates including a second juvenile on the 21st and an unringed juvenile on the 27th. Additionally seven birds were noted on 25th August and six were present on the 28th and 29th; seven birds was the largest daycount since eight were logged on 20th September 2013 and 80 August bird-days was, equal with October 2013 and August 2001, the highest monthly total since 89 were recorded in October 1993 (the Skokholm record is 120 noted in the Mays of 1955 and 1948). There have only been five Skokholm daycounts of ten or above, with a maximum of 16 logged on 20th September 1951. The only September 2018 counts of above three were of four on the 5th

and five over the Bluffs on the 12th, whilst the ringed juvenile was in South Haven on the 9th. One sat in the Courtyard on 13th October was unusual for the time of year, whilst larger counts during the month were of four on the 16th, which included a non-Skokholm juvenile chased by an adult, five on the 28th and four on the 30th. The ringed youngster was last confirmed on 29th October, whilst Skokholm birds could account for all November sightings.

Water Rail *Rallus aquaticus* **Rhegen y Dŵr**
Uncommon Winter Visitor and Irregular Scarce Breeder confirmed in 1929, 1931 and 2012
5 trapped, 3 retrapped
1936-1976: 19 trapped, 2013-2017: 14 trapped, 3 retrapped

Following successful breeding in 2012 and 94 records of up to two birds during a 2013 breeding season without a confirmed attempt, 2014 saw only two spring singles logged (probably due to the severe preceding winter). Subsequent springs have seen up to three birds noted in a day, but there have been no sightings between 21st April and the autumn influx. It was thus pleasing to log birds in every month of the 2018 season, although there was no evidence of a breeding attempt. In March there were records on 18 dates from the 6th, with four on the 19th, three on the 8th, 17th and 25th and two on four dates; records came from the Courtyard, north of the Wheelhouse, the Hills, South Pond and the Well. April records came solely from the Well, with two birds on the 2nd and 3rd and singles on five further dates to the 9th. Following one on 11th May, there were lone birds at the Well on the 16th and 18th, at East Bog on the 19th, South Pond on the 20th and Orchid Bog on the 23rd; given that the birds on the 18th and 20th were singing, it is tempting to think that these records might concern one roaming male. The only June sighting was of a single at South Pond on the 17th and in July there was an adult at the Well on the 24th, 25th and 31st; the Well bird was retrapped on the latter date when it was found to be a male ringed as a juvenile on 23rd July 2017.

Following a single on the 5th, there were records on all but one August date from the 13th, with highs of four on the 29th and five on the 30th; the observations came from Isthmian Heath, the Well, south of Home Meadow, East Bog, the Top Tank, Gull Field and South Pond. The same male retrapped in July was retrapped on 26th August when it was found to be in wing moult, with all flight feathers being replaced simultaneously and over two thirds grown. The August bird-days total was the highest on record, topping even the years when Water Rail bred, whilst the peak daycount was only

down on the six logged in 2016 and 2012. September proved similarly productive with records on all but one date, peak counts of seven on the 24th and 30th, eight on the 28th and 29th and nine on the 26th and a bird-days total of 120; the peak count matched the September record logged in 2014 and the bird-days total was nearly four times that logged last year, only down on the 137 of 2014. The moulting male was still present on 12th September. Sites with a record additional to those logged in August were North Haven, Orchid Bog, North Pond, the Cottage Garden, Hog Bay, Spy Rock, the Knoll, the Pig Sty and Boundary Hill. There were records on all but three October dates, with peak counts of ten on the 1st, 4th, 21st and 25th, 11 on the 2nd and 14 on the 19th contributing to a total of 195 bird-days; the bird-days total was only down on 2015 and 2014 and the peak count equalled one in 2015 as the 11th highest of all time (there have been daycounts of 15 logged once in October 2016, November 2015, October 2014 and the Decembers of 1932, 1930, 1929, 1928 and 1927, whilst 20 birds were counted on 16th October and 5th December 1931). Crab Bay and South Haven were the only new sites recorded during October. There were November records on all but three dates before the departure of staff on the 26th, including peaks of ten on the 1st and eight on the 7th which took the bird-days total to 91, the fourth highest November total to date. Winter Pond was the only new site noted in November. A cumulative autumn total of 440 bird-days was well up on the 152 of last year and only down on the 496 of 2015 and the 480 of 2014.

Moorhen *Gallinula chloropus* **Iâr Ddŵr**
Scarce Breeder
11 trapped (including 4 pulli), 3 retrapped
1936-1976: 10 trapped, 2013-2017: 12 trapped, 4 retrapped

Whereas early spring is typically quiet on Skokholm, a paucity of records which may reflect either an absence of birds or just skulking non-breeding behaviour, 2018 saw a marked increase in numbers; perhaps freezing conditions drove birds from the mainland or led to them being more conspicuous. There were March records on 14 dates from the 6th, with two birds noted on six dates; a total of 20 March bird-days was four times that logged last year and only down on the Marchs of 2003 and 2002 when 23 and 31 bird-days were logged respectively. There were records on 19 April dates, with peak counts of four on the 24th and three on the 28th, a monthly total of 30 bird-days and records from North Pond, South Pond, the Well and Orchid Bog; although the peak daycount matched the second highest April count to date, the bird-days total was the lowest since 2013, 23 down on last year and less than half that logged in 2016 and 2015. A diurnal record of one flying from North Pond to the Well on 21st April was unusual, a tame bird by the Wheelhouse Pond on 12th May was perhaps fresh in and a vocal bird was in flight between South and Winter Ponds after dark on 4th June.

The first four chicks were seen at the Well on 30th May, three days earlier than the first of last year; a minimum of two had attained independence by the end of June. A second brood chick was seen at the Well on 24th July and 3rd August, a bird which was independent by the end of the month. An adult at Orchid Bog was accompanied by two fledglings and two chicks on 5th August and a minimum of five chicks was confirmed on 13th August; four went on to fledge. Assuming that the first brood Orchid Bog fledglings were the two from the Well, a minimum of seven fledglings were produced by two pairs between Orchid Bog and the Well in 2018, whilst sporadic breeding season records from North and South Ponds were not confirmed as territorial pairs; the only birds seen at North Pond after 7th June were singles on 5th July and the 1st and 7th September and there were no records at South Pond after the nocturnal bird of 4th June. Two confirmed breeding pairs is one down on the previous four seasons and matches the number logged in 2013; four pairs in 2007 and four or five in 2011 are the highest counts. A minimum of seven fledglings gives a 2018 productivity figure of 3.50, the highest of the last six years (productivity between 2017 and 2013 was between 1.00 and 2.67 fledglings per pair). There were sightings of up to two birds on ten September and 13 October dates, all but two of which came from the Well or Orchid Bog, whilst the six November singles were more dispersed, with birds at the Well, the Wheelhouse Pond and near Medicine Rock.

Oystercatcher *Haematopus ostralegus* **Pioden y Môr**
Fairly Common Breeder and Common Visitor previously an Uncommon Breeder
18 trapped (including 13 pulli), 17 resightings
1936-1976: 1882 trapped, 2014-2017: 40 trapped (including 23 pulli), 4 resightings

It was a rather typical March, with lows of 26 on the 18th, 25 on the 19th and 47 on the 28th but five counts of 100 or more and a peak of 110 on the 23rd when 104 were roosting on the Anticline. There were regular roosts at this site, with ten counts in excess of 60 birds, up to five of which were orange darvic ringed; colour ringing revealed something of a turnover at the Anticline, with six of ten colour ringed Skokholm breeders and four non-Skokholm birds identified at this site during March, twice the number of marked individuals than seen on any one date. Unlike last year, when birds establishing breeding territories vacated roost sites at the very start of April, this season saw flocking behaviour continue later into the month; this was perhaps a response to harsh weather earlier in the year. There were eight Anticline roosts in excess of 50 birds including a peak of 93 on the 2nd and a late high of 80 on the 16th, whilst an 11th colour ringed individual was identified; the peak count was one short of being twice that logged in April 2017. A whole Island census during May revealed 52 territorial pairs, nine fewer than in a record 2017 and the lowest total since the 51 of 2014 but well up on the 2002-2017 mean (39.93 ±sd 11.24). Although this drop in numbers perhaps reflects a die off during the 'Beast from the East', colour ringing again suggested high adult survival; of nine birds bearing colour rings during the 2017 breeding season, all nine returned to the same territories this year (including the bird found overwintering in Côtes-d'Armor, France during December 2017). Intriguingly North Pond roosts were unusually large during the breeding season, with peak May counts of 34 on the 3rd, 33 on the 11th and 36 on the 29th, whilst peaks in June were of 54 on the 16th, 56 on the 28th and 58 on the 30th.

As in the previous five seasons, nests were selected for productivity monitoring during early May (21 in total). Remarkably 18 pairs managed to fledge 34 young, with two pairs fledging three, 12 pairs fledging two and four pairs fledging a singleton. Productivity was thus 1.62 fledglings per pair, well up on the 0.57 of last year, 63.6% up on the 2013-2018 mean (0.99 ±se 0.16) and the highest value recorded in the last six years. Only Great Black-backed Gulls were seen to take young, with the exception being one eaten by a Lesser Black-backed Gull on 25th May. The first flying youngster was

logged on 22nd June, six days later than the first of last year. North Pond roost counts increased in July, with highs of 70 on the 2nd, 71 including at least 14 juveniles on the 9th and 66 on the 12th and 18th. There were regular departures for the mainland during July, with groups of eight on the 8th and 11 on the 27th the largest logged. The maximum August daycount was 62 on the 2nd, no more than 33 were noted on any date from the 5th and there were August lows of nine on the 8th and 9th and seven on the 30th. September proved typically quiet, with records on all but one date of up to 21 birds and with a maximum Anticline roost of 15 on the 21st. There were sightings on 22 October dates, including a high of 16 on the 17th, and on 23 November dates prior to the staff departure on the 26th, including a high of 22 all roosting at the Anticline on the 9th and 11th. One was eaten by a Peregrine on 1st November.

Ringing recovery FS19724
Originally ringed as a chick, SKOKHOLM 18th June 2018
Recovered as a juvenile, THE GANN, PEMBROKESHIRE 16th September 2018
Finding condition Intentionally taken
Reringed Left tarsus orange over FJ06174, right tarsus orange with black 64
Distance travelled 9km at 78 degrees (ENE)
Days since ringed 90
Additionally FB42942 and FS19729, ringed as chicks on Skokholm on 27th June 2015 and 20th June 2018 and trapped at the Gann on 4th September and 26th November 2018, had colour rings orange with black 61 and orange with black 84 added to their respective right tarsi.

Ringing recovery FS19731
Originally ringed as a chick, SKOKHOLM 22nd June 2018
Recovered as a juvenile, HIERS-BROUAGE, CHARENTE-MARITIME, FRANCE 7th August 2018
Finding condition Hunted
Distance travelled 720km at 155 degrees (SSE)
Days since ringed 46
A disappointing end for our second Oystercatcher to be found in France during the last two years. There are said to be 1.3 million hunters in France who believe it their right to pointlessly massacre migratory birds, indeed more birds are destroyed here than in any other European state. Over half a million of the estimated 25 million birds shot per year are waders, with the targeted species including Lapwing (up to 400,000 an autumn), Curlew, Redshank, Golden and Grey Plovers, Bar-tailed and Black-tailed Godwits and Oystercatchers (CABS, 2019). Attracted by plastic decoys, passage birds are shot from hides positioned along the Atlantic coast.

Lapwing *Vanellus vanellus* **Cornchwiglen**
Scarce previously Common and an Uncommon Breeder, but last bred in 2000
1936-1976: 694 trapped

Heavy snowfall and freezing temperatures at the beginning of March led to large numbers of Lapwing descending on coastal Pembrokeshire. Five greeted staff on 6th March, three were logged the following day and one at North Pond on the 8th was the last of the spring; the remains of six birds found during this period hinted at the extreme conditions which had hit earlier in the year. Prior to this season there had only been records of up to two birds on 18 spring dates since 2004, a sobering statistic for a species which produced chicks on Skokholm as recently as 2000. A moulting adult at North Plain on 23rd June was the first record in this month since 2014 and another single was logged on the 30th. One over the Farm on the 16th was the only July sighting. In September there was one on the 20th, in October singles on the 15th, 18th, 28th and 29th and in November one on the 4th and 5th. A total of eight autumn bird-days, although up on the three of last year, was down on the 19 of 2016, the 34 of 2015 and the 13 of 2014. Winter visits would probably increase the number of records as historically numbers peaked during this period.

Golden Plover *Pluvialis apricaria* **Cwtiad Aur**
Uncommon only 35 bird-days 2006-2013 and not recorded in 2008, 2009 or 2011
1 trapped
1936-1976: 1 trapped

Whereas the 'Beast from the East' led to a small increase in the number of Lapwing recorded on Skokholm, this severe cold snap led to significant numbers of Golden Plover reaching our shores. There were a minimum of 130 present when staff returned on 6th March, with 67 logged the following day, 21 on the 8th, three on the 9th and nine on the 10th. There were 22 birds found dead during this period, the majority of which were emaciated rather than predated. The peak daycount was the second highest ever recorded, only down on the 150 of 4th March 1965. Two more birds on 12th March, along with singles on the 16th and 20th, took the monthly bird-days total to 234; this was a new Skokholm record, up on the 189 of March 1965 and the 65 of September 1950. A single seen in the vicinity of Frank's Point on 11 dates between the 1st and 15th April appeared weak and lethargic upon arrival but was later flying strongly. A lone summer plumaged bird on the 30th and 31st May was a typical late spring record, whereas a vocal flyover on 5th July was the first record in this month since 2014 and only the 32nd July bird-day since records began. Following a flyover on 30th August, there were further birds in flight on the 7th, 18th, 28th and 29th September, whilst one was dazzled and ringed on the morning of the 23rd. In October there were lone flyovers on the 3rd and 4th, 12 over on the 5th (a group of ten and two singles), and further singles on the 6th, 7th and 24th, the latter of which was the last of the year; a monthly total of 17 bird-days was down on the 20 of last year but otherwise the fourth highest October total since 1977, whilst the peak daycount, although two down on last year, was the third highest since 1961. Although down on totals of 56 in 2015 and 46 in 2014, 24 autumn bird-days was three up on last year and seven up on 2016.

Grey Plover *Pluvialis squatarola* **Cwtiad Llwyd**
Scarce records in 54 years since 1929, with only five singles 2004-2012 and 12 singles 2013-2015

Two west along the north coast on 15th March was only the second record of multiple birds since September 1996; the first was the two logged on 17th April last year. The only other 2018 sighting was of an unseasonable first-summer which visited North Pond twice on 2nd July (PP *et al*.); this was only the second July record for Skokholm, the first being a lone bird which lingered for three days from the 25th in 1985. Three individuals in a year matches 2017 and is a rather typical Skokholm total of late.

Ringed Plover *Charadrius hiaticula* **Cwtiad Torchog**
Uncommon but Scarce between 2004 and 2011
1936-1976: 3 trapped

One at North Pond on the 6th and 7th March was only the fifth 21st century record in this month; there were two singles in 2016 and further lone birds in 2002 and 2000. There followed sightings on seven April dates, all singles bar four at North Pond on the 17th and two there on the 29th and 30th. There were records on 12 dates in May, again all singles bar two at North Pond on the 30th and three there on the 27th and 31st. The last of the spring were a single at North Pond on 1st June and lone flyovers on the 7th and 11th. A cumulative total of 34 bird-days matched last year as the quietest spring since 2012, down on the 35 of 2016, the 47 of 2015, the 62 of 2014 and the 45 of 2013. Autumn passage began with a flyover on 4th August; there was no July record for the first time since 2013. There were further August sightings on six dates, all flyovers and all singles with the exception of three over on the 30th. Another lone flyover on 16th September was the only bird logged during the month and the last of the year; this was the poorest September showing since 2011 (when a single was also logged), well down on recent totals of 19 in 2017, 74 in 2016 and 39 in 2015. There was no October record for the first time since 2011. Given such poor totals, it is little surprise that

autumn 2018 proved the quietest since 2011, with ten bird-days being 68.8% down on last year and 93.7% down on the excellent 2016 season; that North Pond was entirely or almost entirely dry until 20th September no doubt contributed to the lack of records.

The total number of Ringed Plover logged each month (2017 to 2015 in parenthesis), along with the monthly maximum (2017 to 2015 in parenthesis) and the date(s) on which the 2018 peak was recorded.

March	April	May	June	July	August	September	October	November
2	12	17	3	0	9	1	0	0
(0, 2, 0)	(13, 14, 18)	(18, 18, 22)	(3, 1, 7)	(4, 11, 3)	(7, 65, 24)	(19, 74, 39)	(2, 7, 2)	(0, 1, 0)
1	4	3	1	0	3	1	0	0
(0, 1, 0)	(3, 2, 7)	(4, 4, 5)	(1, 1, 2)	(1, 2, 2)	(1, 11, 3)	(11, 9, 8)	(1, 3, 1)	(0, 1, 0)
6th & 7th	17th	27th & 31st	3 dates		30th	16th		

Little Ringed Plover *Charadrius dubius* **Cwtiad Torchog Lleiaf**
Rare nine spring records totalling 11 birds and four autumn records totalling five birds
Earliest 27th March 2012 (26th June 2018) **Latest** 24th August 2016

An adult at North Pond on the 26th was only the second June and tenth spring record for the Island; it soon departed eastwards (RG *et al*.). Given the increase noted in the Welsh breeding population over the last few decades, it is unsurprising that eight of the 14 Skokholm records have come in the last eight years and that all have occurred since May 1986.

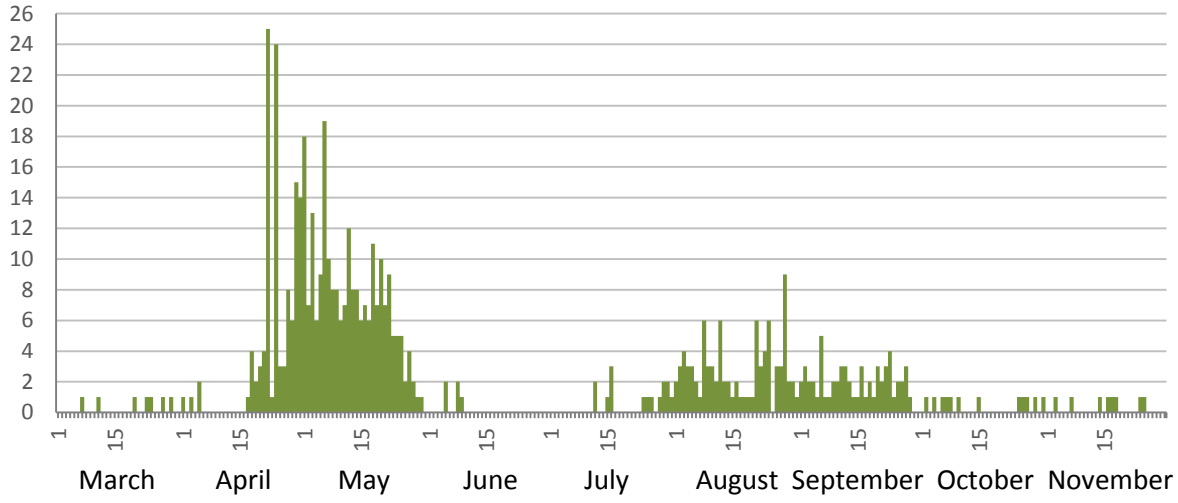
Whimbrel *Numenius phaeopus* **Coegylfinir**
Common Visitor has seemingly overwintered on at least 18 occasions
2 trapped
1936-1976: 30 trapped

An adult seen around South Haven and the Anticline on nine dates between 7th March and 3rd April was probably an overwintering individual; it is tempting to think that this was the same lone bird which also spent the previous three winters at this site and perhaps one of the two birds which had spent earlier winters here. Two over on 5th April was the first indication of a spring passage, this being four days earlier than the first migrants of last year. There followed daily April records from the 17th, with high counts of 25 on the 22nd, 24 on the 24th and 15 on the 29th contributing to a monthly total of 117 bird-days; although the total was the lowest of the last four years, down on a peak of 179 in 2016, this was still the seventh highest April total on record. May also proved productive, with sightings on every date bar the 31st, highs of 18 on the 1st and 19 on the 6th and a cumulative 227 bird-days logged; although well down on the 423 of 1989 and only the ninth highest May tally, the bird-days total was the second highest to be logged since 1995, only down on the 248 of 2014. The combined April, May and June totals for the last six years show a tight spread, with between 321 and 357 birds logged; this year's total of 349 was down on last year but otherwise the second highest counted during this period. The last Whimbrel of spring was a single on 9th June, this ten days earlier than the last of 2017.

Two on 12th July were the first of the autumn; the first autumn arrival was also on the 12th in 2017 and 2015 but four days earlier in 2016. No more than three birds were logged on nine further July dates, the monthly bird-days total being the second lowest of the last six years and well down on the 45 of last year. There were sightings on all but one August date totalling 88 birds; although a peak daycount of nine was the second lowest of the last seven years, there are only six higher August totals, with 92 last year, 135 in 2015, 172 in 1989, 97 in 1960, 90 in 1954 and 169 in 1948. Records of up to five birds on all but two September dates took the monthly total to 59, the highest in this month since the 63 of 2001 and the 13th highest September total to date. A moulting adult dazzled

and ringed at the Neck on the night of 17th September was almost certainly the bird seen on the Anticline the following day. As in the previous three years, all October and November sightings were of a single adult which was usually to be found near the Anticline or in Crab Bay and which looked set to overwinter; intriguingly this bird was seen to be metal ringed on eight occasions and was almost certainly the individual trapped in September.

The number of Whimbrel logged on each day of 2018.



The total number of Whimbrel logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2015 to 2017 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	7	117	227	5	15	88	59	12	8
2017	6	156	196	5	45	92	38	12	5
2016	4	179	166	3	14	49	52	9	18
2015	3	119	203	0	24	135	54	15	14
2018	1	25	19	2	3	9	5	1	1
2017	1	17	21	2	18	12	7	1	1
2016	1	45	23	2	2	6	12	1	1
2015	1	29	18	0	4	17	6	1	1
	7 dates	22nd	6th	5th & 8th	16th	28th	6th	12 dates	8 dates

Curlew *Numenius arquata* **Gylfinir**

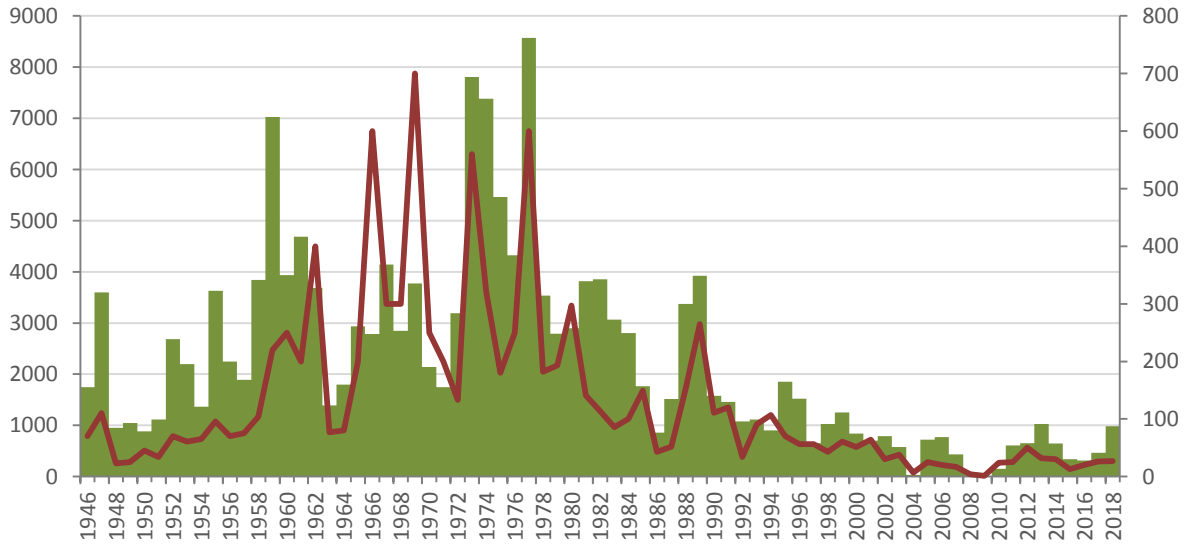
Common Visitor previously Abundant and usually present throughout the year, but has never bred
4 trapped
1936-1976: 141 trapped, 2016: 1 control

The drop in the number of Curlew visiting Skokholm has been alarming, with recent seasons proving the worst on record for this charismatic red-listed wader which between 1994 and 2010 declined in the United Kingdom by 46% and in Wales by over 50% (BTO, 2016). There were sightings on all but one March date from the 6th, with the five largest daycounts coming in the period immediately after the return of staff and perhaps the result of cold weather movements earlier in the month. The April and May totals were again low, well down on respective post-War means of 77.67 and 40.13 and also down on 2000-2018 means of 38.19 and 22.53; the biggest April totals are 269 in 1977 and 203 in 1978 and the biggest May totals 155 in 1981 and 115 in 1959. Numbers increased in June, with daily records from the 4th totalling 61 birds; this was the highest June total since the 68 of 2000 but massively down on historical counts which peaked at 898 in 1959. Birds in June may have already departed their mainland Europe breeding grounds and reached coastal wintering quarters, as exemplified by the failed German breeder observed at North Pond on 16th June 2016.

The total number of Curlew logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2017 to 2013 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	147	29	12	61	252	240	159	66	16
2017	39	39	3	17	90	126	109	36	3
2016	28	10	17	7	38	82	82	28	18
2015	69	18	14	29	60	83	24	32	9
2014	18	50	17	21	132	181	91	57	79
2013	271	62	25	18	113	211	94	169	64
2018	24	7	3	6	27	27	18	8	5
2017	4	5	1	10	11	26	22	4	1
2016	8	2	4	2	4	11	20	2	4
2015	10	1	2	6	11	13	2	2	1
2014	2	7	3	5	18	30	14	12	22
2013	32	7	3	4	17	26	8	9	23
	7th	21st	10th	23rd	17th	11th	11th	5th	8th

The total number of Curlew (green) and the maximum daycount logged in each year since 1946.



As is typically the case, the majority of autumn records were of birds which returned to Skokholm to roost but which were feeding elsewhere. The 252 birds recorded in July was the highest total in this month since 1998, although this was still a sobering count bearing in mind that July saw over 1000 birds logged as recently as 1988 and a high of 1741 in 1959. The peak daycount of 27 was the highest in July since the 28 of 2000, but well down on counts of up to 149 logged in the 1980s. The August tally of 240 birds was the highest since the 290 of 2002, but was again massively down on previous totals which peaked at 1389 in 1989, 1897 in 1978 and 2175 in 1959. Although substantially down on historical counts, which have reached four-figures in nine previous Septembers including a peak of 2069 in 1977, the September total of 159 was the highest since 2006. The monthly total in October 1973 was an almost unimaginable 4305; that only 66 were present this year is a sad reflection of the Curlew's plight. Numbers dwindled further in November with records on ten dates totalling 16 bird-days; just 50 years ago a herd of at least 600 were present on one November date.

Bar-tailed Godwit *Limosa lapponica* **Rhostog Gynffonfrith**
Uncommon Visitor although occasionally Scarce or Fairly Common
1936-1976: 8 trapped

The 'Beast from the East' led to an influx into Pembrokeshire which brought March birds to Skokholm for the first time since 2001 and for only the eighth year on record; one with Golden Plovers on the 6th was probably the same bird logged on the 7th and 8th, whilst two arrived to North Pond on the 10th and one was there on the 11th and 12th. A flyover on the 20th was the only April record and one at North Pond on six dates between 27th May and 2nd June was joined by a second individual on the 31st. Four at Winter Pond on 8th June was the highest daycount since September 2016 and the last record of another disappointing year; there was no autumn sighting for the second time since 2014 and an annual total of 19 bird-days, although up on the seven of last year, was well down on the 68 of 2016. Traditionally this has proven the commoner godwit on Skokholm, although this was not the case this year or in seven of the eight years between 2010 and 2017.

Black-tailed Godwit *Limosa limosa* **Rhostog Gynffonddu**
Scarce or Uncommon Visitor but Fairly Common in 2012, 2013, 2015 and 2017
1936-1976: 1 trapped

In a sharp contrast to the preceding species, the five best years on record for this godwit on Skokholm occurred between 2012 and 2017, a run of observations which made a quiet 2018 all the

more disappointing. A single at North Pond on 15th March was the first of the year, matched the earliest sighting since one on the 6th in 1991 and mirrored the single logged in this month last year. There were four together at North Pond on 28th April and one the following day, whilst in May there were lone birds noted on the 5th, 10th, 18th and 19th, the latter two of which were the same individual. One frequented North Pond between the 12th and 14th June and four there on the morning of the 29th had become three by that afternoon. Two summer-plumaged *L. l. islandica* were at North Pond on 2nd July and two there on the 17th were the last of the year. A peak 2018 daycount of four was well down on last year when a pantheon of 26 on 11th July set a new Skokholm record. An annual total of just 21 bird-days was down on the record 149 set last year and the lowest since the four of 2014, however there have only been ten busier years since 1927.

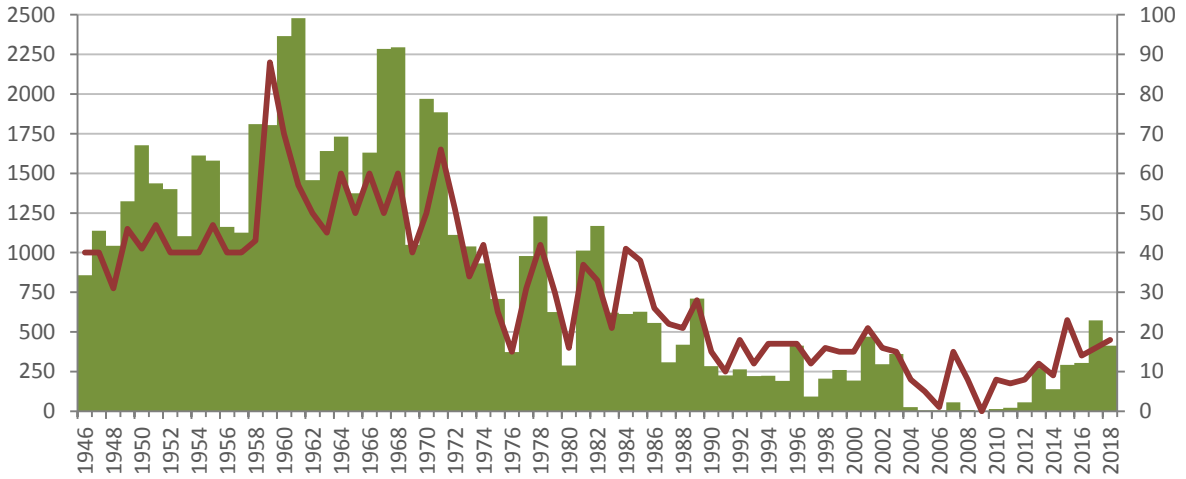
Turnstone *Arenaria interpres* **Cwtiad y Traeth**
Common Visitor once Abundant but sometimes only Fairly Common in recent years
1936-1976: 12 trapped

Although Turnstone are no doubt under recorded due to their predilection for spending the majority of time below cliffs and their sporadic use of visible high tide roosts, off-path coverage was similar to recent years suggesting that totals will be comparable. It again proved a quiet spring with four singles logged in March and sightings of up to two birds on four April dates. Birds were seen on nine dates in May, with highs of four on the 10th and 16th and seven on the 22nd. There were no Turnstone in June for a fourth time in seven years and none in July for the first time since 2013. Historically spring counts were much higher; an April total in excess of 400 was not uncommon between 1947 and 1961, although the last time that three-figures was reached was in the April of 1982 when 137 were noted.

One in Little Bay on 2nd August was the first of the autumn. Following further singles on the 4th and 10th, there were records on ten August dates from the 17th including what may have been the same group of five seen on five days; although there have only been two higher August totals since 1993, the bird-days tally was down on the 135 of last year and the August record 781 logged in 1971. September again proved the busiest month of the year, with birds logged on all but two dates, a bird-days total of 258 and highs of 16 on the 10th and 11th and 18 on the 24th; the majority of these sightings were of birds roosting on the Anticline, although the highest count came from the Devil's Teeth. The maximum September count was the second highest since 1989, only down on the 21 of

2001, and the bird-days total, although ten down on the 268 of last year, was the second highest since the 323 of 1985. There continued to be regular sightings in October, with up to 14 birds seen on ten dates to the 20th and a total of 69 bird-days logged; although again down on last year, this was otherwise the second highest total since 2003. There were records on five November dates including a group of eight in Purple Cove on the 19th which matched the peaks of 2017 and 2016.

The total number of Turnstone (green) and the maximum daycount logged in each year since 1946.



The total number of Turnstone logged each month (2017 to 2015 in parenthesis), along with the monthly maximum (2017 to 2015 in parenthesis) and the date(s) on which the 2018 peak was recorded.

March	April	May	June	July	August	September	October	November
4	6	24	0	0	38	258	69	14
(4, 10, 4)	(3, 20, 10)	(10, 30, 44)	(0, 2, 0)	(20, 2, 4)	(135, 16, 70)	(268, 141, 112)	(113, 62, 27)	(19, 21, 22)
1	2	7	0	0	5	18	14	8
(2, 6, 3)	(3, 7, 4)	(6, 5, 23)	(0, 2, 0)	(4, 1, 3)	(14, 5, 20)	(16, 14, 9)	(16, 13, 6)	(8, 8, 9)
4 dates	4th & 22nd	22nd			5 dates	24th	1st	19th

A cumulative autumn total of 379 birds over 56 dates, although 31.7% down on the 555 over 83 dates logged last year, was well up on the 242 over 52 dates counted in autumn 2016, the 235 over 63 dates in 2015, the 115 over 38 dates in 2014 and the 217 over 43 dates in 2013; indeed it was the second busiest autumn since 1989 when 601 birds were counted. Totals were however considerably down on historical levels which exceeded 636 birds a month on six occasions between 1950 and 1971. Given that the majority of monthly totals are certainly in part made up of counts of the same birds over multiple dates, the highest daycount made each year is telling; the maximum daycount of 88 logged on 26th August 1959 was 70 up on this season and starkly illustrates how the number of Turnstones visiting Skokholm has declined markedly since the 1960s and 70s.

Knot *Calidris canutus* **Pibydd yr Aber**

Scarce usually singles, although occasionally more with 67 on 29th September 1958 the maximum 1936-1976: 8 trapped

This was another species caught up in cold weather movements associated with the 'Beast from the East', movements which led to the first March sightings since recording began. There were two birds logged on 7th March, with one joining the North Pond Dunlins whilst another roosted with the Anticline Oystercatchers. Two birds were again seen on the 9th, both roosting on Oystercatcher Rock; a single was at the same site on the 16th, two were again there the following day and one returned there for three days from the 20th. The only other 2018 record was of three at North Pond on 21st

June; this was the highest daycount since September 2011 and surprisingly the first June record for Skokholm. This species has now been recorded in 39 of 87 recording years, with sightings in every month of the year bar December and the vast majority of birds passing in September.

Sanderling *Calidris alba* **Pibydd y Tywod**
Rare only 36 previous records including seven totalling 12 birds this century
1936-1976: 2 trapped

A summer plumaged individual at North Pond on 1st June was the only record of the year, the fourth bird to be logged in the last four years and the third June sighting for Skokholm following singles on the 1st in 2013 and the 3rd in 1979 (SV *et al*.). There have only been birds in 29 previous years, now with a total of 37 records accounting for 73 bird-days. Although Sanderling have been logged in every month between March and November inclusive, the most productive month is May, with a total of 11 records, whilst there have been six in August and eight in September. All but six sightings have been of singles, with 11 on 7th August 1994 and five on 4th September 1979 being the maximum daycounts.

Dunlin *Calidris alpina* **Pibydd y Mawn**
Common Visitor recorded in all months but only Fairly Common in some years
12 trapped
1936-1976: 181 trapped, 2014-2015: 4 trapped

A small number arrived during early cold weather movements, with nine bird-days between the 6th and 9th March which included one taken by a Peregrine; two north on the 20th took the March bird-days total to 11, the highest since 1975 and the fourth highest on record. There were sightings on seven April dates from the 18th including highs of 17 on the 28th and 11 on the 30th; the former equalled the third highest April daycount on record, only being down on 18 in 1966 and 44 in 1960. Records on 18 dates in May totalled 111 bird-days and included highs of ten on the 24th and 31st, 12 on the 27th and 21 on the 25th; the bird-days total equalled the ninth highest May tally to date and the maximum daycount equalled the 12th highest. Spring counts peaked in June for the first time on record, with birds seen on 22 dates and highs of 16 on the 9th, 13 on the 10th and 21 on the 12th taking the monthly bird-days total to 133; the maximum daycount tripled the previous June record and the monthly total was just over 100 birds up on the previous high of 30 logged in 1963. The reason for such unusually high June counts is unclear. In stark contrast to excellent spring totals,

autumn proved exceedingly poor for Dunlin sightings, no doubt due in part to a lack of water in the ponds. Records of up to nine birds on eight dates took the July total to 24, the lowest in this month since 2014 and well down on the record 134 logged last year; all of the grounded birds were adults, perhaps indicative of a disappointing or late breeding season.

The total number of Dunlin logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2015 to 2017 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	11	42	111	133	24	5	7	2	0
2017	0	21	58	3	134	192	30	12	0
2016	1	55	167	7	30	53	32	10	13
2015	2	35	146	15	26	139	69	3	0
2018	4	17	21	21	9	2	2	1	0
2017	0	8	15	1	17	22	6	3	0
2016	1	13	34	2	10	6	6	5	4
2015	1	8	28	3	9	18	10	1	0
	7th	28th	25th	12th	31st	30th	13th & 25th	2 dates	

The only Dunlin noted in August were flyovers, with singles on the 3rd and 4th, two on the 30th and a single on the last day of the month; an August bird-days total of five was the lowest since 2011 and 97.4% down on last year's record tally. A dearth of water in the seasonal ponds continued into September and Dunlin counts remained low, with four flyovers logged over three dates to the 14th. Heavy rainfall left a small amount of water in North Pond, sufficient to attract a single on the 24th and two birds on 25th September. A total of seven September bird-days was the lowest since 2013, perhaps coincidentally the first year in which accumulating sediment was removed from North Pond in an effort to provide an autumn water body. Vocal flyovers on the 15th and 28th October were the last of the season, the October total matching 2014 and 2013 but being down on more recent years.

Purple Sandpiper *Calidris maritima* **Pibydd Du**
Scarce Visitor but recorded by Thompson and Betts as Uncommon and previously Fairly Common 1936-1976: 8 trapped

The first of the year, present at the Anticline on the 14th and 15th September, arrived four days earlier than the first of last year. There were further September singles with Turnstones at the Devil's Teeth on the 24th and again at the Neck three days later. The only other sighting this year was of a single in Crab Bay on 24th November. Five bird-days was the highest annual tally since 2014 when there were 13 records totalling 32 birds. Prior to 1983 three-figure annual totals were the norm, with record monthly totals of 279 in August 1971, 234 in August 1978 and 229 in August 1979 and with maximum daycounts of 32 on 20th March 1968 and 26th August 1978 and 30 on 27th March 1966. As noted for Turnstone, it is likely that birds go under recorded as they inhabit the spray zone at cliff bases, however the decline in Island records seems to suggest a genuine lack of birds, a sad reflection of the situation nationally and their amber listing as a species of UK conservation concern.

Buff-breasted Sandpiper *Calidris subruficollis* **Pibydd Bronllwyd**
Vagrant only three previous records

A confiding juvenile found near the Helipad on the evening of 27th September later departed high and south when flushed by a Merlin (RDB *et al*.). There had been three on Dale Airfield on the 22nd and 23rd of the month. The only previous Skokholm records concern one on 3rd June 1985 which remains the sole Pembrokeshire spring sighting, one on North Plain logged each day between the 5th and 9th September 1988 and two juveniles on 6th September 2006 identified retrospectively from photographs; given that what seems to be classic habitat is available, it is perhaps surprising that

there are so few Skokholm accounts. There have now been 20 Pembrokeshire records, eight of which have occurred since 2000 and with Dale Airfield providing the majority of sightings.

Woodcock *Scolopax rusticola* **Cyffylog**
Scarce Winter Visitor not recorded every year but over 200 corpses found in February 1963
Earliest 15th July 1962 (23rd October 2018) **Latest** 19th May 1999 (7th March 2018)
1 trapped
1936-1976: 3 trapped

One which evaded capture by a Peregrine on 7th March was the sole spring sighting; this was only the fifth spring record this century, all of which have been of singles bar the six of 19th March 2016. The first of the autumn, trapped in the Well Heligoland on 23rd October, became only the fourth to be ringed on Skokholm; this was the earliest autumn bird since 2001, with the first of 2017 being logged on the 31st, the first of 2016 on the 27th and the first of 2015 on the 28th. There were further October singles at the Farm on the 28th and the Hills on the 29th, whilst in November there was one on Home Meadow after dark on the 1st, two on the 5th (with birds at the Bluffs and Migration Rocks), one at the Lighthouse on the night of the 7th, one again at Migration Rocks on the 9th, one again after dark at the Lighthouse on the 13th and two on the 18th (with birds at the Lighthouse and North Haven). A combined October and November total of 11 bird-days was surprisingly the highest to date, topping the ten of 1991. A winter presence would no doubt increase the number of records; there were 93 in January 1982, including 47 on the 15th which is the highest daycount of live birds.

Jack Snipe *Lymnocryptes minimus* **Gïach Bach**
Scarce Winter Visitor although not recorded every year
Earliest 18th August 1938 **Latest** 22nd May 1995 (6th March 2018)
1936-1976: 8 trapped

One at the Well on 6th March was the only record of the year; this matched the single logged last year, a bird at South Pond on 1st April. This species has been noted in 34 previous springs, with the

only other spring records since 1996 being one in April 2003, three singles in March 2013, one in March 2014 and one in both the April and May of 2015. There was no autumn record for a second consecutive year and for just the second time since 2011. Although Lockley described Jack Snipe as 'common from 7th October to 24th March', by 2004 they had become 'far less common, but recorded in most years' (Thompson, 2007); the latter status summary is still accurate today.

Snipe *Gallinago gallinago* **Gïach Cyffredin**
Common Winter Visitor and Passage Migrant breeding suspected in 1927 and 1965
12 trapped, 2 retrapped
1936-1976: 54 trapped

Perhaps again as a consequence of snow and frozen ground on the mainland, the number of Snipe logged in March was higher than in any year since 1973 when there were a record 331. March sightings on all but four dates from the 6th included highs of 23 on the 6th, 33 on the 7th and 15 on the 9th which took the monthly bird-days total to 170; the peak daycount was the highest in March since two counts of 50 in early 1973 and the bird-days total, although up on the post-1973 high of 145 logged in 2013, was down on seven previous March tallies. The April total was the highest since 51 were logged in 1995, with 32 birds noted over 17 dates. Singles on three dates between the 7th and 10th May were the last of the spring, the latter at South Pond being seven days later than the last of 2017, 2016 and 2014.

The total number of Snipe logged each month (2017 to 2015 in parenthesis), along with the monthly maximum (2017 to 2015 in parenthesis) and the date(s) on which the 2018 peak was recorded.

March	April	May	June	July	August	September	October	November
170	32	3	0	10	35	83	174	184
(20, 24, 51)	(30, 7, 23)	(2, 1, 0)	(0, 0, 0)	(5, 0, 0)	(42, 11, 27)	(29, 40, 52)	(51, 65, 87)	(14, 56, 22)
33	5	1	0	2	18	15	23	21
(6, 4, 13)	(4, 2, 5)	(2, 1, 0)	(0, 0, 0)	(4, 0, 0)	(8, 6, 18)	(6, 10, 12)	(9, 7, 9)	(5, 23, 4)
7th	20th	3 dates		8th	31st	14th	5th	15th

One flushed from the Lighthouse Track on 6th July was the first of the autumn, eight days earlier than the first of last year and the earliest autumn record since one on the 3rd in 1964. There were sightings of up to two birds on a further eight July dates taking the monthly bird-days total to ten, the highest since the 24 of 1972. Records on seven August dates included a wisp of eight south on the 20th and 18 on the 31st which matched the highest August daycount since 35 were noted in 1958. It also proved the busiest September since 1972 with sightings on 23 dates and highs of 15 on the 14th and eight on the 29th taking the bird-days total to 83, well up on the post-2000 high of 52 logged in 2015. Counts increased in October with 174 birds noted over 28 dates including highs of 23 on the 5th, 17 on the 14th and 14 on the 30th; the peak daycount was the highest since 1994 and the bird-days total the fourth highest on record (with 189 in 1976 being the most recent larger count). One was eaten by a Kestrel on 26th October and one trapped in the Reedbed Mist Net on 19th October was dazzled at the Neck on 2nd November. Numbers remained high in November with sightings on all but one date before the departure of staff on the 26th and peak counts of 21 on the 15th and 19 on the 18th; a bird-days total of 184 was a new November record, up on the 126 of 1927 and the 121 of 1989 and 1981, although there have been two higher November daycounts in the last nine years.

Grey Phalarope *Phalaropus fulicarius* **Llydandroed Llwyd**
Rare records of up to three on 17 previous dates along with 29 unidentified phalarope bird-days

What was assumed to be the same individual, watched feeding energetically amongst the Broad Sound gull flock at approximately 0930hrs, 1100hrs and 1700hrs on 17th October, was the first Skokholm record since one on 9th October 2001 (GE, RDB); there were at least 30 others reported in Wales during September and October in what was a bigger than average influx to the west and south coasts. The only other definite Island records of what is a surprisingly rare species here concern a single on 20th November 1999, three on 21st September 1981, one on 31st August 1970, at least one on 26th October 1967, singles on 9th September and the 24th and 25th October 1961 (the latter a two day bird which 'visited the ponds'), up to three on five dates between the 18th and 25th September 1960 (which, along with a further eight unidentified phalaropes likely to have been of this species, occurred as part of a substantial incursion into the Western Approaches (Donovan and Rees, 1994)), singles on the 7th and 27th September 1959, two on 30th September 1957 and two on 17th September 1955.

Common Sandpiper *Actitis hypoleucos* **Pibydd y Dorlan**
Uncommon more regular in autumn
Earliest 21st March 1948 (28th April 2018) **Latest** 29th October 1975 (13th September 2018)
1 trapped
1936-1976: 23 trapped

One at Oystercatcher Rock on 28th April was eight days later than the first of last year, nine later than the first of 2016 and 12 later than the firsts of 2015 and 2014. The only other spring sighting was of one at North Pond on the morning of 8th May; two spring singles is the poorest showing since 2011, when two were also logged, down on recent highs of 17 in 2016 and 12 in 2014. One in South Haven on 2nd July was the first of a rather typical autumn, six days earlier than the first of autumn 2017 and one day earlier than the first of 2016. There were sightings on a further three July dates, taking the bird-days total to five, whilst in August there were records on nine dates including four on the 23rd and three on the 25th which were the highest counts of the year and took the monthly bird-days total to 15. In September there were two on the Stack on the 7th, a juvenile dazzled in the Bog on the night of the 10th and one heard in the early hours of the 13th which was the last of the year; the dazzled bird, unusually found on short sward in the middle of the Island, was the first to be ringed on Skokholm since the Bird Observatory was reaccredited and only the 24th to be ringed to date. An autumn total of 24 bird-days was up on the six of last year and the 1970-2018 autumn mean of 16.1 but down on the 27 of 2016 and the recent highs of 36 in 2014 and 58 in 2013.

Green Sandpiper *Tringa ochropus* **Pibydd Gwyrdd**
Scarce not recorded every year, only seven records 1998-2013 and only 15 spring records
Earliest 2nd April 1997 (27th June 2018) **Latest** 21st October 1967

A vocal flyover at 0015hrs on 27th June was a rare spring observation; this year joins 2014, 2013 and 2011 as the only ones since 1997 with a spring record. There were no birds logged in autumn for the first time since 2011 and for the 28th time since 1946; autumn passage typically peaks in August, a period during which only Orchid Bog held any water at all. There were ten autumn bird-days last year, two in 2016, 13 in 2015 and eight in 2014.

Redshank *Tringa totanus* **Pibydd Coesgoch**
Uncommon more regular in autumn
1936-1976: 4 trapped

The March total was by far the highest on record, no doubt another consequence of the 'Beast from the East'. There were records on all but two March dates from the return of staff on the 6th, with singles on 14 dates, two on seven dates, three on the 21st and four together on the 25th which doubled the previous March maximum logged on the 22nd in 1991; the March bird-days total was 35, massively up on the previous high of three logged in 2013. A severed tibia with an orange ring found near the Farm on 27th March had belonged to a bird ringed on the nearby Gann estuary, however the uniquely numbered black ring could not be located. Two days later a live bird found on North Pond became the first to be positively identified away from the Gann since this colour ringing project began (see below). There were records on seven April dates to the 11th, all singles bar two on the 2nd; an unidentified colour ringed bird was logged on two dates and the 29th March individual was confirmed on a further two. One along the South Coast on 24th April took the monthly total to nine, the third highest on record following the ten of 1962 and the 12 of 1956. A single on 20th May was a rather typical showing for this month, although down on the six bird-days of last year, whilst records of up to two birds on six June dates took the monthly total to seven, the second highest in this month behind the eight of 2014.

The first juvenile of the year was logged on 3rd July, whilst the only other record during the month was of a vocal flyover at 0400hrs on the 19th; two bird-days in July was the lowest total of the last seven years, well down on highs of 22 in 2015 and 13 last year. August counts were similarly down, probably again as a consequence of the lack of standing water this autumn. Flyover singles on eight August dates produced the lowest monthly total of the last seven years, well down on the 34 bird-days of last year. The six singles logged during a rather average September were similarly flyovers or

settled on coastal rocks, as were the lone birds noted on the 19th and 21st October. One at North Pond on 4th November was confirmed as the same colour ringed individual seen during the spring; this is the first evidence we have that Redshank may return to Skokholm in successive winters. What may have been this bird toured the ponds on the 8th and 9th, whilst two over on the 21st were the last of the year; five bird-days in November was a new record, indeed one on the 2nd last year was only the eighth November sighting for Skokholm.

Ringing recovery Left tibia: Orange, Right tibia: White 26 on Black, Right tarsus: DT23625
Originally ringed as a first-winter, THE GANN, DALE, PEMBROKESHIRE 17th February 2018
Previously retrapped as a first-winter, THE GANN, DALE, PEMBROKESHIRE 21st February 2018
Resighted as a first-winter, NORTH POND, SKOKHOLM 29th March 2018
Resighted as a first-winter, NORTH POND, SKOKHOLM 4th April 2018
Resighted as a first-winter, NORTH POND, SKOKHOLM 5th April 2018
Resighted as an adult, NORTH POND, SKOKHOLM 4th November 2018
Finding condition Colour rings read in field
Distance travelled 9km at 78 degrees (ENE)
Days since ringed 261

Wood Sandpiper *Tringa glareola* **Pibydd y Graean**
Scarce not recorded every year and only ten spring records
Earliest 22nd April 1973 **Latest** 22nd September 1966 (26th July 2018)
1936-1976: 2 trapped

A vocal bird which went over at circa 0300hrs on 26th July was the sole record this year and only the fifth to be logged in July following two singles in 2000 and further lone birds in 1995 and 1994. There have now been records in five consecutive years, a regularity of occurrence which has not previously been recorded here; there were sightings in the three consecutive years between 1994 and 1996, 1971 and 1973 and 1962 and 1964. There have now been approximately 49 records totalling at least 54 individuals and with birds logged on 92 dates, all in 29 of 87 recording years.

Greenshank *Tringa nebularia* **Pibydd Coeswerdd**
Uncommon but not recorded every year and only seven records between 2005 and 2012 inclusive
Earliest 5th April 2015 (12th April 2018) **Latest** 9th November 1958 (13th August 2018)

One at North Pond on the evening of 12th April was two days earlier than the first of last year and seven days earlier than the first of 2016 but seven days later than one in 2015 which was the earliest Skokholm spring record. There were no further spring birds, the total of just one being down on the three bird-days logged in each of the previous four years. The only autumn sighting was of a vocal flyover at 0700hrs on 13th August; this was the poorest autumn total since 2012, down on the four bird-days of 2017, the 11 of 2016, the three of 2015, the five of 2014 and the seven of 2013.

Kittiwake *Rissa tridactyla* **Gwylan Goesddu**
Very Abundant a single pair attempted to breed in 1959

Although present offshore in all months, Kittiwake were logged in smaller numbers than might be expected given the presence of 1236 breeding pairs on nearby Skomer. The pattern of records did not entirely match that observed in recent years, with a quiet pre-breeding period and an increase in numbers during the breeding season still noted, but no August dip in numbers before the bigger autumn counts. Given that seawatching effort during the busy summer months fluctuates between years, maximum daycounts during this period perhaps provide a better indication as to changes in abundance; peak summer daycounts in 2018 were down on recent years and over 90% down on historical highs, unsurprisingly so given that the Skomer population has steadily declined since the

early 1990s and dropped by 32% between 2000 and 2015. Seawatching effort increases in August as autumn passage attracts more observers and prolonged observation, so the usual decline in Kittiwake numbers logged during this period no doubt reflects a genuine absence; adult birds moult their primaries during early autumn, although whether the drop in numbers is connected to moult or just the pelagic nature of Kittiwake during the post-breeding period is unclear. However numbers did not drop this August, with the highest August daycount since 1959 made on the 20th and a bird-days total more than three times the recent high logged in 2013. There were also considerably more birds seen ashore this autumn, although whether this was a consequence of an increase in the number present locally during August or whether the lure of somewhere to loaf led to more birds arriving to the Skokholm survey area is not known.

The total number of Kittiwake logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2017 to 2014 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	115	71	1053	954	1587	3876	3221	600	4539
2017	37	688	779	1422	1820	472	3847	3070	2263
2016	603	620	1254	1022	1272	573	799	2273	13913
2015	387	1271	2363	1727	1467	570	495	1096	9963
2014	336	224	835	2197	930	854	163	2703	606
2018	89	22	187	113	443	427	678	127	1102
2017	9	259	323	390	440	78	1049	585	800
2016	125	161	465	176	210	158	204	700	2548
2015	190	426	457	167	191	65	165	556	2820
2014	207	51	164	392	250	163	66	1245	248
	13th	24th	22nd	23rd	9th	20th	9th	31st	3rd

Following singles ashore on the 9th and 27th July, there were further loafers noted on 11 dates between 18th August and 2nd September, totalling 1233 birds and including highs of 142 at the Stack on the 18th, 170 on the 20th (with 21 on the Stack, 32 at the Devil's Teeth, 27 in Crab Bay and 90 on the Lighthouse Rocks), 261 on the 21st (ten on the Stack, 61 in Crab Bay and 190 at the Quarry), 216 on the 22nd (78 in Crab Bay and 128 at the Quarry) and at least 250 back at the Stack on the 27th; these were by far the largest roosts logged this decade. Three different French ringed birds seen ashore during this period hinted at the origin of the loafing birds (see below); no Skomer ringed individuals have been seen ashore. Although down on last year, September daycounts were also above the recent average, with peaks of 678 on the 9th and 336 on the 23rd taking the monthly bird-days total to the second highest this century. As is typically the case, the majority of October and November records were of birds feeding in Broad Sound, although there were fewer than in most recent years. There were only two October daycounts of above 70, these two of the lowest peak October counts to date; whereas there were more Black-headed and Mediterranean Gulls feeding in Broad Sound during October than in any other year this decade, the Kittiwakes evidentially opted for different feeding grounds. Numbers increased during November, with 11 three-figure counts to the 26th and a high of 1102 on the 3rd, however both the bird-days total and the peak count were the second lowest of the last four years.

Ringing recovery Left leg: Orange/Blue/Paris FX22732, Right Leg: Green/Black/White
Originally ringed as a chick, POINTE DU RAZ, PLOGOFF, FINISTÈRE, BRITTANY, FRANCE 2011
Previously recovered as a prebreeder, POINTE DU RAZ, FINISTÈRE, BRITTANY, FRANCE 2013
Previously recovered as a breeding female, POINTE DU VAN, CLÉDEN-CAP-SIZUN, FRANCE 2014
Previously recovered 19 sightings as a non-breeder, POINTE DU VAN, CLÉDEN-CAP-SIZUN, 2015
Previously recovered as a breeding female, POINTE DU VAN, CLÉDEN-CAP-SIZUN, FRANCE 2016
Previously recovered 31 sightings as a non-breeder, POINTE DU VAN, CLÉDEN-CAP-SIZUN, 2017
Previously recovered as a breeding female, POINTE DU VAN, CLÉDEN-CAP-SIZUN, FRANCE 2018

Recovered as an adult, MIDDLE LIGHTHOUSE POINT, SKOKHOLM 20th August 2018
Finding condition Colour rings read in field
Distance travelled 406km at 352 degrees (N)
Days since ringed approximately 2588
This bird moved to the colony which neighbours its natal colony to breed. Its first breeding attempt in 2014 failed at chick stage. It returned to its 2014 cliff to breed in 2016 and raised one chick to independence. Although it did not breed in 2017, it occupied its 2016 nest. The same nest was occupied in 2018 and two chicks were raised to independence. It was last seen on its 2018 nest on 8th August, 12 days before it was found loafing below Skokholm Lighthouse. The 2018 Kittiwake loaf contained two further birds from this French scheme, although neither colour ring combination could be confirmed to the level of individual; one had been ringed as a chick in 2017 and the other was probably ringed between 1995 and 2000.

Black-headed Gull *Chroicocephalus ridibundus* **Gwylan Benddu**
Abundant offshore during the winter. Two pairs defended North Pond territories in 1968

Given the size of the Broad Sound gull flocks which gather each winter, it was again surprising that there were very few spring records, probably suggesting that Black-headed Gulls have already dispersed towards their breeding grounds by the time that staff return to Skokholm. One on 13th March was the only sighting that month, there were three on 21st April, a first-summer at North Pond on 27th April, two west through Broad Sound on 19th May and a first-summer again at North Pond on 28th May. A juvenile was at North Pond on 22nd June, six days earlier than the first of last year and the earliest of the last six years; during the previous five years the first juvenile of the season has been logged between 26th June and 15th July, with the earliest record coming in 2015 and the latest in 2016. Daily sightings during the remainder of the month totalled 19 bird-days, resulting in the highest June total since the 28 of 1969. A total of 102 were logged over 17 July dates, including a peak of 36 which flew over the Farm and North Pond on the 21st; both the bird-days total and the maximum daycount were new July records. A typical August was less productive, with birds seen on six dates from the 14th including 16 on the last day of the month. As was the case in the previous two years, birds were slow to exploit the waters around Skokholm this autumn, with just 32 logged over ten September dates including a high of only 13 on the 25th. Numbers increased significantly in October with records on 25 dates, ten counts in excess of 500 and highs of 1004 on

the 24th, 912 on the 27th, 1107 on the 28th and 962 on the 30th which took the bird-days total to 10,147; although down on the 1735 of last year, the peak daycount was otherwise the highest since 1993 and the total was the highest on record for October (although this is in part a reflection of seawatching effort). Counts remained high in November with birds seen on all but two dates prior to the staff departure and highs of 1165 on the 1st, 1360 on the 2nd, 1412 on the 18th and 1466 on the 20th taking the bird-days total to 12,320; the peak daycount was well down on the 2400 of last year (the only larger counts being the 2500 logged on the 11th and 13th October 1992), however the total was a new record for any month (although this is again in part a reflection of monitoring effort).

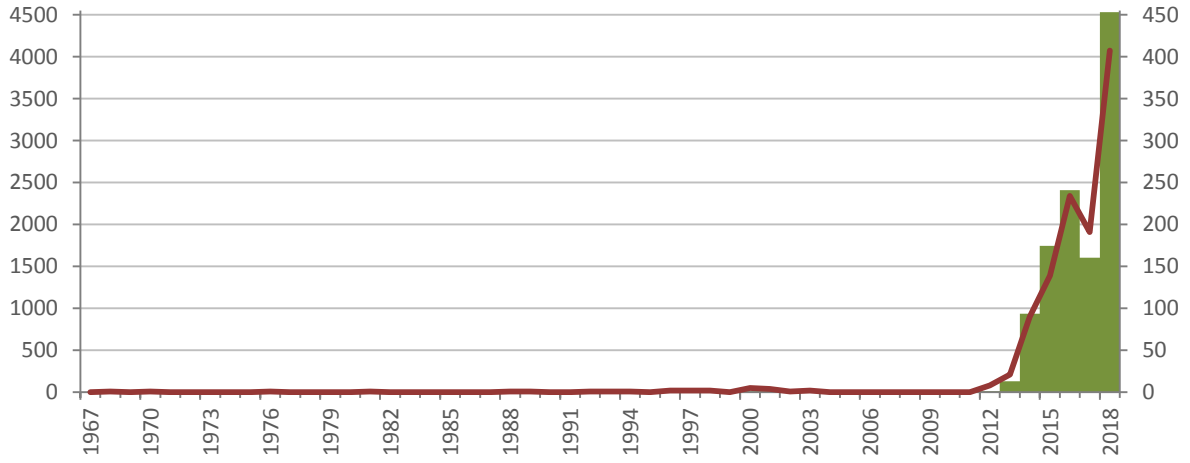
Little Gull *Larus minutus* **Gwylan Fechan**
Scarce offshore mid-July to November, primarily from mid-October and with one spring record

A west bound adult on 17th September was the first of the year and the earliest autumn record since a juvenile logged on the 10th in 2011. A first-winter was in Mad Bay on 2nd November with another in Broad Sound 16 days later. Although down on the five of last year and equal to the three of 2016 and 1998, the autumn bird-days total was otherwise the highest since 1997.

Mediterranean Gull *Larus melanocephalus* **Gwylan Môr y Canoldir**
Common offshore during late autumn but Rare prior to 2013 and first logged in 1968

Considering that there had only been a total of 49 records up until 2003 (Thompson, 2007), that there were no birds observed at all between 2004 and 2011 inclusive and that there were only four records in 2012, the 21 records totalling 130 birds logged in 2013 was exceptional. However there has followed a remarkable increase, primarily due to a rise in the number of birds feeding in Broad Sound during October and November, with 934 bird-days logged in 2014, 1743 in 2015, 2407 in 2016 and 1602 last year. Two juveniles off the Lighthouse on 14th August were the first of what was to become a record 2018 season; there was no July sighting, although there have only been seven in this month previously, three of which occurred last year. There were observations of up to two birds on a further eight August dates, with at least two juveniles, a second year and a winter plumaged adult logged; prior to this year there had only been eight August records of singles. Sightings on eight September dates, all singles bar two on the 2nd, produced the lowest September bird-days total of the last three years (although this was still only the tenth September with a sighting).

The total number of Mediterranean Gull (green) and the maximum daycount logged in each year since 1967.



There were records on all but four dates in October, with 88 bird-days logged over ten dates to the 14th before a spike in numbers saw daycounts rise to 41 on the 15th, 87 on the 16th, 99 on the 17th and 174 on the 18th. There followed seven further three-figure counts in October including highs of

227 on the 22nd and 243 on the 28th; the latter was the highest daycount ever logged on Skokholm, up on the 234 of 14th November 2016 and the 191 of 27th October last year. Of the 243 birds watched on the 28th, 33 were first-winters, this also a new record count; a paucity of young birds was noted over the last two years when the total peaked at 12. The October bird-days total of 1961 was unsurprisingly a new record for any month, up on the 1222 of November 2016. An early staff departure in 2017 led to the November total being restricted to 383 bird-days to the 8th; the same period this year saw an astronomical 1317 birds logged, including new record daycounts of 361 during a near-gale on the 3rd and 407 during gentle southeasterlies on the 4th. The 3rd November count included only 17 first-winters and the 4th November record included only 16. There followed sightings on all but three dates from the 8th to the 26th, including a period between the 8th and 15th when there were two zero counts and a genuine lack of gulls feeding in Broad Sound. Six further three-figure counts between the 16th and 25th, including a high of 197 on the 18th, took the November bird-days total to 2547; the bird-days total, a new monthly record, was higher than any previous annual total. The most recently published estimate of the British overwintering population is 1800 individuals (Musgrove *et al*., 2011), although numbers were increasing during this 2004 to 2009 study and have risen considerably since; nevertheless it would seem likely that the Broad Sound feeding grounds are of significant importance to this species.

Common Gull *Larus canus* **Gwylan y Gweunydd**
Uncommon offshore during the late autumn and with only 25 records between April and July
1936-1976: 12 trapped

There were no spring records for a third consecutive year; there have only been sightings in 29 springs since 1932, most recently in 2015, 2013 and 2007. A first-winter in Broad Sound on 6th October was thus the first of the year, six days earlier than the first of last year but three later than the first of 2016. There were sightings on a further 19 October dates, all of six or fewer bar seven on the 17th, 25 on the 28th and ten on the 31st which took the October bird-days total to 93; the peak daycount comprised 20 adults, a second-winter and four first-winters, whilst there were daycounts of up to three second-winters and seven first-winters logged during the same month. The peak October daycount was the highest in this month since the 26 of 2014 and the bird-days total was the highest since a record 182 were logged in 1992. Birds were seen on all but three November dates before the departure of staff on the 26th, with the 14th the only date when a thorough search revealed no Common Gulls in Broad Sound. A total of 247 November bird-days included highs of 44

on the 1st, 35 on the 19th, 36 on the 20th and 25 on the 25th; peak counts during the period were of 32 adults on the 20th, five second-winters on the 1st and 27 first-winters on the 1st. The November bird-days total was the highest to be logged in any month since the 297 of 1990, although these totals are eclipsed by November highs of 823 in 1968 and 573 in 1967. Similarly there were substantially higher daycounts in the past, most recently with 60 on 20th October 1992 but with 150 on the 15th and 16th November 1968 and 120 on 15th November 1967.

Great Black-backed Gull *Larus marinus* **Gwylan Gefnddu Fwyaf**
Fairly Common Breeder and Common Visitor
63 trapped (including 38 pulli), 4 retrapped
1936-1976: 219 trapped, 2013-2017: 279 trapped, 8 retrapped, 4 controls

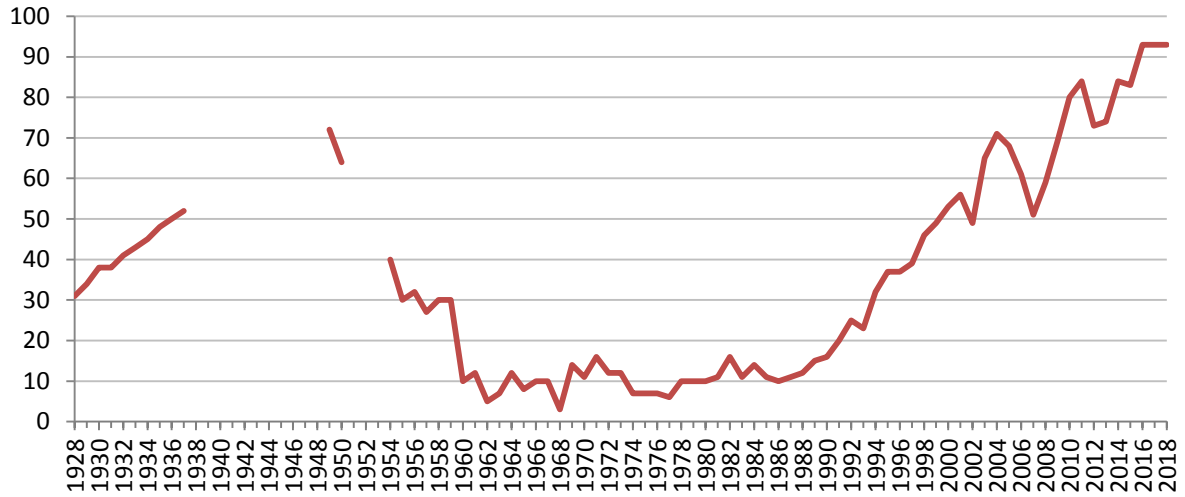
Although up to 121 were logged on each March date, the majority of birds were on territory, with maximum roost counts of only 35 on the 10th, 37 on the 23rd and 25 on the 27th (including up to six subadults); March roost counts peaked at 48 in 2017 and 2016, 37 in 2015 and 34 in 2014. Similarly there were up to 128 logged on each April date, with communal roosts of 50 on the 15th, 47 on the 18th and 35 on the 23rd; April roosts peaked at 58 in 2017 and 2016, 63 in 2015 and 54 in 2014. The sizable roost which formed at the Bog during the early part of the 2013 season, which peaked at 213 individuals on 3rd April, again failed to materialise. A whole Island census between the 6th and 18th May located 93 apparently incubating adults (89 accessible nests contained eggs); this was the same number as mapped in both 2017 and 2016, equalling the most yet recorded on Skokholm. It is not clear what has caused this apparent plateau in the population, although a drop in survival will have had an impact (see below). Given that some Welsh islands support considerably higher densities of Great Black-backed Gulls, notably the Gwylans, Gwynedd where there are no Rabbits and much lower seabird numbers, intraspecific interactions are perhaps not to blame (but see below).

The recent increase in the population was driven in part by high adult return rates; of 33 adults wearing colour rings in 2016, 32 returned to the same territories the following year (97.0%), whilst 19 of 21 returned in 2016 (90.5%) and 19 of 23 returned in 2015 (82.6%). Of 36 breeding adults with colour rings in 2017, 31 returned to breed this year (86.1%). As all of the adults present on Skokholm this breeding season were checked for rings, it seems likely that this is a good approximation of survival (although the sample size is still a little on the small side for a confident estimate). None of the colour ringed adults which have gone missing during the last four seasons have been rediscovered subsequently; it seems very likely that Skokholm Great Black-backed Gulls rarely, if

ever, take a year away from the colony or go unseen. That the 2018 return rate was the lowest of the last three years helps to explain why the population has plateaued; a return rate of 86.1% suggests that approximately 26 adults did not return for the 2018 breeding season, birds which must have been replaced by recruits to the population to maintain the 93 breeding pairs. At least one of these recruits had been metal ringed as a Skokholm chick in 2013 (it was found breeding on North Plain, the same area in which it had been ringed); given that chicks were first darvic ringed in 2014, it will be easier in future years to gain some estimate of recruitment (see below).

It is not clear what may have caused such seemingly high 2017-2018 adult mortality; whilst four unringed dead found on Skokholm following the 2016-2017 winter suggests that this may be a challenging season for them, three adults also perished during the 2018 breeding season (birds not included as missing this year as they returned to breed; they will be counted as missing for the 2019 survival estimate). Two of these dead adults were a colour ringed pair nesting north of Crab Bay which apparently died at approximately the same time; their outwardly undamaged bodies were both found within 50 metres of the nest site whilst their three well-grown chicks subsequently perished over several days. Although the reason for the demise of the adults was not established, one had suffered a broken leg during an aggressive encounter with a neighbouring pair two years previously. A third colour ringed adult was found washed up dead on Freshwater West, also in July; its nest was also close to Crab Bay. In August last year an adult arrived to the Lighthouse with a bloody leg which was missing its foot, the cause of which was probably entanglement in fishing gear. Great Black-backed Gulls were again regularly observed behind fishing vessels this year, although clearly some boats were more attractive than others; there were peak counts behind 'Boy's Pride' of 22 on 24th May and behind 'Our Hazel' of 17 on 28th August, 26 on 14th September and 23 on 25th September. An important step in understanding the Skokholm Great Black-backed Gull population will be to discover if such anthropogenic food sources are regularly exploited, particularly during periods of low seabird or Rabbit numbers when they may increase survival.

The number of Great Black-backed Gull breeding pairs 1928-2018 (where data exists). Control of numbers started in 1949 (destruction of both nests and adults) and stopped in 1985.



The Great Black-backed Gulls are spectacular apex predators and an exciting component of the Skokholm seabird assemblage, however it is important that we monitor the impact of these high breeding numbers on the Manx Shearwater population. Dead Manx Shearwaters were counted for a fifth consecutive year, the vast majority of which had been eaten by Great Black-backed Gulls (see the Manx Shearwater section for more details); a total of 3199 predominantly predated corpses, comprising 2228 adults and 971 youngsters, were marked this year (3360 comprising 2071 adults and 1289 young in 2017, 3697 comprising 2299 adults and 1398 young in 2016, 4026 comprising 2702 adults and 1324 young in 2015 and 4218 comprising 2931 adults and 1287 young in 2014). This

was thus the first year in four that the number of dead adult shearwaters has increased, with a 7.6% rise this year (following a 9.9% drop in 2017, a 14.9% drop in 2016 and a 7.8% drop in 2015), although the overall total was down for a fourth consecutive year due to a 24.7% drop in the number of 2018 young found predated. There are many factors influencing the number of corpses found; observer effort has been rather consistent, but possible or certain differences between years have included the number of Great Black-backed Gulls present (which may include differences in the number of Manx Shearwater specialists (Westerberg *et al*., 2018)), the number of Manx Shearwaters available (which may include differences in the number of prospecting individuals likely to spend longer on the surface), the prevalence of suitable hunting conditions (governed primarily by the moon cycle and weather), the size of the Rabbit population (which may provide an alternative food source) and the prevalence of puffinosis (which may make young birds easier to catch). Although the number of dead birds currently being found represents a relatively small proportion of the Skokholm shearwater population, it seems likely that further growth in the Great Black-backed Gull population will impact the shearwaters. Ultimately more data is required to understand this relationship in greater detail.

A nest to the south of North Pond contained three eggs on 10th April, whilst 14 further nests were found to be empty; the first egg of 2017 was found on 18th April, the first two of 2016 were found on the 12th, the first two of 2015 on the 19th and the first of 2014 was also on the 10th. More unusual nest contents included a grey sock, a ketchup packet and an orange crayon, items which again suggested that at least some pairs are foraging around human waste (see Westerberg *et al*., 2018). Of 25 monitored nests, seven pairs failed, five pairs fledged a singleton, nine pairs fledged two and four pairs fledged three. There were thus 35 fledglings and a productivity figure of 1.40 fledged young per monitored pair; productivity was 9.1% down on 2017 but 28.4% up on the 1989-2004 mean of 1.09 and 12.9% up on the 2008-2017 mean (1.24 ±se 0.13).

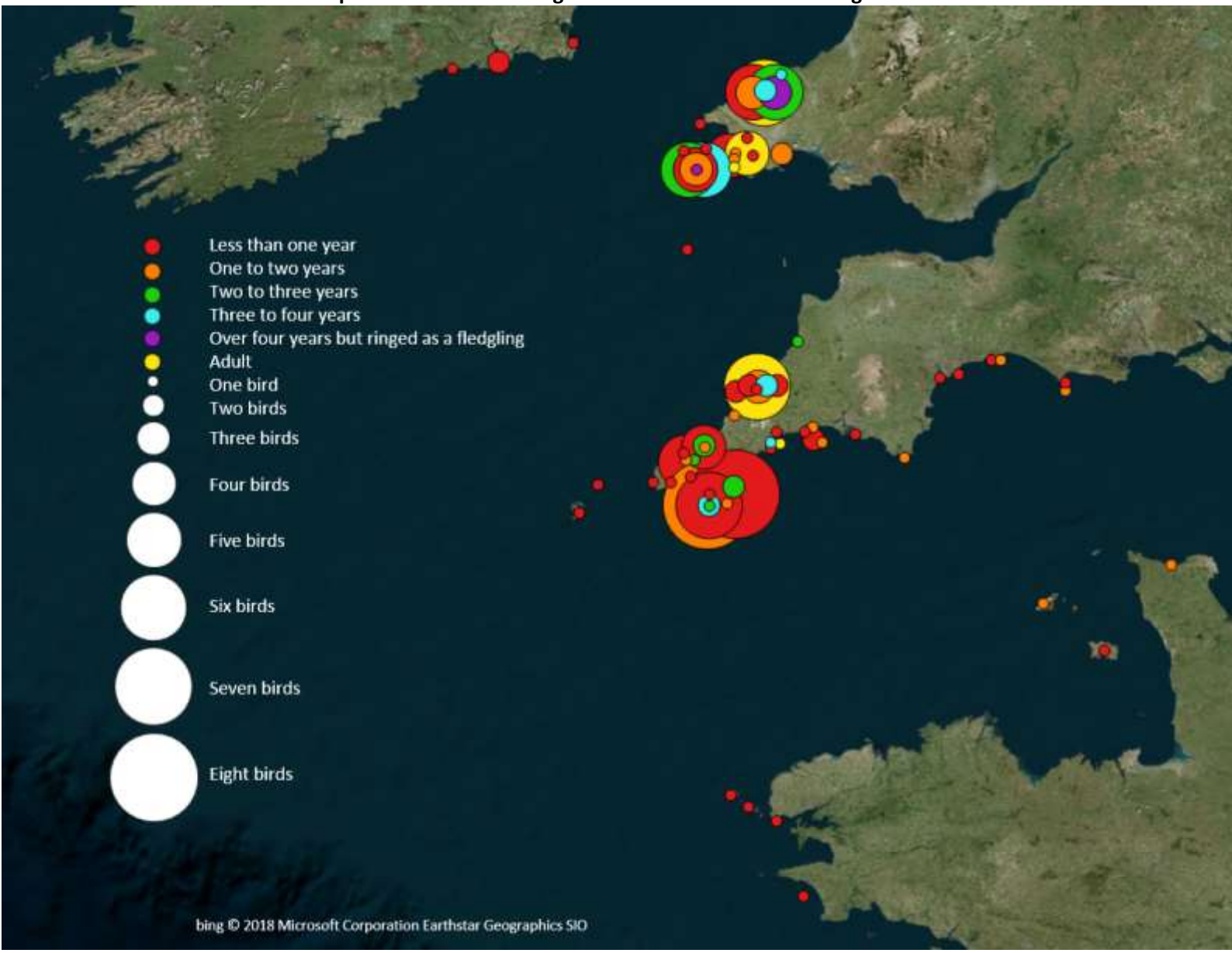
Productivity estimates 2005-2018 (average number of fledglings per sample pair).

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
0.76	1.07	1.02	1.02	-	0.71	0.89	-	1.80	0.93	1.66	1.38	1.54	1.40

In an effort to further understand recent population growth, a Great Black-backed Gull colour ringing project was begun in 2014, in part to shed light on juvenile survival and recruitment. Of 43 fledglings ringed in 2014, 28 (65.12%) have been resighted subsequently including four which have been found dead. At least 15 birds (34.88%) definitely survived their first full year, 11 (25.58%) survived their second years, seven (16.28%) survived their third years and four (9.30%) have survived at least four years. Of 52 fledglings ringed in 2015, 25 (48.08%) have been resighted subsequently, 15 (28.85%) survived their first full year, 12 (23.08%) survived their second years and ten (19.23%) survived their third years. Ten of the 31 2016 fledglings and seven of the 39 2017 fledglings have been seen again. Although these figures do not give an exact measure of juvenile survival, the birds ringed longer ago (of which more have returned to Skokholm and for which there has been longer for them to be encountered on the mainland), suggest that nearly 10% of fledglings could be surviving to breeding age. Only time will tell whether this study provides a sound estimate of recruitment to the breeding population, something which may well be dependent on how many birds establish territories on Skokholm or Skomer (where they should be seen) as opposed to other less studied breeding sites. Of 13 youngsters which have so far returned to Skokholm, four were back in their first summers, two in their second summers and seven in their third summers. Although resighting records away from Skokholm will be somewhat biased by a preponderance of birders at the main roost sites in Cornwall, it seems likely that there is a genuine southerly bias to the movements of young Skokholm Great Black-backed Gulls (see map below). All of the records below were received since a similar table was published in the 2017 Seabird Report.

Darvic	Ring	Location	County	Age	Date
W:015	HT94858	Nevern Estuary	Pembrokeshire	Adult	08/12/18
W:022	HT94867	Camel Estuary	Cornwall	Adult	22/11/18
W:026	HT94871	Nevern Estuary	Pembrokeshire	Adult	20/06/18
W:031	HT94876	Nevern Estuary	Pembrokeshire	Adult	21/03/18
W:037	HT94899	Nevern Estuary	Pembrokeshire	Fourth-summer	26/08/18
W:055	HT94917	Nevern Estuary	Pembrokeshire	Fifth-winter	25/03/18, 11/10/18
W:066	HT94926	Teifi Estuary	Pembrokeshire	Fourth-summer	20/05/18
W:073	HT94930	Nevern Estuary	Pembrokeshire	Fourth-summer	01/08/18
W:079	HT94936	Nevern Estuary	Pembrokeshire	Adult	29/03/18
W:087	HT94948	Camel Estuary	Cornwall	Fourth-winter	25/11/18
W:089	HT94950	Nevern Estuary	Pembrokeshire	Third-summer	12/05/18
W:094	HT94957	Nevern Estuary	Pembrokeshire	Third-summer	23/03/18, 18/05/18
W:112	HT94974	Nevern Estuary	Pembrokeshire	Fourth-winter	14/08/18, 15/09/18
W:116	HT94976	Mevagissey Harbour	Cornwall	Fourth-winter	23/10/18
W:169	MA37827	Southerly Point, Lizard	Cornwall	Second-winter	11/01/18
W:184	MA37851	Camel Estuary	Cornwall	Adult	03/12/18
W:195	MA37862	Camel Estuary	Cornwall	Second-winter	29/11/18
W:214	MA37879	Nevern Estuary	Pembrokeshire	First-summer	20/03/18, 21/06/18
W:217	MA37882	Dawlish Warren	Devon	First-winter	23/03/18
W:248	MA37917	St Mary's, Scilly	Cornwall	First-winter	27/08/18
W:248	MA37917	Wembury Point	Devon	First-winter	04/09/18
W:259	MA37904	Newlyn Harbour	Cornwall	First-winter	08/12/18
W:261	MA37906	Korz, Ushant Island	Brittany, France	First-winter	07/01/19, 08/01/19
W:262	MA37907	Bristol Channel	At sea	First-winter	20/10/18
W:271	MA37928	North of Scilly Archipelago	At sea	First-winter	27/08/18

The movements of Skokholm ringed Great Black-backed Gulls 2014-2018. The different colours represent the different ages at which the birds were resighted.



A roost of up to 40 birds, but more typically less than 23, regularly formed in the Bog during the breeding season; on average these were the smallest breeding season roosts of the last six years (perhaps in part due to the low adult return rate which may have allowed more non-breeders to recruit to the breeding population). The first fledglings were recorded at North Pond on a rather typical 3rd July, however it was not until mid-August that the larger communal roosts began to develop, with 64 on the 19th, 68 on the 24th, 126 on the 27th and 121 on the 28th; as was the case last year, the largest roosts formed on North Plain and the Head. September roost counts were also lower than in recent years, with highs of 81 on the 20th, 128 on the 21st and 135 on the 22nd being well down on peaks of 183 in 2017, 247 in 2016 (when there were also six counts in excess of 200 birds), 249 in 2015 and 355 in September 2013 (the September 2014 maximum was only 52). The first Skokholm fledglings to be seen away from the Island were logged on 27th August, with birds photographed on St Mary's, Scilly and at sea to the north of the archipelago; this was 14 days earlier than the first southwest resighting of 2017, 34 days earlier than the first of 2016 and 19 days earlier than the first of 2015. Despite the fact that some youngsters seemingly made an early departure from Skokholm, a bird along the south coast did not fledge until 27th August and another on Gull

Rock fledged on an exceptionally late 8th September. As was the case last year, there were only two October counts in excess of 100 individuals (seven counts in 2016), with highs of 126 on the 9th and 108 on the 10th. Following a total of 58 logged on 14th October, there were no counts above 23 until the departure of staff on 26th November and 35 counts of fewer than ten individuals included five days without a record. November counts were thus the lowest of the last six years and well down on 2013 highs of 270 and 243 (both of which occurred in the first five days of the month).

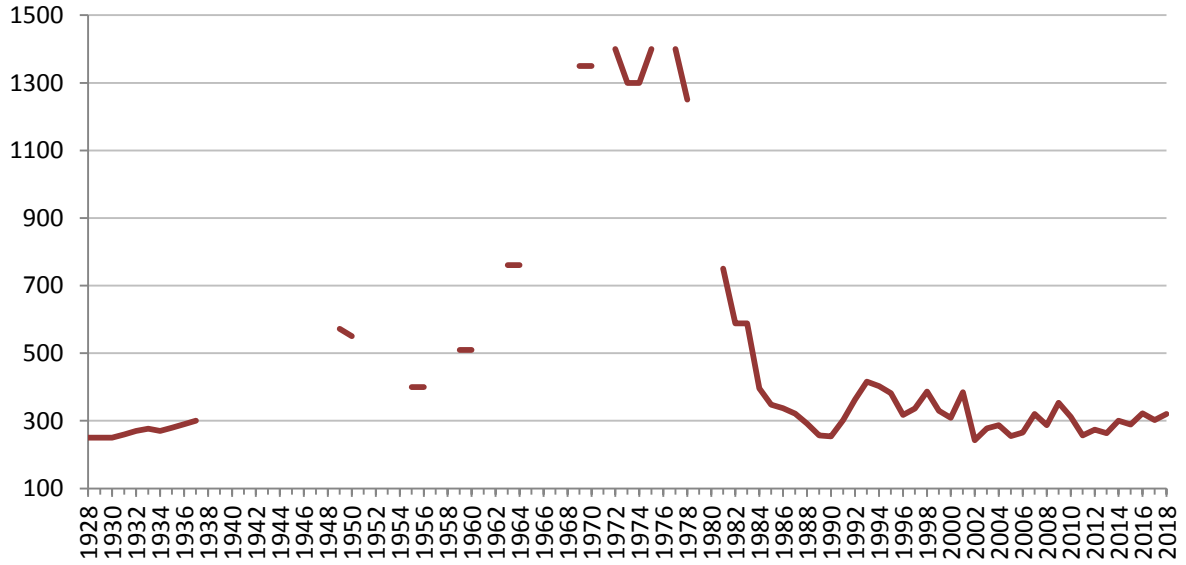
Iceland Gull *Larus glaucoides* **Gwylan yr Arctig**
Rare only seven previous records

A first-winter on 27th March was initially found at North Pond and later relocated in South Haven (GE, RDB). This was the first since a first-summer bird photographed at North Pond on 7th July 2012 and, perhaps surprisingly, only the eighth Skokholm bird-day following further singles on 26th March 1996, 27th April and 16th May 1993, 23rd August and 9th September 1988 and 19th March 1983.

Herring Gull *Larus argentatus* **Gwylan y Penwaig**
Common Breeder abundant breeder in the 1970s
26 trapped (including 6 pulli), 4 retrapped
1936-1976: 13,164 trapped, 2013-2017: 88 trapped, 13 retrapped, 1 control

Although March counts again fluctuated widely, with birds frequently feeding away from Skokholm but returning to roost, the peaks were well up on recent years; there were eight counts in excess of 200 individuals (the March peak was 176 in 2017), with highs of 294 on the 20th, 325 on the 24th and 439 on the 15th, the latter of which was the second highest March count of the last seven years (only down on the 444 of 29th Mach 2015). In stark contrast to observations made of Lesser Black-backed Gulls during the same period, Herring Gull roosts included reasonable numbers of subadult birds, with up to 65 joining March gatherings and a minimum of 120 along the south coast on 14th April. The first eggs were found in two nests on 19th April, one day later than the first of 2017 and two later than the first of 2016 (the first egg was found on 25th April in 2015, 14th April in 2014 and 18th April in 2013). Birds were again watched feeding behind potting vessels during the early part of the breeding season, with over 100 following 'Boy's Pride' as they washed their decks on 27th April. Whole Island counts took place between the 18th and 22nd May when 320 active nests were located. This was a 6.0% increase on the 302 nests found in 2017 and 8.1% up on the 2008-2017 mean (295.9 ±sd 28.78); there have only been three higher totals since 2000. The number of breeding pairs has apparently stabilised at a level close to that seen in the 1930s (the 1928-1937 mean was 269.70 ±sd 17.47), counts well down on the artificial peak of the 1970s.

The number of breeding pairs 1928-2018 (where data exists). The 1970s peak was attributed to the exploitation of local fish waste and the decline to botulism (Thompson, 2007).



The monitoring of adult survival in Herring Gulls has been undertaken on Skomer for many years, however recent struggles with trapping sufficient adult birds to produce a reliable estimate led to the Islands Conservation Advisory Committee recommending that a project be established on Skokholm in 2017; the Neck was selected as the study area and 13 nesting adults were trapped there between the 18th and 22nd May last year. Each trapped adult was ringed with a red darvic inscribed W:9** in white, the latter two digits identifying the bird as an individual. Of the 13 marked birds, 11 returned to breed in the same area this year (84.62%); this was similar to the 86.10% return seen in Great Black-backed Gulls this year and perhaps suggests that similar factors are influencing survival in these species. The only individual seen away from Skokholm was W:987 which was at the Nevern Estuary, Newport on three October and two November dates; this bird also visited the Nevern in September 2017 suggesting that there might be some site fidelity during the non-breeding period. A

further 15 adults were colour ringed this year, taking the total to 26 (although one was found dead less than two months later).

The number of breeding pairs and productivity estimates (average number of fledglings per sample pair) 2004-2018.

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
287	255	265	320	287	353	312	257	274	263	300	289	322	302	320
0.18	0.57	0.47	0.61	-	-	0.82	0.67	1.15	0.72	0.70	0.66	0.86	0.70	0.73

The first chicks were seen at Near Bay on 18th May, four days before the first of last year, and the first flying fledglings were logged on 4th July (7th July in 2017, 30th June in 2016, 10th July in 2015, 2nd July in 2014 and 7th July in 2013). Checks of the Neck productivity plot in early July, where 149 pairs had established nests, located a maximum of 109 fledging-sized young (which equates to a productivity estimate of 0.73 fledged young per pair). Although 4.3% up on the 0.70 logged in 2017, this was 7.6% down on the 2008-2017 mean (0.79 ±se 0.05). Nevertheless there have been lower productivity estimates in nine of the previous 12 years with an assessment and, following good years in 2012 and 2016, it appears that current levels are sufficient to sustain a stable breeding population at this time. Herring Gull productivity remains consistently higher than that of the closely related Lesser Black-backed Gull, circumstantial evidence suggesting that this may be due to differing feeding habits. Additionally Great Black-backed Gulls seemingly target the coastal nesting Herring Gulls less frequently than they do the inland gull colonies, although predation by Greats was again witnessed this year and probably led to an underestimate of the Herring Gull population due to the emptying of nests prior to the whole Island count.

The customary post-breeding departure of both adults and fledglings saw July counts after the 12th peak at 157 on the 31st but otherwise fail to exceed 104. There were 21 August daycounts of under 100, but highs of 295 on the 4th and 177 the following day, when birds were feeding on swarming ants, and further highs of 192 on the 21st and 199 on the 31st; the peaks were thus down on August 2017 counts of 348 and 409, birds which were also attracted to swarming ants. As in the previous five seasons, few Herring Gulls visited Skokholm in September, with only two daily totals in excess of 39 individuals, namely 81 on the 26th and 78 on the 27th. October counts remained low until the 24th when 187 birds included 112 in Broad Sound; Broad Sound October daycounts were thus well down on the all-time record of 493 set last year. Early November proved more productive, with highs of 339 on the 2nd, 318 on the 4th and 304 on the 5th, whilst a late peak of 275 was logged on the 20th;

nevertheless there were 11 daycounts of under 100 and the maximum was well down on the 585 of 2015, the 588 of 2016 and the November record 612 logged on the 3rd in 2017.

Ringing recovery GR87923
Originally ringed as an adult, SKOKHOLM GULL TRAP 10th July 2015
Recovered NEYLAND, PEMBROKESHIRE 1st July 2018
Finding condition Metal ring read in field
Distance travelled 23km at 91 degrees (E)
Days since ringed 1087

Lesser Black-backed Gull *Larus fuscus* **Gwylan Gefnddu Leiaf**
Abundant Breeder previously very abundant breeder
103 trapped (including 68 pulli), 9 retrapped, 3 controls
1936-1976: 12,085 trapped, 2013-2017: 415 trapped, 15 retrapped, 13 controls

Although well down on the 823 of 2016, a mean March daycount of 568 was up on the low of 494 logged last year. The number of birds within the colonies again fluctuated considerably during the day; the Frank's Point colony contained 42 birds on the morning of the 17th but 156 by the evening, 24 on the morning of the 18th and 90 by the evening and eight on the morning of the 18th but 40 by the evening. The larger communal roosts recorded in previous years were again generally absent, with the majority of March counts being of birds on territory; the largest roost away from the breeding colonies was of only 35 birds at North Pond on the 12th. A more detailed description of how the gulls prepare for the breeding season was available in 2015 and 2016 due to the GPS trackers fitted by the British Trust for Ornithology in 2014 (funded by the Department of Energy and Climate Change) which gave some idea as to when birds first returned to Skokholm (see the relevant Skokholm Seabird Reports for details of return dates and the range of over-wintering strategies used); the last of the functioning trackers and the base station were removed last year.

Peak April counts were marginally down on last year and there were again mass departures from the Island, for example the Bog subcolonies contained 750 birds on the 21st but a high of only 180 the following day. There were occasional roosts away from the main subcolonies during the month,

peaking at 200 around North Pond on the 28th and 80 at the same site on the 2nd; the largest April roost in 2017 was of 260 birds. All of the apparently incubating birds checked at the Top Tank on the 23rd were found to be sitting on empty nests and it was not until 26th April that the first lone egg was located; this was five days earlier than the first of 2017, one day later than the first of 2016, eight days earlier than the first of 2015 (when two nests south of North Pond contained three eggs and three contained a single egg) and two days later than in 2014 (when a single egg was again found).

Vantage point counts of all the inland breeding subcolonies and a full census of the coast nesting pairs were made between the 18th and 22nd May, during which 947 apparently incubating adults were located (the second lowest total in over 50 years which, although up on the 903 of last year, was well down on the 1209 of 2016, the 1275 of 2015, the 1407 of 2014 and the 1476 of 2013). Walk through counts were undertaken at five subcolonies on the 23rd to check the accuracy of the point counts. A comparison of the number of apparently incubating adults and the number of nests containing eggs suggested that there was a discrepancy (see table below). All five plots contained more nests with eggs than the number of apparently incubating adults (aia), presumably due to incubating birds being hidden in vegetation; this was most apparent to the west of Orchid Bog where there were 34.48% more nests containing eggs than aia and to the north of the Top Tank where there were 20.97% more nests with eggs, whilst there were only 1.54% more to the south of North Pond. On average across the five plots there were 14.66% more nests containing eggs than were predicted during the vantage point counts (305 with eggs compared with 266 aia during the counts); in 2017 there were 27.32% more nests with eggs than picked up during the vantage point counts, in 2016 there were 18.18% more, in 2015 25.00% more and in 2014, when the vegetation was particularly low, there were 12.89% more. A correction factor of 1.15 (305/266) was thus applied to inland vantage point plots containing similar dense vegetation to that encountered in the walk through plots, but not to the cliff counts and areas of very short sward.

The corrected total for the inland plots was 648 pairs. This, combined with the 305 nests with eggs encountered on the walkthroughs and the 116 birds incubating in open areas, gave a 2018 whole Island total of 1069 pairs. This was 4.8% down on the 1123 pairs recorded in 2017, down on the 1397, 1486, 1565 and 1476 pairs logged in 2016, 2015, 2014 and 2013 respectively and the lowest predicted total of the post-War era.

A comparison of vantage point counts (of apparently incubating adults) and walk through nest counts, along with a summary of nest contents.

	Vantage point count	Walk through count	Empty/ With egg(s)	Percentage of empty nests	Difference between counts*	Difference between counts**	Egg count	Eggs per nest with eggs
Spy Rock S	38 aia	49 nests	4/45	8.16%	+18.42%	+28.95	127	2.82
Top Tank N	62 aia	76 nests	1/75	1.32%	+20.97%	+22.58	211	2.81
North Pond	65 aia	72 nests	6/66	8.33%	+1.54%	+10.77	179	2.71
Orchid Bog	29 aia	41 nests	2/39	4.88%	+34.48%	+41.38	111	2.85
Frank's Point	72 aia	83 nests	3/80	3.61%	+11.11%	+15.28	223	2.79
Total	**266 aia**	**321 nests**	**16/305**	**4.98%**	**+14.66%**	**+20.68**	**851**	**2.79**

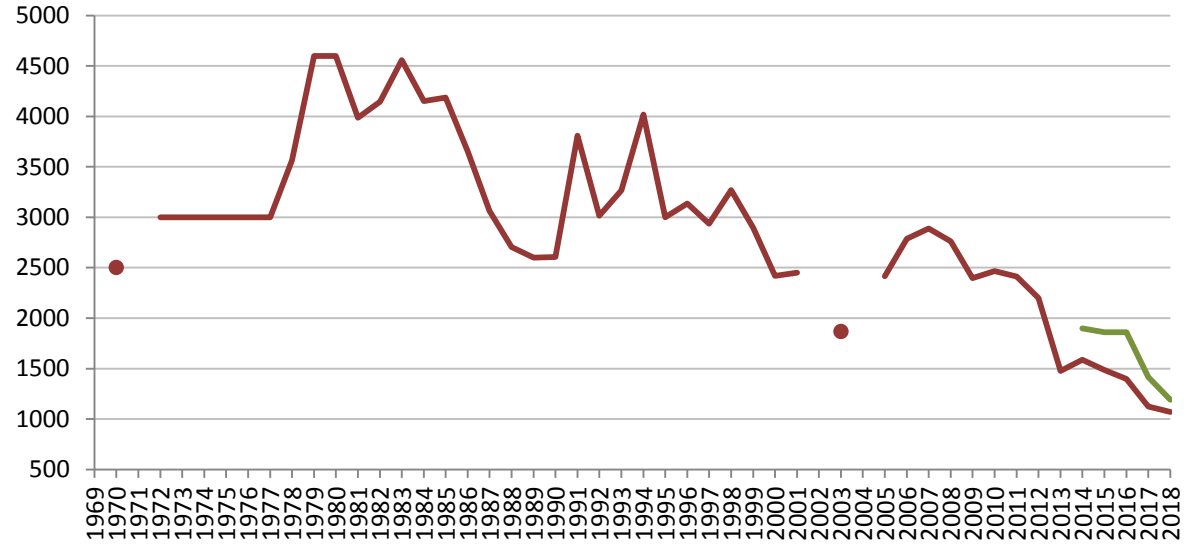
* How many more/less nests with eggs were present than the number of apparently incubating birds seen (%).

** How many more/less nests (including empty nests) were present than the number of apparently incubating birds seen (%).

As the walk through plots mirrored those used in recent years, a direct comparison can be made. The most striking decline occurred at the Frank's Point colony (to the north of the Pedestal) where there were 32.2% fewer nests containing eggs than last year, although there were also large drops of 20.4% at Orchid Bog and 15.7% to the north of the Top Tank. The same three colonies have declined

by 36.5%, 27.8% and 20.2% since 2016 respectively and 37.5%, 46.8% and 31.8% since 2014. The only plot this year where an increase was noted was to the south of North Pond where there were 3.1% more nests with eggs (although the number of empty nests dropped from 22 to six). Given the poor productivity witnessed for many years, it is no surprise that the Skokholm breeding population is declining, however it was also recently suggested that disease may be taking its toll; there were 21 dead adults found between 4th March and 1st August 2016 which were thought to be diseased, with the period before death characterised by very lethargic behaviour, fine shaking and an eventual loss of limb control, however only one adult was seen with similar symptoms last year (an additional two adults were found dead). There were 15 dead adults with no obvious injuries located between 23rd May and 11th July this year; although aggressive interactions may have caused death in some instances, one on 9th May had a particularly dirty vent. A very weak bird handed in from a passing boat on 20th May exhibited the same symptoms prevalent in 2016. Unusually a bird at Crab Bay on 31st July was spinning in circles and aggressively biting its own carpal, a behaviour which was exhibited by a bird at the same site in June last year. A bird tarred with a thick black substance on 13th June was not seen again.

The total number of Lesser Black-backed Gull breeding pairs 1970-2018. Control measures started in 1984 (destruction of nests) and stopped in 1998. The green line is the population if all empty nests are assumed to belong to additional pairs.



Over the period 1991-2002 the count of empty nests varied from 11-44% of the total number of nests, with a mean of 22.7% (Thompson, 2007), however the proportion of empty nests has more recently declined. All five colonies visited this year contained fewer empty nests than Thompson's lower extreme. The Top Tank north and Frank's Point colonies again held the lowest proportion of empty nests, with only 1.32% and 3.61% respectively (1.11% and 1.67% in 2017); intriguingly these two colonies have contained the lowest proportion of empty nests for the last four years, with the former containing 1.96% in 2016 and 7.45% in 2015. Overall, of 321 visited nests, 4.98% were found to be empty this year (9.86% in 2017, 17.62% in 2016, 17.30% in 2015, 16.32% in 2014 and 19.84% in 2013). It was unclear whether the empty nests were second nests made by the pairs present, nests which had been robbed of eggs or nests where the adults had yet to lay. The breeding season was certainly a protracted one, with the first chicks located on 23rd May (24th May in 2017) and at least three nests still containing hatching eggs on 5th July when the first flying fledgling was logged (the first fledgling was logged on the 7th in 2017). It would certainly seem possible that at least in some cases the latter two of the above three options may have been the case, meaning that the Skokholm breeding population is actually higher than that calculated above. However, even if we wrongly assume that all empty nests belonged to additional pairs (the green line on the above chart), the

predicted Island total would only be in the region of 1190 pairs (an extra 121 pairs, 227 fewer than the comparable 2017 estimate and still the lowest population estimate for over 50 years).

Lesser Black-backed Gull productivity estimates.

2004	2005	2008	2011	2012	2013	2014	2015	2016	2017	2018
0.07	0.27	0.27	0.03	0.16	0.16	0.30	0.15	0.23	0.38	0.63

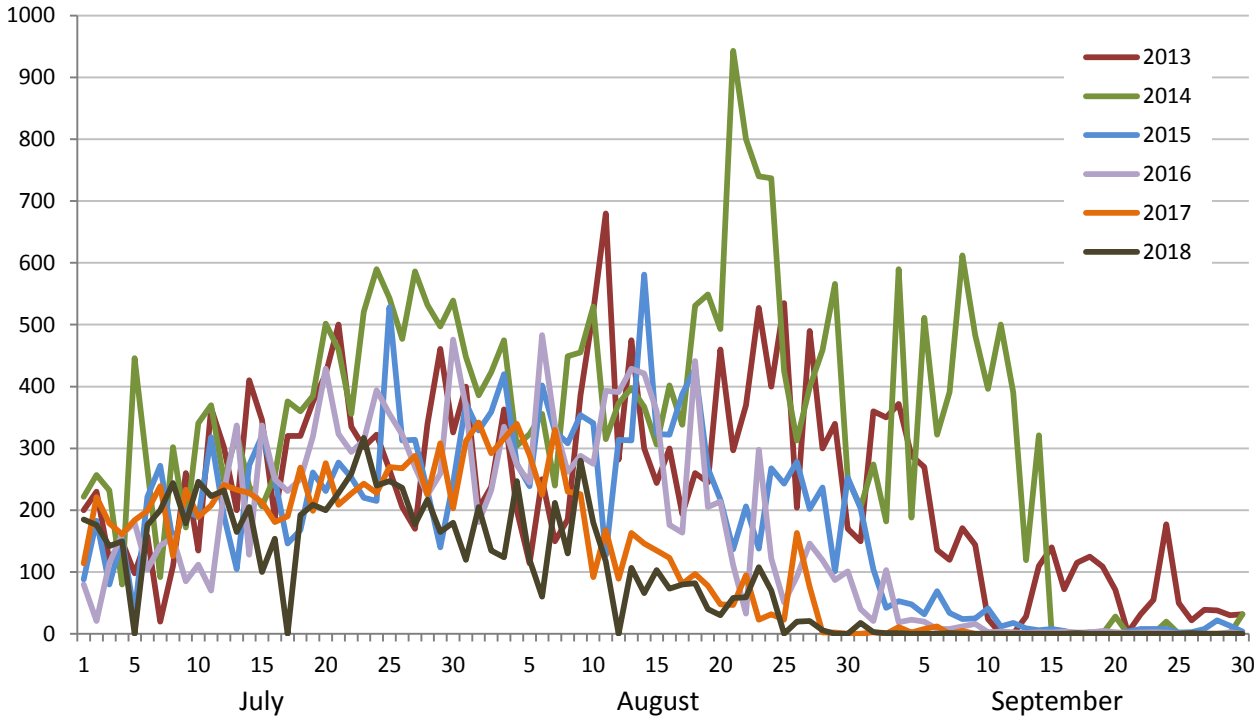
The colonies at Frank's Point and to the north of the Top Tank again proved suitable for productivity monitoring this year (using BTO rings as a mark for a mark/recapture population estimate). In an attempt to increase the number of resightings, the colonies were again re-entered this season (rather than observing fledglings at a distance with a telescope, a method which was failing to locate many rings due to the long sward which has resulted from recent low Rabbit numbers). A simple calculation was again used, (number of fledglings ringed x number checked for rings on second visit)/ number of birds found to have rings on second visit, to predict the number of fledglings within an area. There were 17 fledglings ringed at the Top Tank and, of 13 subsequently checked for rings, three were marked; it is thus predicted that the 75 pairs produced 74 fledglings, giving a productivity figure of 0.99. There were 13 fledglings ringed at Frank's Point and, of only nine birds subsequently checked, five were marked; it is thus predicted that the 80 pairs produced only 23 fledglings, giving a productivity figure of 0.29. Pooling the 2018 inland observations suggests that 155 pairs produced 97 young and that overall productivity was in the region of 0.63 fledglings per pair. This is the highest estimate this century, however some observations from elsewhere did not suggest that 2018 productivity was up on recent years; although fledglings at North Pond could potentially have come from anywhere on Skokholm (and possibly elsewhere), a maximum of 65 logged on the 23rd and 27th July was 51.1% down on the 133 counted there on 1st August 2017 and was the lowest total from this site during the last five years (it should be remembered that the breeding population has fallen considerably during the same period).

The coastal slope to the east of Purple Cove was investigated for a second year as this discreet subcolony, with very short sward or rocky substrate, is seemingly suitable for an accurate fledgling count using only a telescope; here 14 pairs produced a minimum of 17 fledglings, giving a productivity figure of 1.21 per pair (18 pairs produced 20 fledglings in 2017, giving a productivity figure of 1.11). That productivity is consistently higher in a smaller, coastal subcolony fits ad hoc observations made in recent years and perhaps supports the theory that birds in larger colonies are struggling in part due to intraspecific predation. Given that recent productivity estimates have been based on samples of inland colonies, it seems plausible that there will have been an underestimation for Skokholm as a whole; nevertheless considerably more pairs nest in the main inland colonies than on the coastal slopes, suggesting that the actual figure would not change radically.

North Plain and the area around North Pond again proved to be the usual site for the largest post breeding roost, with smaller numbers congregating around the coast and at South Pond. As is typically the case, the number of birds using the roosts increased during July, however, despite the higher 2018 productivity estimate, there were again fewer birds present this year; the July total was 16.0% down on 2017 and the lowest of the last six years. Nevertheless the peak July count, the 317 logged on the 23rd, was 2.9% up on that of 2017 (albeit 33.4% down on the maximum 2016 roost). Whereas the previous five years have seen the majority of the largest roost counts logged in August, this year saw an earlier drop in numbers; the August total was 35.6% down on last year and the peak count, the 280 logged on the 9th, was 18.1% down on 2017, 42.0% down on 2016, 51.8% down on 2015 and 70.3% down on the 2014 maximum of 943 roosting birds. September proved exceedingly quiet, with only eight roosting birds logged during the entire month; the last four years have seen very small September roosts, quite the contrast to 2013 and 2014 when counts were still regularly in the hundreds. A small number of birds visited Skokholm in October, with 50 logged over 18 dates and a high of eight on the 18th. In November there were sightings on 21 dates to the 26th, totalling

140 birds and including highs from South Haven and Broad Sound of 20 on the 16th, 31 on the 19th and 26 on the 21st.

The number of Lesser Black-backed Gulls roosting on North Plain and in the vicinity of North Pond 2013-2018.



Ringing recovery 6217252 (white darvic with black N:3PH)
Originally ringed as an adult, MALAGA, SPAIN 13th January 2018
Previously recovered MALAGA, SPAIN 3rd February 2018
Recovered PURPLE COVE, SKOKHOLM 28th April 2018
Finding condition Colour ring read in field. Left foot missing
Distance travelled 1666km at 357 degrees (N)
Days since ringed 105
Such traumatic injuries are usually linked to entanglement in fishing equipment.

Ringing recovery D9123 (black darvic with white 5FA2)
Originally ringed as a third-year female, CHOUET LANDFILL, GUERNSEY 13th May 2015
Previously recovered MATOSINHOS, PORTO, PORTUGAL 7th August 2015
Previously recovered MATOSINHOS, PORTO, PORTUGAL 4th September 2015
Previously recovered MATOSINHOS, PORTO, PORTUGAL 25th September 2015
Previously recovered MATOSINHOS, PORTO, PORTUGAL 4th November 2015
Previously recovered MATOSINHOS, PORTO, PORTUGAL 5th November 2015
Previously recovered MATOSINHOS, PORTO, PORTUGAL 2nd September 2016
Previously recovered MATOSINHOS, PORTO, PORTUGAL 6th October 2016
Previously recovered MATOSINHOS, PORTO, PORTUGAL 31st January 2017
Previously recovered MATOSINHOS, PORTO, PORTUGAL 9th March 2017
Previously recovered MATOSINHOS, PORTO, PORTUGAL 12th September 2017
Previously recovered MATOSINHOS, PORTO, PORTUGAL 13th October 2017
Previously recovered MATOSINHOS, PORTO, PORTUGAL 19th October 2017
Recovered NORTH PLAIN ROOST, SKOKHOLM 26th August 2018
Subsequently recovered MATOSINHOS, PORTO, PORTUGAL 3rd September 2018

Subsequently recovered MATOSINHOS, PORTO, PORTUGAL 17th October 2018
Subsequently recovered MATOSINHOS, PORTO, PORTUGAL 13th November 2018
Finding condition Colour ring read in field
Distance travelled 311km at 320 degrees (NW)
Days since ringed 1201

Ringing recovery GK92374
Originally ringed as a pullus, SKOMER ISLAND, PEMBROKESHIRE 18th July 2001
Recovered as an adult, SKOKHOLM 14th June 2018
Finding condition Dead, fresh and undamaged
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 6175

The birds previously carrying GPS tags, along with an additional 48 non-tagged controls, were all fitted with yellow darvic rings with a black alpha-numeric code (number/letter:W e.g. 5A:W) in 2014. The colour ring is on the left leg and a BTO metal ring on the right. The darvic rings have yielded a fantastic number of field resightings; the 73 ringed birds have produced 157 separate resightings of 35 different individuals away from Skokholm. However the number of resightings logged each year is unsurprisingly dropping and another two birds were confirmed as dead this year. The following table summarises resightings received since similar tables were published in the 2014-2017 Seabird Reports. As has been shown by the British Trust for Ornithology GPS tracking project on Skokholm, and at other British Trust for Ornithology tracking sites (Ross-Smith, *pers. comm.*), Lesser Black-backed Gulls show a high degree of wintering site fidelity. This is also reflected in the colour ringing data, with 16 birds having been resighted at the same location in successive winters; records of returning birds have come from several sites in Portugal and Spain along with two in France and one in Morocco.

Darvic	Ring	Location	Country	Date
5P:W	GR98209	Costa da Caparica, Almada	Portugal	30/09/18
6U:W	GR98226	Malaga Harbour	Spain	18/03/18 (found dead)
7N:W	GR98240	Salisbury Pig Farm	UK	16/11/18
8C:W	GR98248	Caleta de Velez, Malaga	Spain	24/01/18
9H:W	GR98264	Praia de Matosinhos	Portugal	10/10/18, 16/10/18
9H:W	GR98264	Pinto Landfill, Madrid	Spain	12/01/19
9J:W	GR98265	Malaga Harbour	Spain	02/12/18, 08/12/18, 05/01/19
9X:W	GR98275	Mira Beach, Coimbra	Portugal	21/09/18

***Larus* hybrid** *Larus fuscus* x *Larus argentatus*
Scarce Breeder

The apparent hybrid, which held territory with a Lesser Black-backed Gull above South Haven between 2013 and 2016 but which was only seen on 29th May and 3rd November last year, was not located this year (see photographs of this bird in the 2015 and 2014 Seabird Reports). Given that it was still alive but generally absent from its traditional breeding territory in 2017, it was postulated that it may have lost its partner; a failure to locate it this year may thus reflect a change of breeding season location rather than death. Whether the hybrids are remnants of cross-fostering experiments (500 Herring Gull and 400 Lesser Black-backed Gull chicks were raised by adults of the 'wrong' species between 1963 and 1966 with the result that they frequently paired with the species of the adopting parents) or whether they are the result of natural interbreeding, is unclear. The latter may certainly be the case on occasion; a male Herring Gull was watched as it mounted a female Lesser Black-backed Gull in Crab Bay on 30th April 2016, although these birds were not paired and had same-species partners incubating on nests positioned in close proximity to each other.

Sandwich Tern *Sterna sandvicensis* **Morwennol Bigddu**
Uncommon although Scarce in all but one year between 2006 and 2012
Earliest 29th March 1984 (7th May 2018) **Latest** 25th October 1967 (25th September 2018)

Four in fog off the Neck on 7th May were the first of the year, seven days later than the first of last year and the only spring sighting; there were only three in spring 2017, although 31 in the spring of 2016 was the second highest bird-days total for this period to date. Two west off the Lighthouse on 12th July were the first of the autumn, 11 days later than the first of last year. The only other July records were of a single on the 28th and five adults together on the 30th; the peak count was the highest in July since 2003 and the bird-days total the highest in this month since 1991. There were singles on the 19th, 20th and 21st August, whilst six were logged on the last day of the month; the latter was the highest August daycount since 2000 and the bird-days total the highest since the 13 of 2015. As is often the case, the majority of observations came in September with one on the 3rd, four on the 9th, three on the 18th and 23rd, one on the 24th and two on the 25th; both the total and peak count were down on each of the last three Septembers, with a 2015 daycount of 12 and a bird-days total of 32 being the peak during that period.

Roseate Tern *Sterna dougallii* **Morwennol Wridog**
Rare but perhaps overlooked on occasion. Mathew (1894) reported breeding on the Stack

An adult west off the Lighthouse on 27th August was the first since one on 15th July 1999 (RDB, GE). An adult was again seen from the Lighthouse on 3rd September, this time heading north with Arctic Terns (RDB). Two terns likely to have been this species were seen distantly on 17th September. The only other Skokholm records concern two on the 2nd and 4th August 1994, four on 24th August 1992 and 31st July 1989, two on 27th August 1989, one on 9th August 1977, singles on 28th September and 12th October 1967 and one on 1st September 1963 which was followed by two more four days later. A severed leg bearing a Rockabill, Dublin ring found below a Peregrine kill at the Valero Refinery, Rhoscrowther during mid-May belonged to a Roseate Tern in its fifth-summer which had potentially passed Skokholm on its way towards Milford Haven. This year saw Roseate Terns breed in Wales for the first time in 12 years.

Common Tern *Sterna hirundo* **Morwennol Gyffredin**
Scarce but 'commic' terns Uncommon or Fairly Common. Bred at the Stack in 1894 but gone by 1916
1936-1976: 1 trapped

Two west off the Lighthouse on 28th June was only the seventh Skokholm record in this month. A juvenile was sat on the Stack on 2nd September and two adults were off the Lighthouse the following day. Further September records were of a single on the 18th, two on the 20th, six on the 23rd and seven on the 24th which were the last of the year; both the bird-days total and peak count were fractionally up on last year but well down on the September records of 75 and 71 set in 2015. Additionally there were two unidentified 'commic' terns logged on 21st April, up to 29 on nine August dates from the 15th which totalled 48 bird-days and up to 46 on ten September dates to the 26th which totalled 148 bird-days.

Arctic Tern *Sterna paradisaea* **Morwennol y Gogledd**
Scarce although unidentified 'commic' terns Uncommon or Fairly Common
Earliest 27th April 2016 (**18th April 2018**) **Latest** 27th October 2017 (9th October 2018)
1936-1976: 3 trapped

An adult at North Pond on 18th April was the first spring bird since four on 27th April 2016 and the earliest spring sighting for Skokholm (below photograph, HD *et al*.); there had been 11 spring records prior to this year, with a single on 10th June 2001 the only other sighting this century. Arctic Terns

were seen from the Lighthouse on five August dates from the 18th, with highs of seven on the 27th and ten on the 29th which took the bird-days total to 24; the first of the month were one day earlier than the first of last year, the bird-days total was a new August record and the peak count matched one in August 2015 as the third highest to date. Numbers increased in September with 41 logged on the 3rd, 22 on the 21st and two on the 23rd; the peak count was the fourth highest in any month on record and a bird-days total of 65 was only down on the Septembers of 2016 and 1997. One in Broad Sound on 9th October was the last of the year; the last five years have produced seven of the 20 October records including four of the five latest. Additionally there were two unidentified 'commic' terns logged on 21st April, up to 29 on nine August dates from the 15th which totalled 48 bird-days and up to 46 on ten September dates to the 26th which totalled 148 bird-days.

Great Skua *Stercorarius skua* **Sgiwen Fawr**
Uncommon sometimes Scarce and more regular in autumn
Earliest 4th April 2015 (31st July 2018) **Latest** 15th November 2015 (8th October 2018)

There was no spring record for the first time since 2013. One off the Lighthouse on 31st July was thus the first of the year, five days earlier than the first of last autumn but later than one on the 7th in 2016 and one on the 13th in 2015. The August bird-days total proved the sixth highest on record.

Singles on the 18th, 20th, 24th, 27th and 30th produced the highest August total since the seven of 2013; the last of the month was a rare over land sighting which flew north across the Island before looping over the Knoll and heading back southwest (above photograph, KW *et al*.). Following one on the 8th and two on the 14th, there were sightings on eight consecutive days from 18th September, including highs of five on the 18th, 22nd and 23rd; a September bird-days total of 30 was higher than that logged in any month to date, topping the 26 of September 2011, whilst the peak daycounts matched those made in 2013, 2004 and 1987 as the third highest, only down on the seven of 2nd September 1983 and the 14 of 28th September 1978. Singles on the 2nd and 8th October were the last of the year; prior to 2018 there had only been 39 October bird-days logged, with three last year and highs of six in 1989 and 1970.

Pomarine Skua *Stercorarius pomarinus* **Sgiwen Frech**
Rare 25 previous records totalling 36 birds
Earliest 28th April 1997 (17th May 2018) **Latest** 16th October 1987

A pale morph was watched from Skomer as it flew along Skokholm's west coast on 17th May (MW); although down on the two singles logged in both 2017 and 2016, this was otherwise the first since 2003. Of the 37 birds now recorded in Skokholm waters, eight have occurred in August and 13 in September, whilst May is the most productive spring month with seven birds logged (albeit courtesy of the record Skokholm daycount of five made on the 28th in 1981).

Arctic Skua *Stercorarius parasiticus* **Sgiwen y Gogledd**
Uncommon sometimes Scarce and only recorded in five seasons between 2004 and 2014
Earliest 9th April 1996 (1st August 2018) **Latest** 26th October 1967 (26th September 2018)

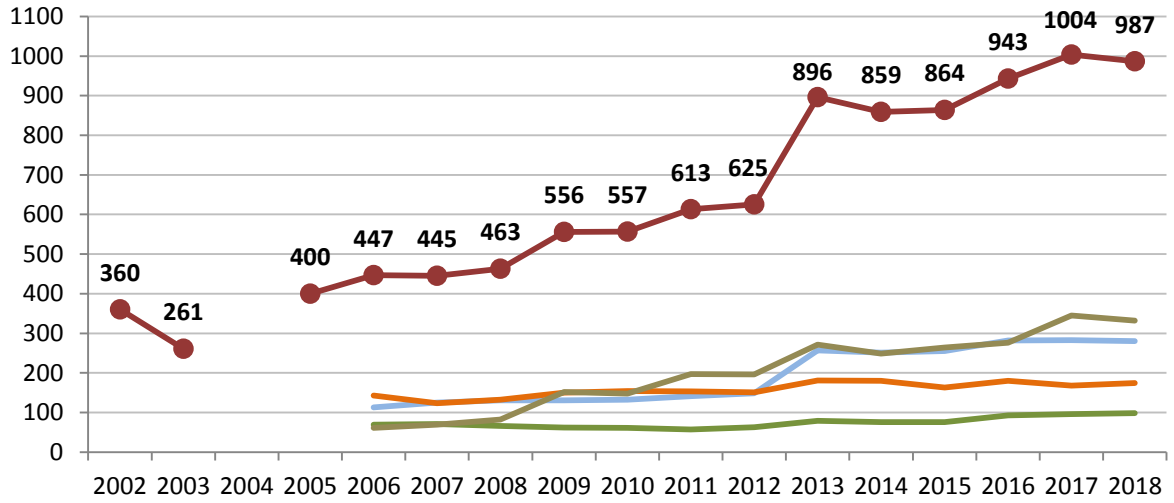
There was no spring record for the first time since 2014. A pale second-summer type bird heading west off the Lighthouse on 1st August was thus the first of the year. There followed a single on the 16th, three on the 18th and further singles on the 19th and 20th, the latter of which rested on the sea off the Lighthouse following a period of chasing Kittiwakes. A final single on the 26th took the August bird-days total to eight, equalling the third highest August total to date and only down on the nine of 2015 and the 15 of 1957. There were further sightings on six September dates between the 9th and the 26th, all singles bar two on the 21st and three the following day. Although the peak daycount matched last year, a total of nine September bird-days was well down on the 21 of 2017 and the all-time highs of 50 in 1980 and 67 in 2004 (the latter of which came courtesy of a remarkable record daycount of 63 on the 5th).

Guillemot *Uria aalge* **Gwylog**
Abundant Breeder
1 pullus trapped, 1 control
1936-1976: 1023 trapped, 2013-2017: 3 pulli trapped, 16 controls

Although a full complement of Guillemot were seemingly present upon the 6th March return of staff, along with a similar number the following day, there were no birds logged at all between the 8th and 10th. Despite high counts of 3328 on the 16th and 3159 on the 21st, there were a further seven March dates without a record and five dates with fewer than 32 birds logged. Customary departures for the sea continued in April, with no birds seen at all on eight dates and eight further counts of 290 or less before the end of the month, including 68 on the 25th which was the last significant pre-breeding departure (16 mass departures was three more than logged in April 2017, 2016 and 2015 but three fewer than in 2014 and 2013). Although a bird was probably incubating at North Gully from 1st May, the first egg to be seen in 2018 was at Twinlet on the 4th; the first egg of 2017 was on the early date of 29th April, the first of 2016 on 5th May, the first of 2015 on 2nd May and the first of 2014, following the prolonged storms and significant auk wrecks of the preceding winter, was on 15th May. Whereas

colony attendance continued to fluctuate during the first half of May in 2013 and 2014, the last four seasons have seen consistently high totals from early in the month.

The total number of adult birds in all six study plots 2002-2018 (as an average from ten visits) and the totals from the four largest plots (as an average from ten visits).



The six study plots were counted on ten dates between the 2nd and 11th June. The mean total from all plots was 987 adults on ledges; this was 1.7% down on the record total set last year but 24.9% up on the 2009-2018 mean (790.4 ±sd 181.68). An average of 13 fewer birds were on ledges at North Gully, an area which has seen remarkable growth from a ten visit mean of 61 birds in 2006 to 332 this year, whilst there were smaller declines of five birds at the slope to Purple Cove, four birds at Middlerock and three birds at Little Bay Point. Conversely there was a mean of six extra birds at Twinlet and two extra birds at Steep Bay. There are perhaps several factors influencing this apparent plateau in study plot numbers. At Twinlet and Middlerock the Razorbill counts have also stabilised, whilst Fulmar activity has increased to the point where eggs are lost during intraspecific encounters; it seems possible that Fulmars will halt any further expansion of auks along their current ledges and may even exclude birds from areas previously occupied. There are however Fulmar-free areas within the study plot boundaries seemingly suitable for colonisation by cliff nesting auks, although whether these will be selected over other non-study plot sites remains to be seen. The 2018 study period was dominated by high pressure, more so than in 2017 when three counts were delayed due to inclement weather; fine 2018 weather was perhaps responsible for consistent plot counts over the ten surveys and the lowest standard deviation recorded during the last six years. It is possible that some higher counts and thus the higher standard deviation observed last year were due to ameliorating rough weather encouraging more birds to the cliffs; the highest 2017 count occurred the day after a westerly near gale and the third highest count also followed a rough non-survey day.

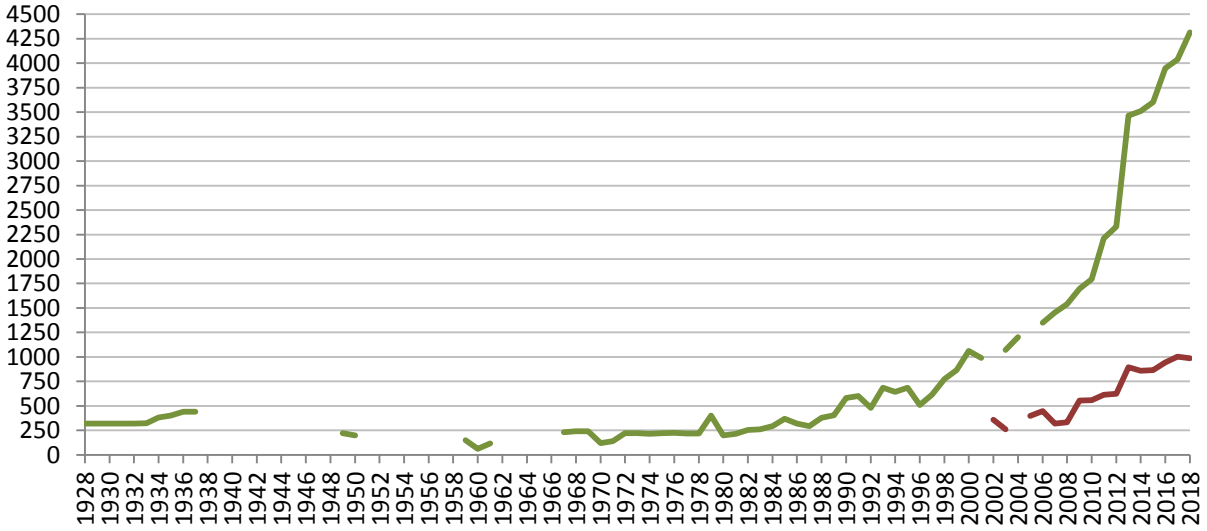
The whole Island totals, mean plot totals and the percentage of the Island totals made up of study plot birds 2009-2018. Also the range of plot counts since 2012 and the standard deviation observed over the ten plot visits since 2013. (*includes a boat-based count)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Island	1697	1795	2212*	2330	3466*	3512*	3603*	3949*	4038*	4316*
Plots	556	557	613	625	896	859	864	943	1004	987
Range				530-746	824-949	797-947	756-939	887-1003	939-1144	937-1060
±SD					39.20	54.25	58.30	40.25	57.45	37.38
Plot %	32.8	31.0	27.7	26.8	25.9	24.5	24.0	23.9	24.9	22.9

Whole Island counts were made from the land between the 4th and 10th June and calm seas allowed for a boat-based count on the latter date. Boat-based surveys allow some areas to be monitored

which cannot be viewed from on the Island and enable closer access to some areas which can normally only be viewed at a distance. A mean total of 4316 adults in suitable breeding habitat was a 6.9% increase on the 2017 count and the highest total yet recorded on Skokholm. Although down on the 2009-2018 average of 11.76% growth per year, the increase was the largest since 2015 and the fourth largest of the last ten years. The proportion of the whole Island count made up of study plot birds (22.9%) was down on the 2013-2018 average of 24.4%, perhaps suggesting that some of the factors influencing the more intensively studied plots (discussed above) are not impacting the whole Island population in the same way. Additionally the Island count is based on fewer visits and only one boat-based survey, meaning that the total is more likely to be further from the actual mean. As can be seen from the below map, the largest increase was, for a second consecutive year, observed along Near and Far Bays (162 more birds); the reason for such rapid growth in this area compared with the rest of the Island is unclear, although it may reflect the availability of previously unoccupied habitat. The second largest increase was observed around Little Bay where an additional 56 individuals reversed the apparent decline witnessed in 2017. The only sizable drop in numbers occurred around North Gully and the Jogs where a mean of 42 fewer adults on ledges was logged. These counts of individuals on ledges potentially include incubating adults, some of their partners, failed breeders, non-breeding adults and younger birds yet to breed; a correction factor is thus sometimes adopted to convert the count to an estimate of breeding pairs (Harris *et al*., 2015). A 2015 survey on Skokholm found the correction factor to be 0.64, a figure similar to the 0.67 widely adopted in previous studies (see the Skokholm Seabird Report 2015); the latter correction factor predicts the Skokholm breeding population to be in the region of 2892 pairs.

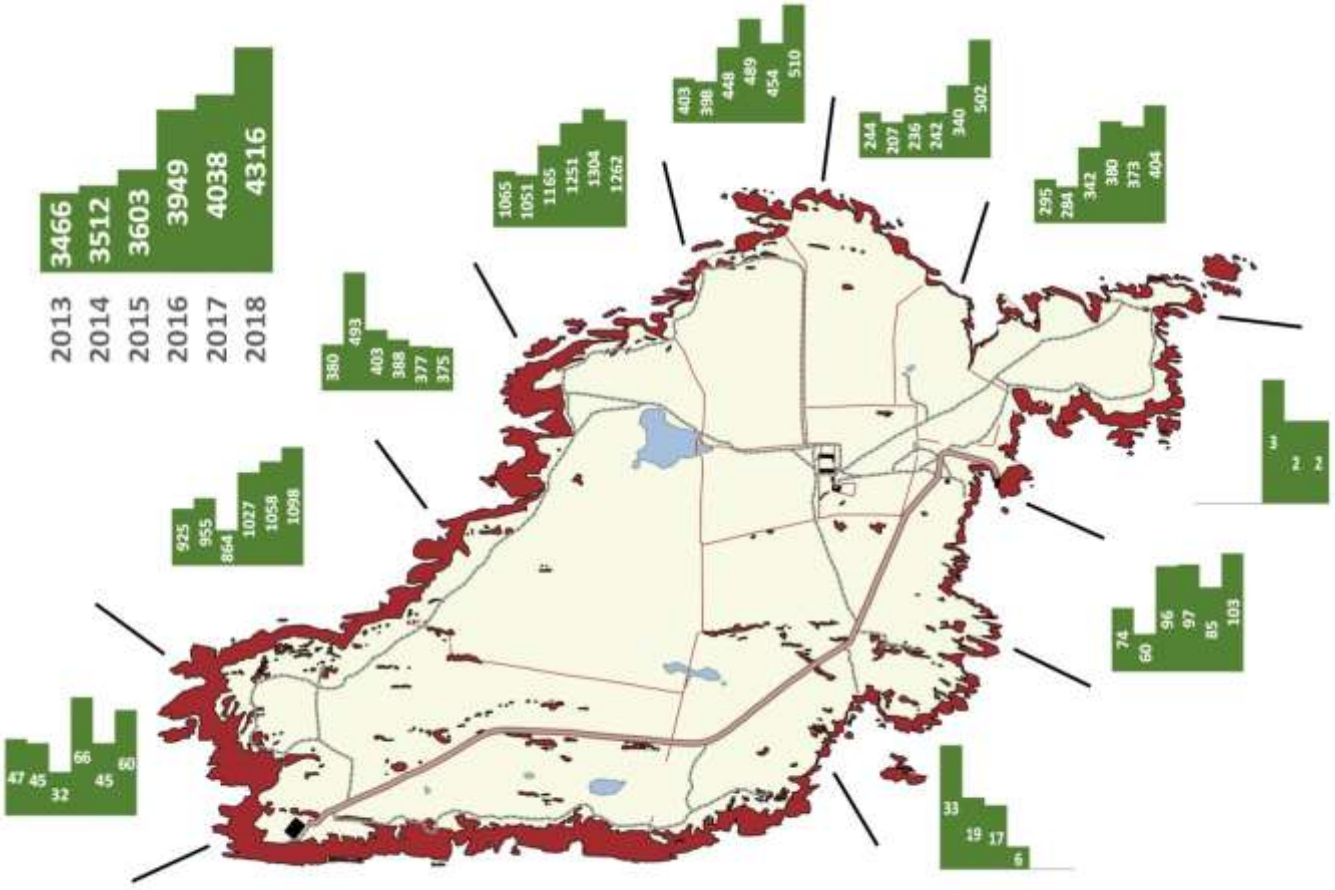
The total number of Guillemots (adults on ledges) recorded on Skokholm since 1928 and the number of birds within the study plots since 2002.



The first chick to be seen this season was found at Little Bay on 4th June, two days later than the first of 2017 but two days before the first of 2016, three days before the first of 2015 and nine days before the first of 2014 (the year following the severe winter wrecks). Productivity, calculated at between 0.55 and 0.61 chicks per pair in 2013 and 0.6 in 2007, was not assessed in 2018 in accordance with recommendations from the Islands Conservation Advisory Committee. Chicks were jumping from mid-June and the number of adults recorded in the three regularly monitored plots dropped steadily from 580 on the 16th to 390 on the 30th. There was a typical late spike in numbers on 29th June, an increase observed across the Island as a whole and which was seen to a lesser extent in the number of Razorbills present. Something of an exodus between the 6th and 8th July saw the plot total drop to just 193 adults. Following another spike in numbers on the 9th, counts fell sharply to 143 on the 11th, 92 on the 13th (92 on the 9th in 2017) and 17 on the 16th (16 on the 14th in 2017). The last birds had left Guillemot Cliff by the 14th (the 5th in 2017), Middlerock by the 17th (the

9th in 2017) and North Gully by the 20th (the 17th in 2017); this was the fifth year running in which birds were later to depart from North Gully, although this may in part reflect the larger breeding population at this site. The four birds occupying North Gully ledges on 19th July were three days later than the last of 2017, two days later than the last of 2016 and one day later than the last of 2015, albeit three days earlier than the last of 2014. Whole Island counts mirrored those made at the plots, with four at the Neck on 20th July the last to be seen ashore (18th July in 2017, the 23rd in 2016, the 25th in 2015 and the 24th in 2014). There were daily sightings at sea until the end of the month, totalling 276 birds, and in August there were records on 24 dates, totalling 3841 individuals and with peaks of 316 on the 18th, 1414 on the 20th and 475 on the 24th; these were by far the highest August totals to date, with a daycount of 70 and a monthly total of 178 being the previous maximums (although a boat trip four miles offshore during August 2017 revealed hundreds of rafting birds).

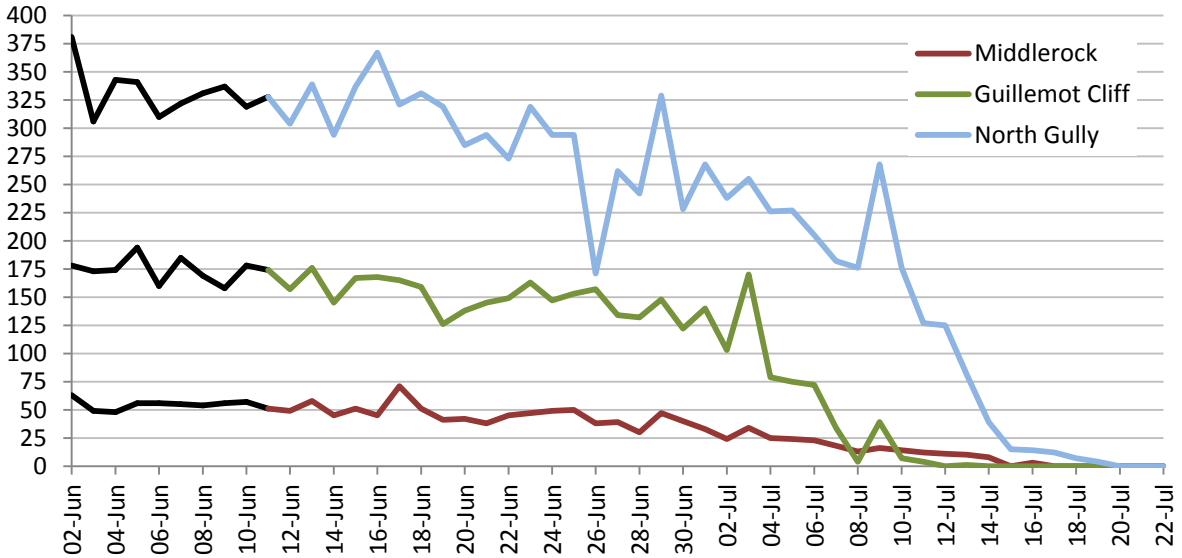
The distribution of Guillemots on suitable breeding ledges 2013-2018.



September counts were also much higher than is typically the case, with records on all but two dates totalling 1419 birds and with highs of 319 on the 8th, 113 on the 14th, 133 on the 22nd and 123 on the 24th; the monthly total was the highest yet to be logged in September and the peak daycount was only down on the 362 logged on the 24th in 2014, well up on the 2017 peak of 27. Feeding close to the Island proved not without its perils, with a Great Black-backed Gull watched eating a chick on the 9th. Observations on 12 October dates also produced record totals in what was a remarkable autumn for sightings of this species; a peak daycount of 33 on the 8th topped the previous October record of 30 logged in 1993 and 1981 and the monthly total of 109 topped the 106 logged in 1973. However the 479 distant, unidentified auks logged during the same period, although up on the 131 of last year, was well down on the 2055 of 2016. There were sightings on all but five November dates prior to the departure of staff on the 26th, with highs of 279 on the 9th, 360 on the 11th and 327 on the 16th

contributing to a monthly total of 1819 birds; the only higher November counts were in 2015 when a peak of 790 contributed to a monthly total of 1944.

The number of adults on ledges within three of the plots (standard study period in black).



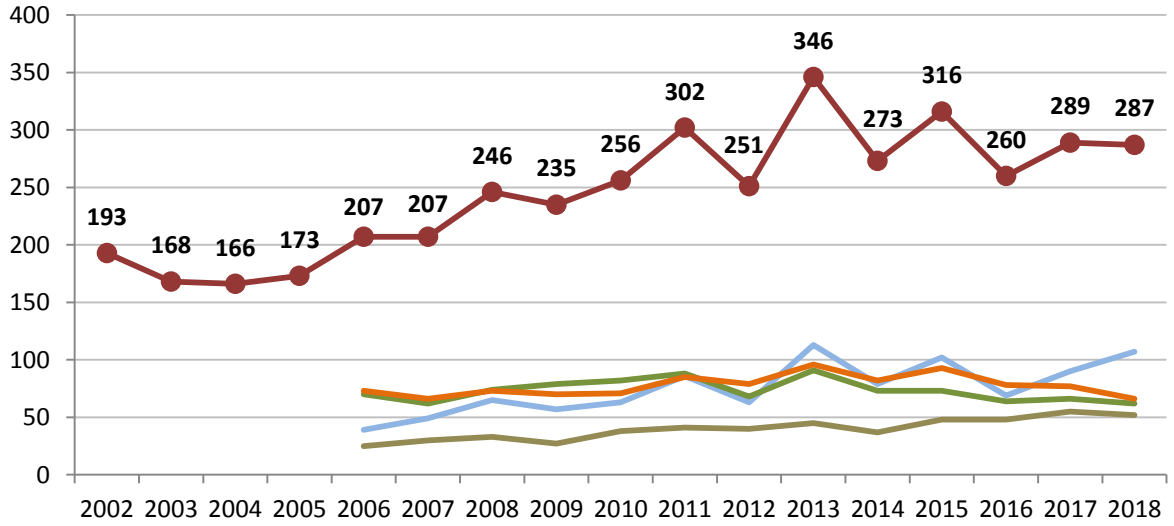
Although a return of Guillemots to the breeding ledges in early winter is to be expected, there was no record of this behaviour on Skokholm between 2000 and 2014, despite the fact that staff did not depart until 24th November in 2014 and 16th November in 2013. Although November 2015 saw up to 540 birds return to the cliffs over five dates and 2016 saw up to 216 birds, again on five dates, there were no 2017 landings prior to the 9th November staff departure. This season saw between four and 315 birds return to the cliffs on 11 dates between the 6th and 25th, all at the Jogs with the exception of the 22nd when three were also at Twinlet. Such a return to the colony outside of the breeding season, with the risk of being predated, must have a substantial benefit; it has been suggested that the return may be to secure the best breeding ledges and thus secure the best mate (Harris *et al.*, 2006), but birds ashore may also use less energy than those at sea (Humphreys *et al.*, 2007).

Ringing recovery blue darvic with white 0292
Originally ringed as a pullus, THE AMOS, SKOMER ISLAND, PEMBROKESHIRE June 2016
Recovered SKOKHOLM 7th June 2018
Finding condition Colour ring only in Great Black-backed Gull nest
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 717 (approximately)

Razorbill *Alca torda* **Llurs**
Abundant Breeder
44 trapped (including 40 pulli), 1 control
1936-1976: 9220 trapped, 2013-2017: 153 trapped, 4 retrapped, 3 controls

Despite 13 dates from the 6th with fewer than 60 birds logged, the average March daycount was the highest on record; although only fractionally up on 2016 and 2015, the mean was 226.3% up on that of 2014 (the year following the winter wrecks). There were peak counts of 2331 on the 13th, 3712 on the 16th and 2622 on the 21st, the latter two of which became the highest March daycounts on record. By contrast April was quiet, with ten dates when fewer than 80 birds were logged, this compared with only two such dates in 2017. The peak counts of 1612 on the 4th and 1360 on the 8th were well down on an April 2017 peak of 2100 and the April record of 2745. Nevertheless a bird was apparently incubating on Guillemot Cliff on the 25th and an egg was confirmed there the following day, this the same date as the first of 2017, one day earlier than in 2016 and 2015 but 17 days earlier than the first of 2014 (probably again a consequence of the winter storms preceding that breeding season). Laying early potentially comes at a price; an incubating bird at the Quarry on the 28th was the only bird left during an auk exodus, this on the same date as a Raven was watched taking an egg.

The total number of adult birds in all six study plots 2002-2018 (as an average from ten visits) and the totals from the four largest plots (as an average from ten visits).



Six study plots, established in 2002, were visited on ten dates between the 2nd and 11th June when every adult in suitable breeding habitat was counted. The mean single visit total of adults on ledges was almost identical to that logged last year, with an average of 287 being only 0.7% down on the 289 of 2017 and the fifth highest plot count on record, 1.2% down on the 2011-2018 mean (290.6 ±sd 30.8). There was an average of 17 more birds logged at Little Bay, with a total of 107 the second highest to be recorded at this site (only down on the 113 of 2013); this 18.9% increase masked declines in the other three main plots. At Middlerock the mean dropped from 66 to 62 and at Guillemot Cliff it dropped from 77 to 66; both totals are notable as equalling the lowest means yet recorded at these sites, matching those observed in 2007. The North Gully mean dropped from 55 to

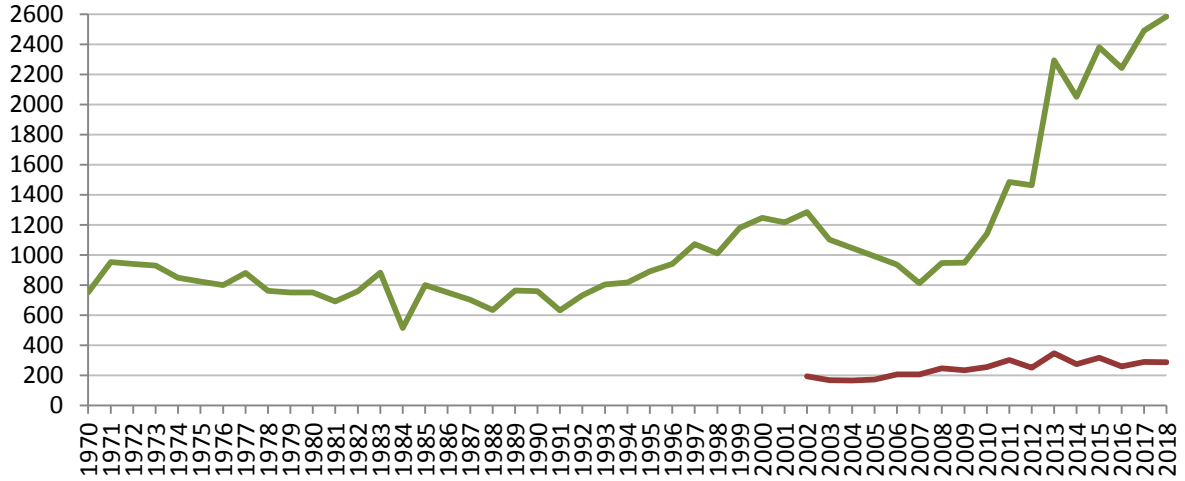
52, however the total remained the second highest on record, only down on 2017. Why some study plot counts have declined in recent years is not wholly clear; although the 2013-2014 winter wrecks may still be taking their toll, another possible factor is that the study plots, particularly those at Middlerock and Guillemot Cliff, are areas shared with both Guillemots and (perhaps more importantly) Fulmars, species currently increasing on Skokholm as a whole. The number of apparently incubating Fulmar in the Middlerock and Guillemot Cliff plots has almost doubled since 2013, perhaps leading to competition with Razorbills for space within the confines of the plot boundaries. The plot counts are affected by the weather in some years; in the unsettled June of 2012 the totals fluctuated between 164 and 338 birds whereas the 2017 totals, made during a period with fewer rough non-survey days, fluctuated between 253 and 334. A prolonged period of high pressure during 2018 coincided with the tightest spread of totals and the lowest standard deviation of the last six years, with a low count of 263 and a high of 309 (see table below).

Whole Island counts were made from the land between the 4th and 10th June and a boat-based count was made on the latter date. This was the sixth year running that access to a boat had been available, inevitably leading to higher but more accurate whole Island counts; in 2012 rough seas meant that there was no opportunity for a boat-based count and it was concluded that 'there remains a section of north coast that was missed, while other parts of the north coast and Bluffs were counted less accurately at a distance' (Gillham and Yates, 2012). A 2018 whole Island total of 2585 adults in suitable breeding habitat was 3.8% up on the 2491 logged in 2017 and the highest total yet recorded on Skokholm (35.4% up on the 2009-2018 mean of 1908.5 ±sd 595.15). The period of rapid population growth witnessed in recent years has seemingly slowed, perhaps linked in part to the winter wrecks of 2013-2014 which in Pembrokeshire impacted this species more than any other.

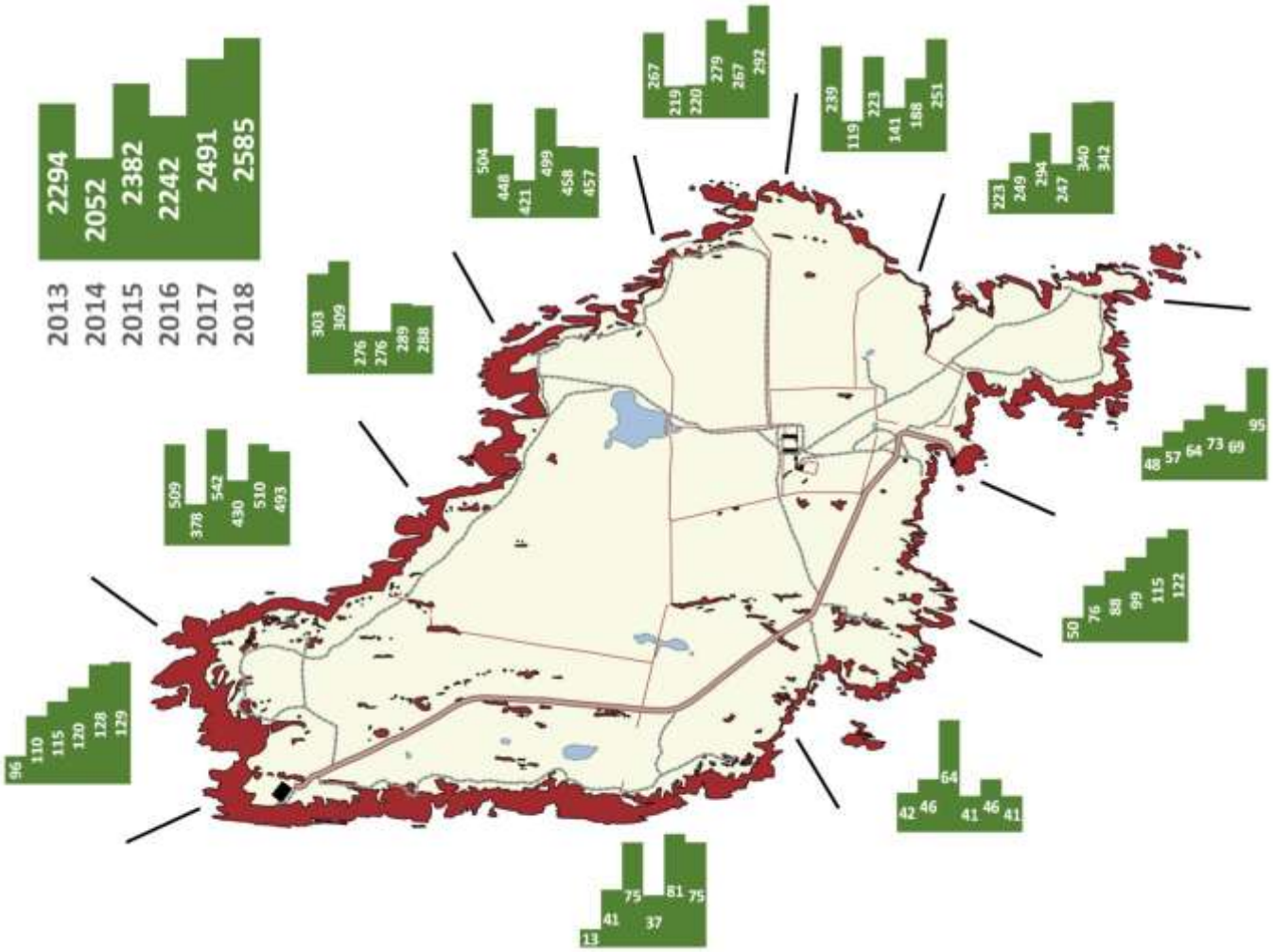
The whole Island totals, mean plot totals and the percentage of the Island totals made up of study plot birds 2009-2018. Also the range of plot counts since 2012 and the standard deviation observed over the ten plot visits since 2013. (*includes a boat-based count)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Island	950	1140	1486*	1463	2294*	2052*	2382*	2242*	2491*	2585*
Plots	235	256	302	251	346	274	316	260	289	287
Range				164-338	301-397	254-315	291-346	236-324	253-334	263-309
±SD					30.54	19.96	15.78	26.58	25.61	13.25
Plot %	24.8	22.5	20.3	17.2	15.1	13.4	13.3	11.6	11.6	11.1

The total number of Razorbills (adults on ledges) recorded on Skokholm since 1970 and the number of birds within the study plots since 2002.



The distribution of Razorbills on suitable breeding ledges 2013-2018.



The proportion of the whole Island total made up of study plot birds was the lowest since the plots were initiated in 2002, suggesting that the plot limiting factors outlined above, particularly the competition for space in and around Twinlet, are not affecting the Island as a whole. As can be seen from the map above, the largest increases came along Near and Far Bays (63 more birds), along the south coast of the Neck (26 more) and at Little Bay (25 more); two of these areas are the same as

those which saw the largest increases in Guillemot numbers. The largest decline occurred around the Bluffs, with a mean of 17 fewer visible adults, however this area is the most problematic to survey on Skokholm with a complex landscape of boulders complicating the counts.

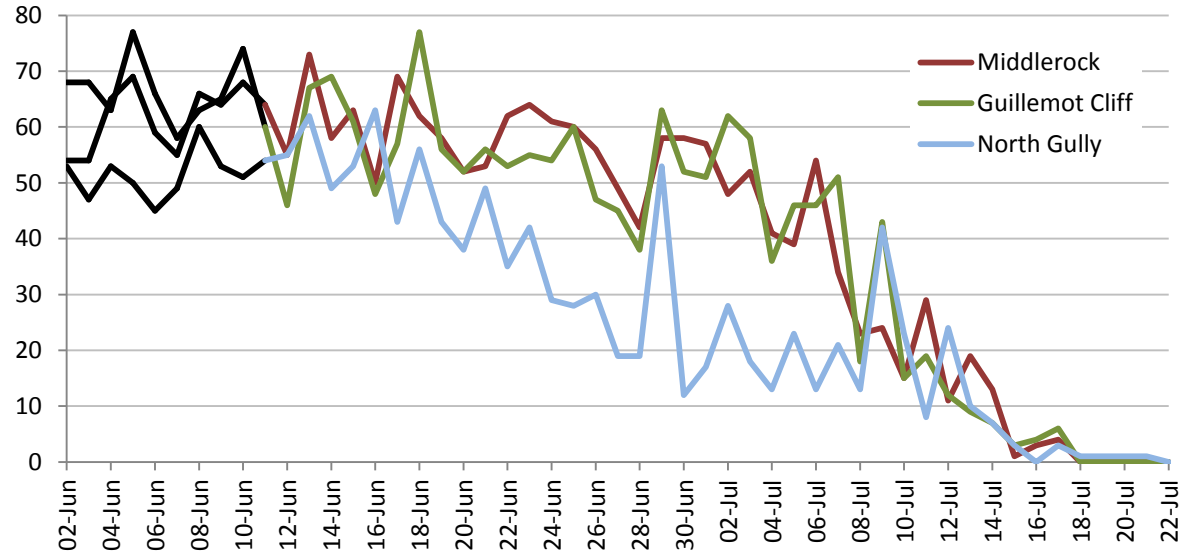
Productivity monitoring was undertaken for a sixth year running. There are currently concerns among ICAC members that recent Pembrokeshire productivity estimates have been quite low (on Skokholm ranging between 0.21 in 2015 and 0.66 in 2013), perhaps lower than what actually occurred given the continued growth of the population and certainly too low to maintain the expansion. One explanation for low productivity estimates could be that the plots, particularly the exposed Neck plot where predation levels are often very high, are not representative of the Island as a whole. With this in mind an additional cliff plot was established in 2017 and was again used this year. There were thus three survey areas, one a cliff below the Neck Razorbill Hide where 28 incubating pairs were located by 15th May, one at North Gully where 29 pairs were located by 27th May and one a site among the Bluffs boulder slope where 48 egg sites were marked on 19th May.

At the Neck there were four failures at egg stage; one of these went missing prior to the hatching period, one was abandoned in a puddle prior to the hatching period and two, perhaps damaged or infertile eggs, were abandoned when most other pairs had large chicks. Remarkably there were no failures during chick rearing, meaning that 24 young reached jumping age at the Neck. The resulting productivity figure of 0.86 is the highest to be observed at this site, well up on the 0.14 recorded in 2017 (there were 0.03 jumplings per pair in 2016, 0.17 in 2015, 0.36 in 2014 and 0.77 in 2013). The new cliff site at North Gully saw six failures at egg stage prior to the hatching period and five failures at chick stage, all of which went missing; predation by gulls was suspected as the reason for chick stage failures. The resulting productivity value of 0.62 jumplings per pair was fractionally up on the 0.58 logged at this site in 2017. The combined productivity value for cliff nesting pairs was 0.74, a figure only exceeded by the 0.77 of 2013.

Among the Bluffs boulders six pairs failed at egg stage, with two of the eggs found abandoned rather than disappearing. A further six pairs failed with either eggs or small chicks and seven pairs failed with chicks (one of which was found dead and abandoned rather than going missing). There were 29 pairs which produced a jumping-sized chick; the resulting productivity value of 0.60 jumplings per pair was up on the 0.48 of 2017, the 0.29 of 2015, the 0.44 of 2014 and the 0.55 of 2013 but down on the 0.74 logged in 2016. For a sixth year running the last of the breeding attempts within the boulders were concluded before the last of the attempts on the cliffs; this perhaps reflects a tendency for large chicks among the boulders to move away from the egg site, whilst cliff chicks have little room for movement.

Combining the productivity figures for the cliff plots and the boulder plot to give an indication of overall productivity on Skokholm can be achieved in two ways, either by averaging the final values obtained for the three sites, as recommended in the Seabird Monitoring Handbook (Walsh *et al.*, 1995), or by combining all the data from the three plots (that is to say by dividing the total number of jumplings at all sites by the total number of monitored sites). The former, preferred, technique produces a productivity estimate of 0.69 jumplings per pair and the latter 0.68; this is the highest estimate of the last six years, up on the 0.40 of 2017, the 0.39 of 2016, the 0.21 of 2015, the 0.40 of 2014 and the 0.66 of 2013.

The number of adults on ledges within three of the plots (standard study period in black).



For a fifth year running counts at three of the study plots were continued beyond the normal study period to ascertain the pattern of colony attendance during the remainder of the breeding season (see chart above). There were again fluctuating numbers in all three subcolonies and regular peaks when the totals were presumably augmented by the return of failed adults, successful females or non-breeding birds; interestingly these peaks were again broadly consistent between subcolonies, and to a lesser extent coincided with Guillemot arrivals, suggesting that the returning birds respond to the same environmental cues. The first jumpling had departed the productivity plots by 22nd June, the same date as in 2016, two days later than last year and four days earlier than in 2015. Whereas all but one productivity chick had departed by 3rd July in 2017, seven chicks (6.7%) were still present on the 7th this year; the 2018 jumping period extended later than that observed in the previous two years, but was earlier than in the late 2014 season when 40% of young remained on 7th July. The number of adults within the plots dropped steadily during the month, with only double-figure counts logged from the 10th (11th July in 2017, the 14th in 2016, the 8th in 2015 and the 17th in 2014) and single-figure counts from the 18th (the 22nd in 2017, the 25th in 2016, the 22nd in 2015 and the 27th in 2014). Elsewhere there were still three birds present ashore on 24th July, the date which in the

previous three years had seen the last adults on cliffs; two of the birds remained until the 27th and one until 2nd August, two days later than the last of the late 2014 season.

There were records of birds at sea on a further 18 August dates, totalling 388 birds and with highs of 114 on the 20th, 75 on the 21st and 39 on the 24th; both the August total and maximum daycount were all-time highs, up on the August 1962 total of 108 which included a daycount of 50. Although down on the record totals logged in 2017, when a peak daycount of 1148 contributed to a monthly total of 1708, September counts were again high. There were sightings on 23 September dates, totalling 575 birds and with peak daycounts of 67 on the 8th, 72 on the 18th and 127 on the 23rd; the monthly total was the third highest on record and the maximum daycount the eighth highest. Subsequent counts were more typical, with 179 birds logged over 14 dates in October and 198 over ten dates in November; no birds were seen to return to the breeding ledges. Further large auks were present at sea during the autumn but they remained unidentified due to their distance from the Island; there were 2613 in September, 479 in October and 1065 up until 26th November.

Ringing recovery M93635
Originally ringed as a chick, SKOMER ISLAND, PEMBROKESHIRE 24th June 1999
Recovered SKOKHOLM 27th April 2018
Finding condition Metal ring read in field
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 6882

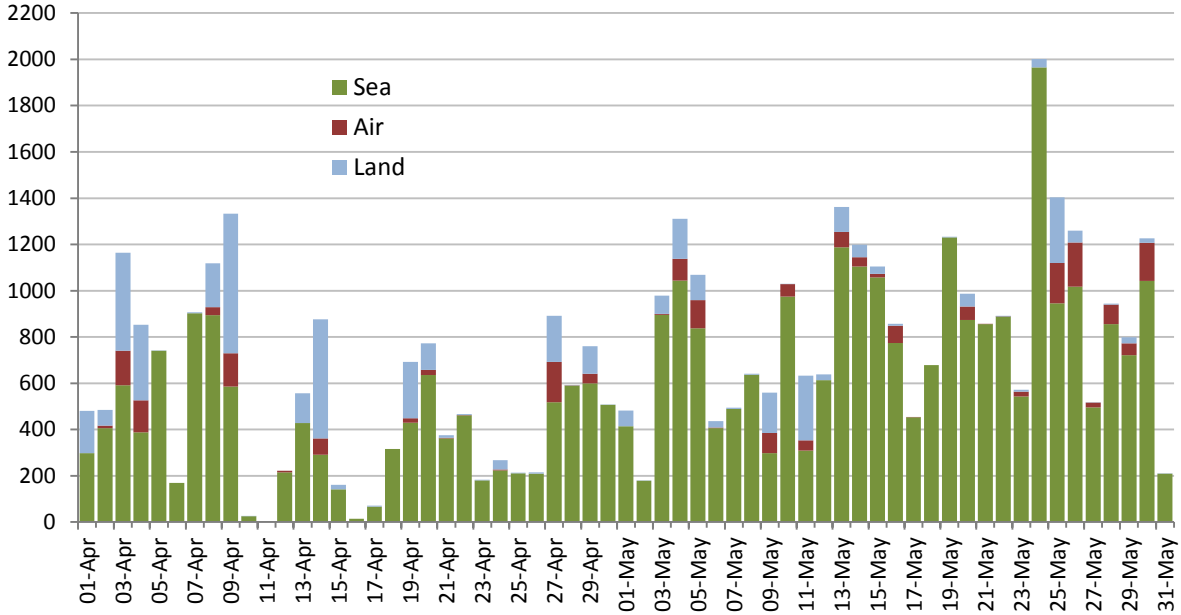
Puffin *Fratercula arctica* **Pâl**
Very Abundant Breeder
53 trapped (including 5 pulli), 4 retrapped
1936-1976: 5411 trapped, 2011-2017: 497 trapped, 17 retrapped, 1 control

A minimum of 46 birds rafting along the north coast on 16th March were two days later than the first of last year; although earlier birds have been seen in 12 previous years, and the first of the year has been noted on the 16th in a further six, there have only been more birds logged by this date in two years (2017 and 2012). Although down on the 9164 of last year and the 12074 of 2012, the March total of 7980 proved the third highest since 1960. The bulk of the March total was made up of raft counts of 1302 on the 21st, 3445 on the 22nd and 1766 on the 30th, with the largest count including at least 28 birds ashore in Peter's Bay; a 22nd March landfall was one day earlier than the first of last year and between nine and 15 days earlier than in the four years prior to that, but two days later than in 2012. April counts varied dramatically with highs of 2728 on the 8th, 6656 on the 9th and 2976 on the 14th, but lows of 249 on the 6th, 48 on the 10th, nine on the 11th and 28 on the 16th. The 9th April peak was the second highest April total since daycounts of 10000 were logged in 1953 and 1950, only down on the 6692 of 13th April 2016. A Raven was watched as it caught and killed a Puffin above North Haven on 20th April; this was the first time that such an attack has been witnessed on Skokholm for at least six years. Daily counts were again made from around the Neck each evening, from 1st April until 31st May, to record the pattern of colony attendance (see chart below).

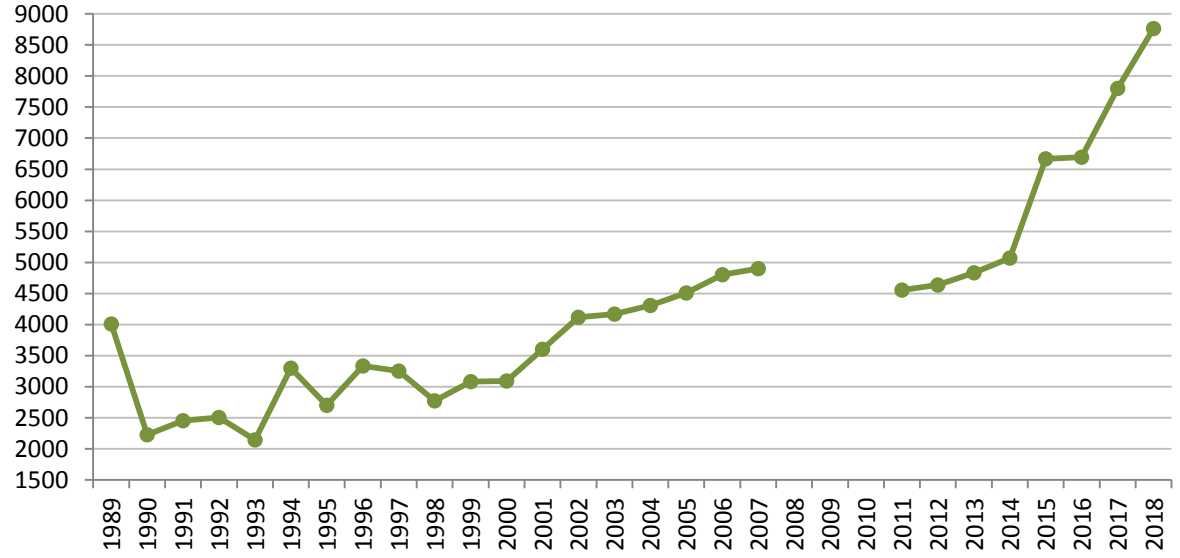
The maximum whole Island count coincided with the highest count from the Neck for the fourth year of the last five. A whole Island total of 8762 logged on 24th May (with 3882 birds to the south and 2878 to the north, in addition to the Neck count), was 12.3% up on the 2017 total and the highest spring count since the early 1950s; numbers are however still well down on Lockley's pre-War spring estimates of approximately 40000. Although the whole Island counts provide a relatively consistent long-term method for monitoring the trend in numbers, how the totals reflect the Skokholm breeding population is difficult to ascertain. The Crab Bay count for the evening of 24th May was 1052 birds, however more focused monitoring at this site revealed a study population of 61 burrows in an area which comprises approximately 10% of the colony and where less than half of the

active burrows in that area were study burrows; thus we might predict a very rough minimum of 1220 pairs for Crab Bay (as active burrow distribution is apparently quite even) and expect more than twice the number of birds to be using this area of sea than were logged during the peak whole Island count. Ad hoc evidence of colony expansion came from the north coast where Puffins were occupying burrows to the inland side of the coastal path for the first time in recent memory.

The number of Puffins seen from the Neck between 1st April and 31st May 2018. The transect again began from a line due north of North Haven and finished at Peter's Bay. The counts on the 1st, 6th and 7th May were severely impacted by the weather.



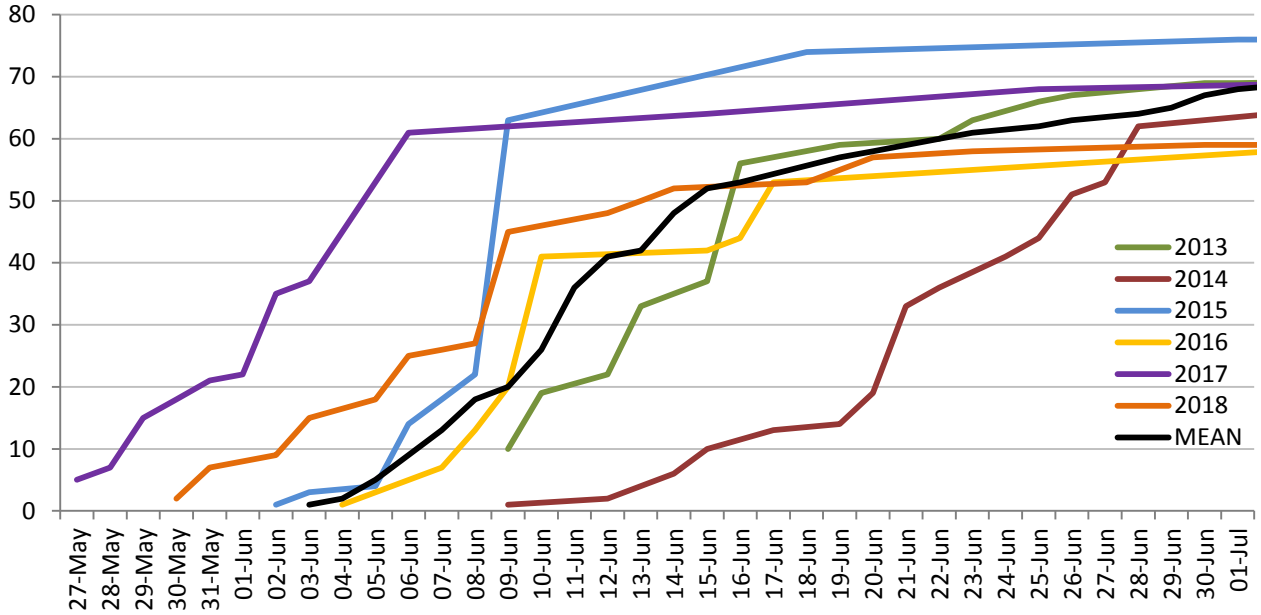
The maximum Puffin daycount recorded each spring during the period 1989-2018.



A productivity plot established at Crab Bay in 2013 was used for a sixth season. The majority of the 100 burrows individually numbered in 2013 were again used this year, although a small number of posts were repositioned due to either winter losses or subsequent excavations making it difficult to tell which hole was marked. Of these, 61 were seen to be occupied and were visible throughout the season (69 in 2017); productivity estimates are based on observations of these burrows. Two active burrows (3.28%) were not seen to be provisioned with fish and it is assumed that these failed at egg stage (5.80% in 2017, 7.58% in 2016 and 5.00% in 2015). The first fish delivery witnessed anywhere

this year was on 21st May (24th May in 2017, 29th May in 2016, 31st May in 2015, 3rd June in a post-wreck 2014 and 30th May in 2013), but it was not until 30th May that fish were seen to be brought to the study plot (see below graph for first plot delivery dates logged in previous years). The cumulative total of provisioned burrows was slightly slower to accrue than during the very early 2017 season, although the tally remained approximately four days ahead of the six year mean. The 2018 chick feeding period was approximately two weeks earlier than in 2014, the breeding season which followed the most severe winter storms recorded during this study.

The number of study burrows which had been provisioned with fish by a particular date.



Although the study plot was visited for a minimum of one hour every day, it certainly cannot be assumed that the first and last fish provisioning was seen for each burrow. Indeed the daylight hours Puffin watches highlight how some burrows are provisioned infrequently (see table below). Additionally it proves difficult to standardise ad hoc recording effort between years. It was thus decided in 2016 that a three visit method would be used to calculate productivity on Skokholm, but that five visits and ad hoc records would still be collected to allow further comparisons to be made in the future (see below table and the 2016 Seabird Report for more details). This is more in line with the Seabird Monitoring Handbook (Walsh *et al.*, 1995) which states that, when monitoring Puffin productivity in colonies where the nest is inaccessible and the colony is shared with Manx Shearwaters, the most appropriate technique is 'When birds are feeding large chicks, make a few watches to determine which burrows/crevices have fish taken down them'. Establishing which burrows contain large chicks is inevitably the main issue with this technique, necessitating earlier watches to detect chick hatching dates.

Puffins can fledge having spent a minimum of 34 days as a burrow-bound chick, although this is more typically 38 days and can be anything up to 60 days (Ferguson-Lees *et al.*, 2011). A flaw with the three visit technique is that some chicks could potentially be counted as fledged when they had reached as little as 18 days old. However it would be incorrect to assume that only those provisioned on all three watches went on to fledge as early hatchers could potentially have departed by the third watch whilst others may have hatched after the first watch. Although this three visit technique is more standardised than the ad hoc recording, the 2013 to 2018 productivity estimates of between 0.73 and 0.80 fledglings per pair certainly include birds which did not fledge. For example a bird counted as fledged last year was known to die of an apparent eye injury at approximately 25 days old, whilst this year larger chicks were seen to be taken by Great Black-backed Gulls. Nevertheless this more standardised monitoring method suggests that 2018 productivity was in line with recent

years, indeed it matched the six year mean. If the ad hoc records are included and it is assumed that a chick seen to be provisioned for 31 days or more was of fledging size, then the 2018 data suggests that, of the 61 monitored breeding attempts, perhaps as few as 34 (55.7%) were potentially successful (56.5% in 2017, 63.6% in 2016, 55.0% in 2015, 50.0% in 2014 and 49.4% in 2013), although at least 47 attempts saw a chick reach a minimum of 26 days (77.0%, see table below).

Calculating productivity using only three daylight watches. The first watch was between the 6th and 28th June (dependent on the date of first fish delivery that year), the second between 25th June and 8th July and the third between the 12th and 24th July. Chicks are assumed to have fledged if fed on a minimum of two watches. Ad hoc productivity is based on a chick reaching 31 days.

	First fish in plot	Last fish in plot	Fed watch 1 & 2	Min. chick age	Fed watch 2 & 3	Min. chick age	Fed all 3 watches	Min. chick age	Prod. based on 3 watches	Ad hoc prod.
2018	30-May	30-Jul	20	22 (9/6 - 30/6)	11	18 (30/6 - 17/7)	15	39 (9/6 - 17/7)	**0.75** (46 of 61)	0.56
2017	27-May	30-Jul	33	20 (6/6 - 25/6)	6	18 (25/6 - 12/7)	16	37 (6/6 - 12/7)	**0.80** (55 of 69)	0.57
2016	04-Jun	13-Aug	7	16 (17/6 - 2/7)	3	13 (2/7 - 14/7)	38	28 (17/6 -14/7)	**0.73** (48 of 66)	0.64
2015	02-Jun	05-Aug	16	14 (18/6 - 1/7)	2	12 (1/7 - 12/7)	42	25 (18/6 -12/7)	**0.75** (60 of 80)	0.55
2014	09-Jun	06-Aug	14	11 (28/6 - 8/7)	4	17 (8/7 - 24/7)	38	27 (28/6 -24/7)	**0.74** (56 of 76)	0.50
2013	09-Jun	14-Aug	11	15 (16/6 - 30/6)	6	14 (30/6 - 13/7)	39	28 (16/6 -13/7)	**0.73** (56 of 77)	0.49

The number of days between first and last observed chick feeding based on ad hoc recording and five daylight hours watches.

Days	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-53
No. of burrows	3	1		5	3	13	12	6	7	9

The number of fish deliveries to known active burrows during five daylight watches.

No. of deliveries	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
No. of burrows 9 June		5	5	6	4	6	3	4	1	2	1				1
No. of burrows 20 June		6	5	8	7	8	5	5	2	2	2				
No. of burrows 30 June	3	9	13	7	11	6	2	1							
No. of burrows 7 July	3	10	7	3	4	8	3	2	2	2			1	1	
No. of burrows 17 July		8	2	4	3		2	1	2	1			1	1	

Whilst the above productivity estimates attempt to deduce the number of fledging-sized birds, fledging success is almost impossible to ascertain reliably. Puffin chicks are particularly vulnerable when exercising their flight muscles at the burrow entrance prior to fledging and when making the journey to the sea. Great Black-backed Gulls were seen patrolling within the colonies during the chick provisioning period and were regularly watched taking fledging-sized Pufflings; for example guests at Crab Bay saw seven Pufflings eaten on the morning of 11th July and five on the 17th (two of which were taken by Lesser Black-backed Gulls).

The five daylight hours watches (made on the 9th, 20th and 30th June and the 7th and 17th July), were also used to monitor kleptoparasitism by gulls. The study plot was again confined to the area of the 100 numbered burrow stakes at Crab Bay. On 9th June 701 Puffins arrived to the study area with fish and of these 19 (2.71%) were successfully robbed. On 20th June 852 birds arrived and 12 (1.41%) were robbed. On 30th June 527 birds arrived and eight (1.52%) were robbed. On 7th July 511 birds arrived and again eight (1.57%) were robbed. On 17th July 359 birds arrived and 33 (9.19%) were robbed. It should be noted that these figures do not take into account the number of fish lost to gulls at sea or on the approach to the colony.

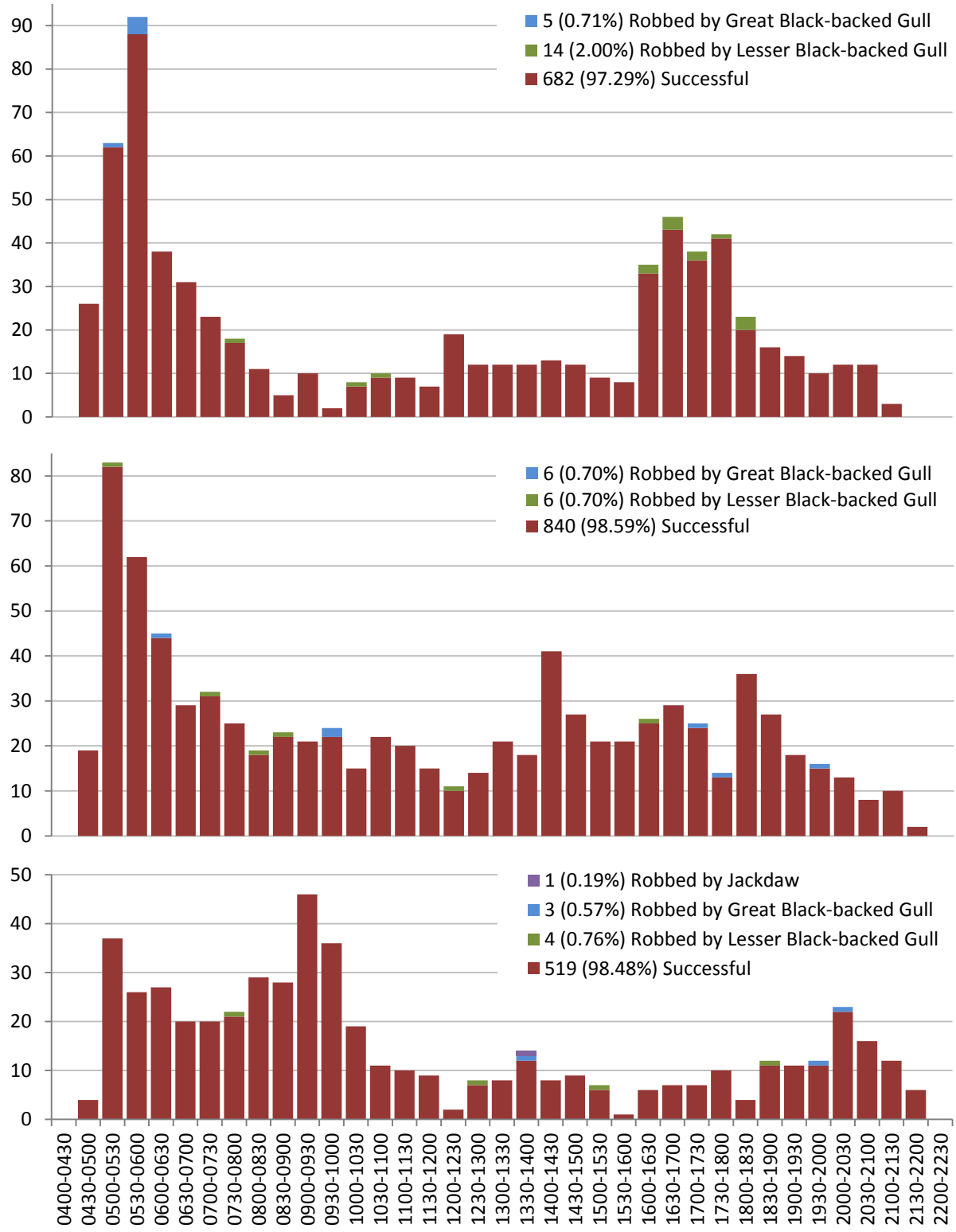
The number of fish deliveries made to the study plot during each daylight hours watch, the number of Puffins which lost fish over the plot and the percentage which lost fish.

		Watch 1	Watch 2	Watch 3	Watch 4	Watch 5	Total
2018	Number of deliveries	701	852	527	511	359	**2950**
	Number parasitised	19	12	8	8	33	**80**
	Percentage parasitised	2.71	1.41	1.52	1.57	9.19	**2.71**
2017	Number of deliveries	844	991	1100	527	177	**3639**
	Number parasitised	30	11	3	7	5	**56**
	Percentage parasitised	3.55	1.11	0.27	1.33	2.82	**1.54**
2016	Number of deliveries	421	733	889	489	525	**3057**
	Number parasitised	20	45	35	10	28	**138**
	Percentage parasitised	4.75	6.14	3.94	2.04	5.33	**4.51**
2015	Number of deliveries	699	927	916	521	123	**3186**
	Number parasitised	43	34	23	10	4	**114**
	Percentage parasitised	6.15	3.67	2.51	1.92	3.25	**3.58**
2014	Number of deliveries	262	513	643	670	179	**2267**
	Number parasitised	28	37	29	3	1	**98**
	Percentage parasitised	10.69	7.21	4.51	0.45	0.56	**4.32**
2013	Number of deliveries	413	684	610	107		**1814**
	Number parasitised	76	40	32	11		**159**
	Percentage parasitised	18.40	5.85	5.25	10.28		**8.77**

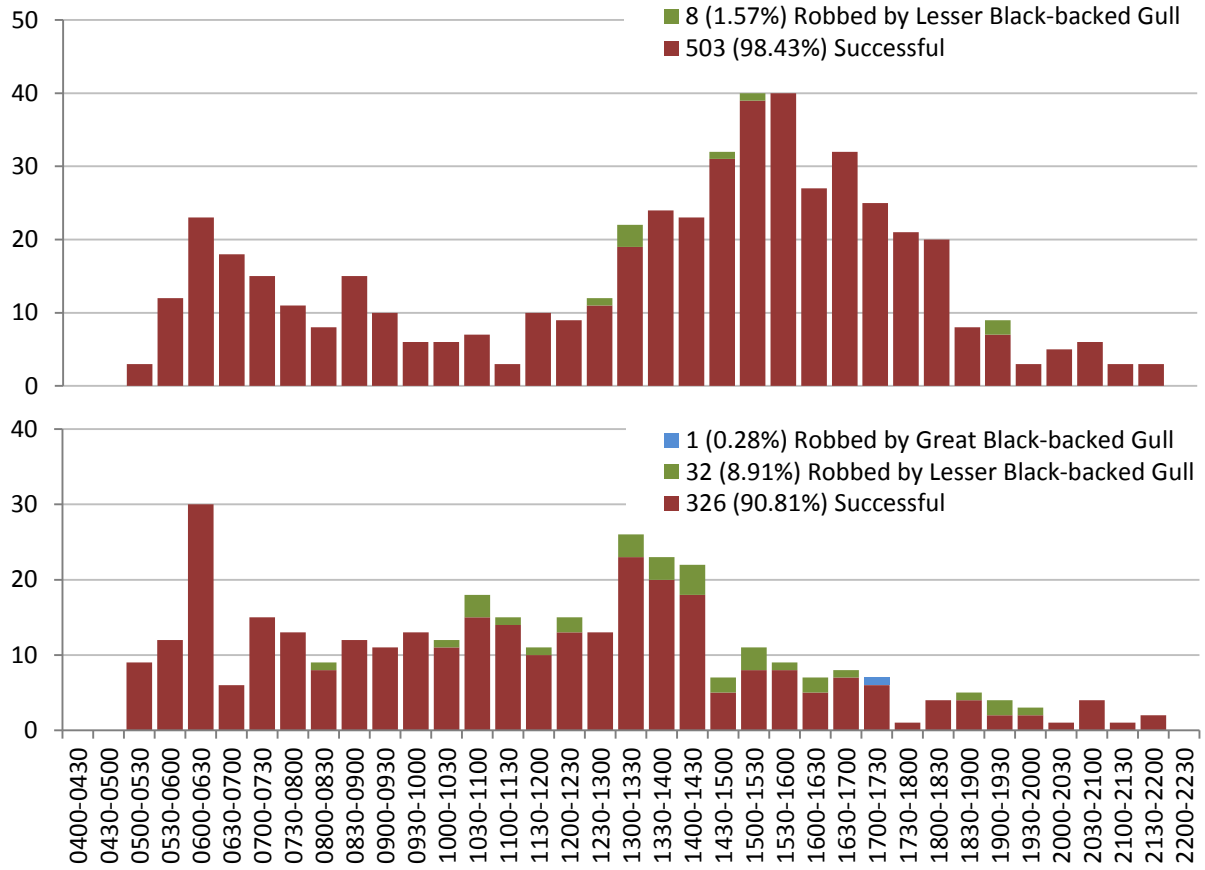
In terms of the percentage of deliveries lost over the study plot, the 17th July peak in monitored kleptoparasitism logged this year was the highest of the last four years, however the actual number of deliveries stolen, although up on 2017, was otherwise the lowest of this six year study. This general decline in kleptoparasitism is perhaps in part due to a reduced Lesser Black-backed Gull population, although an increase in Great Black-backed Gull numbers may at the same time be having an effect, with the more aggressive large gulls keeping the Herring and Lesser Black-backed Gulls from the study area. The highest levels of kleptoparasitism to be logged so far occurred in

2013. Given that the size of the study plot has remained constant during this study, it is also interesting to note a generally upwards trend in the number of annual deliveries (although the total was somewhat down this year); although annual variations in Puffin productivity and the timing of the breeding season will influence the number of deliveries to the study area on each visit, these figures perhaps support the theory that the population here is increasing.

The number of chick provisioning attempts during daylight on the 9th, 20th and 30th June 2018, along with the number of times that gulls or Jackdaw successfully robbed the fish.



The number of chick provisioning attempts during daylight on the 7th and 17th July 2018, along with the number of times that gulls successfully robbed the fish.



A colour ringing project was begun at Crab Bay in 2011 to allow an estimate of adult survival to be made each year. There were 128 birds ringed in the first year, 58 in 2012, 51 in 2013, 57 in 2014, 23 in 2016, 24 in 2017 and a further 31 were added to the scheme this year. The table below summarises the resighting data collected so far. What is apparent is that some birds are not seen every year, perhaps because they have not returned to the study plot or perhaps because their colour rings have not been seen (which may well be the case in years where the vegetation is longer); we now know for example that the 155 birds seen in 2013 was only 93.37% of the number actually alive. The survival estimates for more recent years are thus likely to be modified in the future, to take into account birds which have not yet been seen. Nevertheless, with seven years of resighting data now available, we can start to look at fluctuations in survival over time. The proportion of birds surviving the winter during the period 2011 to 2018 has varied between 79.72% (in 2014) and 96.51% (in 2013), with only the 2014 return rate being below 89%. A flaw with this survivorship estimate is that colour marks were added to Puffins caught in flight, individuals potentially resident in areas not visible to researchers; a better estimation of survival may therefore come from looking for birds previously seen in the field (thus discounting individuals in the year after ringing). The resulting survival estimates range from 80.12% (in 2014) to 97.37% (in 2013), with only the 2014 return rate being below 91%. Clearly the most striking feature of these estimates is the substantial drop noted after the severe 2013 to 2014 winter wrecks; it remains to be seen how often such drops in survival can occur before the spring raft counts show a decline in overall numbers.

The colour ringing project revealed an interesting case of ‘progressive greying’ last year. Although the Puffin pictured below (Black and White stripe over BTO EX83523, Yellow over Black) may appear to be leucistic, with predominantly white feathers in the throat, nape and mantle, we know from previous years that this bird had the appearance of a normal Puffin. Interestingly the extent of the

white plumage did not seemingly change between the 2017 and 2018 breeding seasons. This condition is caused by a progressive loss or failure of pigment cells with age.

Survival in adult Puffins. An average survival figure for each year is based on the number of birds ringed in the preceding year plus the number of previously ringed birds known to be still alive, for example 166 birds are now known to have been alive in 2013, of a 2012 total of 172 (58 ringed in 2012 plus 114 ringed previously and known to be alive). Survival after a one year establishment period means that birds have been seen within the study area before (and are therefore assumed to be located in visible positions); birds ringed in the preceding year are therefore excluded from the calculations as they may be occupying hidden areas of the colony.

	2011	2012	2013	2014	2016	2017	Total	Survival after one year
Total Ringed	128	58	51	57	23	24	341	
Seen in 2012	72						72	
Alive in 2012	114						114	
% survival	89.06						89.06	**No data**
Seen in 2013	103	52					155	
Alive in 2013	111	55					166	
% survival	97.37	94.83					96.51	**97.37**
Seen in 2014	86	36	37				159	
Alive in 2014	93	40	40				173	
% survival	83.78	72.73	78.43				79.72	**80.12**
Seen in 2015	79	37	35	50			201	
Alive in 2015	86	39	37	53			215	
% survival	92.47	97.50	92.50	92.98			93.48	**93.64**
Seen in 2016	68	34	32	43			177	
Alive in 2016	78	37	35	47			197	
% survival	90.70	94.87	94.59	88.68			91.63	**91.63**
Seen in 2017	72	35	31	44	19		201	
Alive in 2017	76	36	32	44	19		207	
% survival	97.44	97.30	91.43	93.62	82.61		94.09	**95.43**
Seen in 2018	70	34	28	40	19	20	211	
Alive in 2018	70	34	28	40	19	20	211	
% survival	92.11	94.44	87.50	90.91	100.00	83.33	91.34	**92.27**

There were several higher counts during July when large numbers of young adults arrived, many of which were carrying fish. It was perhaps one of these less experienced birds which was eaten by a Great Black-backed Gull on the 23rd; although Puffins are regularly taken during the spring, we rarely record adult deaths during the chick fledging period. There was a distinct change in behaviour from the 23rd, with lots more head waving within the plot and more mass departures, although it was not until the last three days of July that the majority of birds stopped returning to the colony. There were 28 fish deliveries to the west side of Crab Bay in five hours of observations on 30th July, this compared with 24 in the same period last year. There followed August highs of 567 on the 1st and 269 on the 4th (the 2017 August high was 43 on the 3rd), before numbers dropped to ten or fewer from the 8th. Two fish deliveries to South Haven on the 10th were the last to be seen this year, these on the same date as the last of 2017, three days earlier than the last of 2016, six days earlier than in 2015 and 13 days earlier than in 2014 (the latest breeding season in recent years). Up to four birds were noted on eight further dates to the 19th, with a single off Howard's End on the latter date being the last of the year; there was no September record for only the third time in the last eight years.

Ringing recovery EX83632
Originally ringed as an adult, CRAB BAY PUFFIN PLOT, SKOKHOLM 1st July 2011
Recovered as an adult, SULE SKERRY, ORKNEY 12th July 2018
Finding condition Intentionally taken
Distance travelled 823km at 4 degrees (N)
Days since ringed 2568

Ringing recovery left tarsus white over white, right tarsus grey stripe over EZ85715
Originally ringed as an adult, CRAB BAY PUFFIN PLOT, SKOKHOLM 6th July 2018
Recovered as an adult, HIGH CLIFF, SKOMER ISLAND, PEMBROKESHIRE 14th July 2018
Finding condition Colour rings read in field
Distance travelled 4km at 343 degrees (NNW)
Days since ringed 8

Stock Dove *Columba oenas* **Colomen Wyllt**
Scarce formerly Fairly Common and up to 62 pairs bred between 1967 and 1983
1936-1976: 28 trapped

One briefly alighted at Anne's Knoll on 7th October, perhaps the same bird seen at Little Bay and then the Neck the following day. A mobile bird on 20th October later headed east. These were the first since singles on the 13th and 22nd October 2016, whilst singles on 9th March and 25th November 2015 and on 28th March 2012 are the only other sightings since records of up to two birds on 22 dates took the 2003 bird-days total to 28.

Woodpigeon *Columba palumbus* **Ysguthan**
Uncommon Visitor has bred, most recently in a South Haven sea cave in 2007
1936-1976: 3 trapped, 2017: 1 trapped

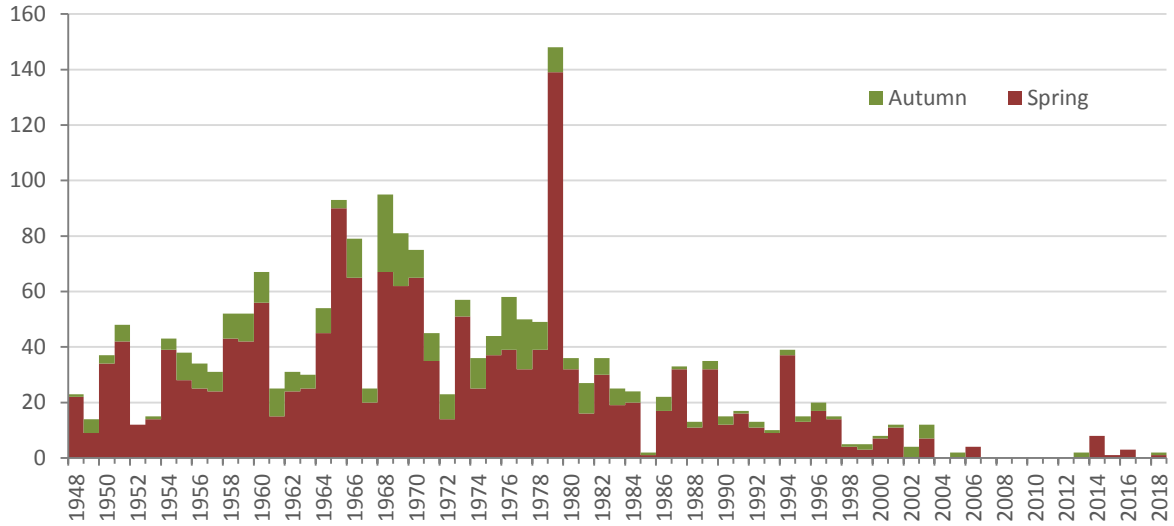
Singles on the 15th, 17th and 22nd March equalled the three bird-days logged in March 2017. There were lone April birds on the 4th, 10th, 14th and 29th and two at the Bluffs on the 13th which matched the two of 2013 as the highest April daycount since 2007 (the last year in which this species bred). The bird on the 29th arrived on the same date as the first Collared Dove of the year; interestingly Woodpigeons were again routinely logged on the same date as Collared Doves, probably suggesting that the same environmental cues trigger their movements. There were sightings on five May dates from the 18th, all singles bar three together at Spy Rock on the 30th. The June tally was also a typical one for this non-breeding era, with lone birds logged on seven dates. Whereas one on 19th June 2017 was the last of the year, an autumn absence which matched 2013, there were records in every subsequent month of staff occupation this year, a regularity of occurrence which has not been observed since 2000 (even when birds were breeding on Skokholm). In July one was singing at the Farm on the 4th, with perhaps the same at North Pond the following day, whilst a flyover on the 2nd was the only August record. One was at Twinlet on 1st September and a mobile bird was seen each day between the 9th and 11th; two in 2016 and one in 2014 are the only other September birds noted since 2008. One was in Crab Bay on the evening of 19th October, there were further singles on the 23rd, 24th and 27th and two on the 28th; a bird-days total of six was the highest in October since the 18 of 2006. A mobile bird on 18th November was the last of the year and only the 34th November bird-day. A 2018 bird-days total of 37 was up on the 16 of last year and was the highest since the 49 of 2008. Skokholm daycounts have never been big, with peaks of 11 in the May of 1989 and the August of 1987, 12 in the April of 1978 and 18 in May 1960.

Turtle Dove *Streptopelia turtur* **Turtur**
Scarce Migrant previously Uncommon
Earliest 1st April 1949 (9th June 2018) **Latest** 18th October 1995 (4th October 2018)
1936-1976: 36 trapped

One at Sugar's Delight on the morning of 9th June was almost certainly the same bird seen between Peter's Bay and North Haven that afternoon; this was the first Island record since 5th June 2016, the tenth June bird-day of this century and the 15th bird-day to be logged in any month since 2006. The only other 2018 record concerned a single which arrived from the north at 1615hrs on 4th October before dropping into the Bog (RD); there have only been 29 previous October bird-days, with one on the 18th in 1995 the most recent and latest. The only other birds since 2003, when there were a

minimum of six in spring and one in autumn, were three singles during the May and June of 2016, one in June 2015, at least three in May 2014, two in September 2013 and further singles in the May of 2006 and the September of 2005. Sadly this has become a truly scarce species in Wales, with a 96% drop in the breeding population observed between 1970 and 2010 (Bladwell *et al.*, 2018).

The total number of Turtle Dove bird-days logged in each year since 1948.



Collared Dove *Streptopelia decaocto* **Turtur Dorchog**
Uncommon Visitor the majority of sightings coming in spring. First recorded 7th June 1962
1 trapped
1962-1976: 36 trapped, 2013-2017: 5 trapped, 2 retrapped

One at the Lighthouse on 29th April was the first of the year; although a single April bird-day matched last year, it was otherwise the lowest total in this month since 2012. Numbers increased in May with sightings on 14 dates from the 12th, all of two birds or fewer bar three together on the 23rd and eight on the 27th (when three birds were in the trapping area at the same time as five came in off the sea); there have been 19 monthly totals up on these 27 May bird-days, most recently in 1994 when 34 were logged and with a high of 60 in May 1977, whilst the peak daycount was the highest since the nine of 27th May 2003, down on a maximum of 13 counted on 26th May 1974. Records of up to two birds on ten June dates totalled 12 bird-days, the highest tally in this month since the 20 of 2015 and the third highest this decade. The last of the year, which crossed the sea to South Haven on the evening of 22nd June, was soon harassed by Meadow Pipits (an unnecessary display of awareness which routinely befalls Collared Doves encountered by the pipits); there was thus no July record for only the third time in eight years. Although not as common as during the 1970s, 80s and 90s, the 40 bird-days logged this year was the highest total since the 45 of 2006.

Cuckoo *Cuculus canorus* **Cog**
Scarce Migrant has bred, most recently suspected of having done so in 2006
Earliest 6th April 1960 (27th April 2018) **Latest** 8th September 1956 (10th August 2018)
1 trapped
1936-1976: 82 trapped, 2015-2017: 4 trapped

One over the Neck on 27th April was the earliest spring record since one on the 22nd in 2015 (RD, WJ). The only May sighting was of one at the Bluffs on the 2nd. A female on the 1st and 2nd June was perhaps the bird seen on the 3rd, a male on the 5th was probably the same bird ringed on the 6th and one was in the Bog on the 8th. Eight spring bird-days was the highest total since the nine of 1982, albeit down on highs of 19 in 1957 and 17 in 1976 and 1973. It was thought that a mobile juvenile

logged on 11th July had not originated from Skokholm. Lone juveniles were noted on a further five July dates from the 20th, whilst what may have been an adult was seen on the 24th and another unaged bird was logged on the 27th. There were singles on six August dates to the 10th, birds aged as juveniles whenever seen well. A total of 14 autumn bird-days was perhaps surprisingly the highest since the 37 of 1966; the only other autumn records this century concern a single on 9th August last year, up to two juveniles noted over eight days in 2013, a single in 2008 and a juvenile in 2006 (logged on three dates and suspected of having hatched on Skokholm).

Little Owl *Athene noctua* **Tylluan Fach**
Scarce has bred, most recently in 1954, but only one record since 1993
1936-1976: 9 trapped

A ringed bird, presumably originating from Skomer and perhaps driven south by poor weather or a lack of potential mates, was along Little Bay Wall on 17th March. This was the first since one logged on five March dates in 2014, these the only records since 1993 (when there were seven bird-days in spring and one in autumn). Little Owls are scarce in Pembrokeshire with records coming from only 15 locations in 2013 (Berry *et al*., 2014) and four in 2017 (Berry *et al*., 2018), most locally on Skomer where until 2017 there was a small breeding population (birds were still present on Skomer in 2017 and March 2018 but were not thought to breed). Little Owls have a chequered history on Skokholm, with several recorded colonisation events which have been discouraged due to their impact on Storm Petrels; for example a Little Owl nest on 14th July 1936 contained two fledglings, an addled egg and the corpses of nearly 200 petrels (which encouraged the destruction of the adult birds). On other occasions Little Owls were removed from the Island and sent to new locations such as Bath in Somerset. There is little doubt that Little Owls would again impact Skokholm's Storm Petrels were they to establish themselves on the Island. It should thus be hoped that a lack of further records this season suggests that the bird perished or left the Island having failed to find a mate.

Short-eared Owl *Asio flammeus* **Tylluan Glustiog**
Uncommon described in 1936 as a 'rare visitor', listed by Thompson as Scarce and has bred once
1936-1976: 5 trapped, 2017: 3 pulli trapped

One was over North Plain on 10th March, with perhaps the same along Medicine Rock Wall two days later; particularly ragged left wing coverts were noted on the latter date. What was almost certainly

the same bird died alongside South Pond Wall on the night of 22nd March; an examination the following day revealed it to be a third calendar year male with a significant number of feathers on the upper left flank in recently erupted pin. It was postulated that the bird was recovering from some sort of impact but had struggled during the freezing conditions prevalent during mid-March. There were no April records, this in a month when the 2017 breeding attempt became evident as the pair aggressively pursued other birds passing close to the nest; this lack of records led to the theory that the dead bird may have been the male of the 2017 pair (as they often nest in their first year). Although a regular breeder on nearby Skomer, where the fluctuating population is supported by Bank Voles, the successful 2017 attempt remains the only confirmed breeding of Short-eared Owl on Skokholm. There were occasional appearances during the breeding season, with one over the Farm on 29th May, singles flushed from the Bog on the 6th and 21st June and one over the Neck on 22nd June; feathers found in North Haven on 26th June were with the remains of four Storm Petrels.

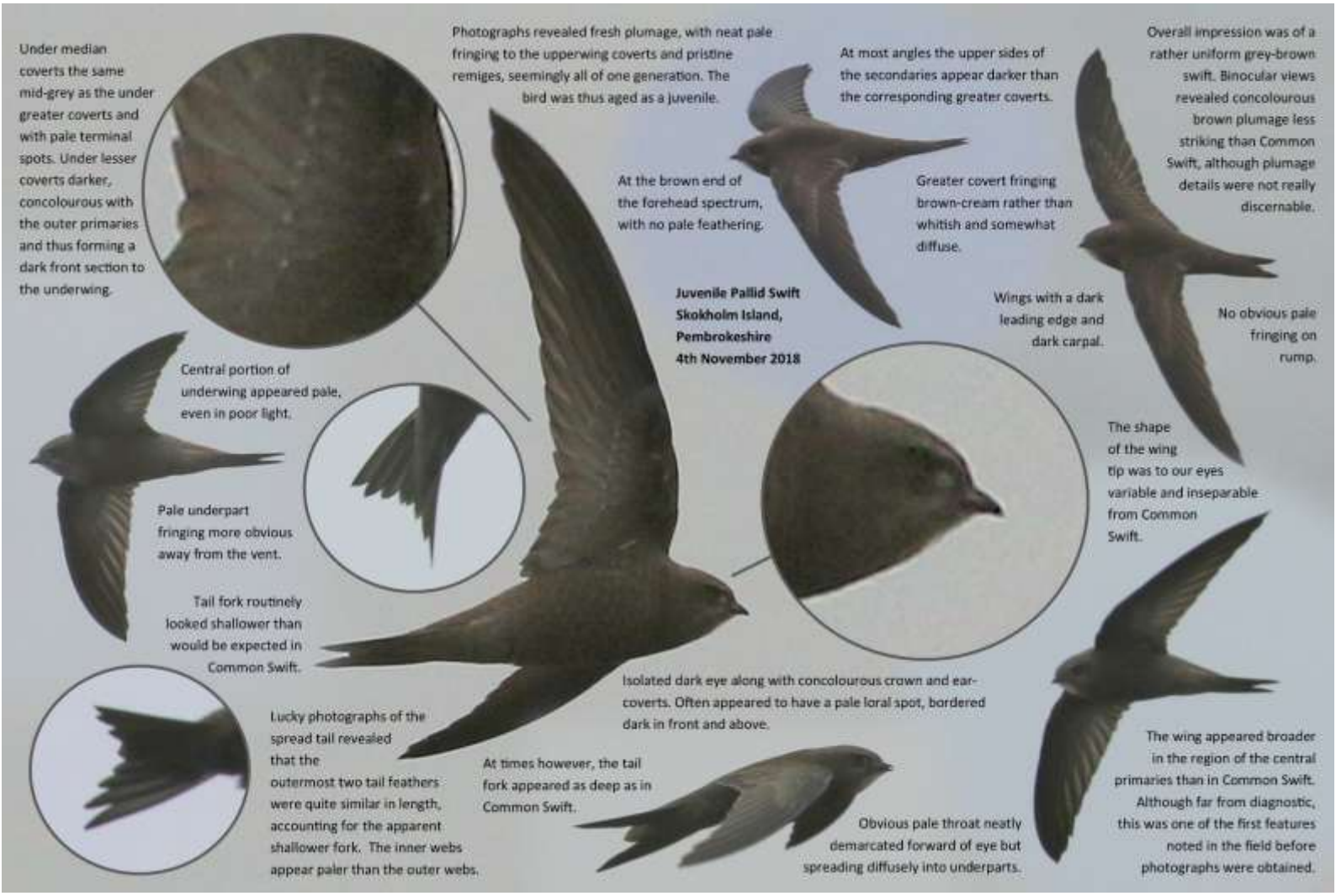
The majority of July records were of evidence of presence rather than direct observation; a fresh pellet on the 3rd contained a Storm Petrel skull, new feathers in North Haven on the 8th were by a fresh petrel kill and feathers appeared at the top of Quarry Transect Four on the night of the 12th. Indeed an adult in wing moult on the morning of the 10th was the only July sighting. There were no further records until the night of 17th October when one was calling near the Lighthouse. A still warm pellet in the Quarry on the morning of the 21st contained a juvenile Storm Petrel. One was high over Winter Pond on 24th October, two were present on the evening of the 28th and a pellet was found in the Lighthouse compound on the 29th. The two November records were of one carrying prey, thought likely to be a Song Thrush, on the 10th and of one calling on the night of the 18th. A 2018 bird-days total of only 20 was unsurprisingly down on the 76 of last year and was the lowest since the 19 of 2013. Despite this paucity of records, only five of the 31 Storm Petrel corpses found this year were attributed to gulls (all between 23rd July and 5th August); the majority of the remainder were thought to be the victims of Short-eared Owls. A minimum of 98 petrel corpses were found between 23rd April and 14th October last year; although five of these were certainly taken by Great Black-backed Gulls (the corpses were found in either pellets or nests), the vast majority were believed to have fallen prey to Short-eared Owls (due to the presence of feathers or pellets). There were 51 Storm Petrel corpses located in 2016, 18 in 2015, 16 in 2014 and six in 2013.

Swift *Apus apus* **Gwennol Ddu**
Fairly Common Migrant common in some years and more regular in spring
Earliest 15th April 1991 (25th April 2018) **Latest** 28th October 1976 (2nd August 2018)
1936-1976: 12 trapped

Four on the afternoon of 25th April were two days later than the first of last year and four days later than the first of 2016; there are 78 earlier bird-days, with singles on the 15th in 1991, the 16th in 1961 and the 17th in 1970 being the earliest. One on the 26th and four on the 27th were the only other April sightings, taking the bird-days total to the joint highest in this month since the 13 of 1964, albeit well down on the 126 of 1960. Birds were noted on 16 May dates, although counts were of seven or less bar 12 on the 17th and nine on the 26th; the peak daycount was well down on the 89 of last year and a total of 67, although down on the 114 of last year, was otherwise the joint highest since the 94 of 1997 (well down on the 282 of May 1948 which is the highest in any month). A further 139 were counted over 18 June dates including highs of 15 on the 11th, 25 on the 22nd and 22 on the 27th; while the maximum daycount was only three up on 2017 and down on recent highs of 33 in 2015 and 30 in 2005, the June bird-days total was the highest since the 224 of 1969. The July total was also up on recent years with sightings on 12 dates, highs of 17 on the 1st and 22 on the 2nd and a bird-days total of 72; the peak was the highest since the 24 of 2015 and the total the highest since the 87 of 2000 (well down on a peak of 247 of 1956). Singles on the 1st and 2nd August were the last of 2018 and the earliest departure since two, also on the 2nd, in 2011; a single on the 4th in 2005 is the most recent of 117 September bird-days and there have been four October singles, all between 1960 and 1976.

Pallid Swift *Apus pallidus* **Gwennol Welw-ddu**
Vagrant no previous records

One feeding low along the north coast between 1015hrs and 1530hrs on an overcast 4th November was a first for Skokholm (GE, RDB); although favouring the cliffs above Little Bay, it regularly headed inland towards North Pond and once powered out over Broad Sound only to later return. This third for Pembrokeshire was approximately the seventh to be reported during what proved to be an exceptional influx into Britain; a minimum of 30 and probably closer to 50 birds were logged between 13th October and 18th November 2018, although the Skokholm bird was one of only two found in Wales. The weather on 3rd November was dominated by near gale southerly winds, with force nine gusts and heavy, sometimes very heavy rain; this was brought about by the passage of ex-Hurricane Oscar. The surface pressure chart for noon on the 3rd revealed a deep low to the west of Ireland, with southerly winds extending from Iberia and beyond. The winds on the 4th were calmer and showers, sometimes heavy, were regular throughout the day. November systems such as this have been linked to Pallid Swift influxes in the past, with the southerly winds encouraging recently fledged birds to travel north; that second brood Pallids are present in areas from which the vast majority of Common Swifts have already travelled south leads to the appearance of more Pallids, although of course juvenile Common Swifts, including *A. a. pekinensis* heading for South Africa via the Red Sea, could be caught up in such a system. The only other Pembrokeshire records are of one at Porthgain between the 5th and 7th October 2001 and of one near Strumble Head on the 12th and 13th November 1984.



Wryneck *Jynx torquilla* **Pengam**
Scarce Migrant regular in autumn, rare in spring with only nine records
Earliest 3rd April 1995 (31st August 2018) **Latest** 12th November 2014 (12th September 2018)
1 trapped
1936-1976: 11 trapped, 2013-2015: 4 trapped, 2 retrapped

One found at the Dip on 31st August was the first of the year, eight days later than the first of last year and one of only four Skokholm bird-days to be logged in August (GE). What was perhaps the same bird was found at East Bog during a Melodious Warbler twitch on 2nd September (GE, RDB *et al*.). One seen on the Pigsty Wall on the 3rd and 5th, in the vicinity of Home Meadow on the 6th and which was trapped and ringed in the Cottage Heligoland on the 7th was likely to be the same individual. The ringed bird was at Anne's Knoll on the 9th, at the Lime Kiln on the 10th and at the Pigsty on the 12th. There have now been 211 Skokholm bird-days logged since the first in May 1938, all in 38 years and including at least 11 individuals accounting for 52 bird-days in the last six years.

Great Spotted Woodpecker *Dendrocopos major* **Cnocell Fraith Fwyaf**
Vagrant only three previous records
1 trapped

The increase in the British population has been substantial, a rapid rise linked to several factors such as Dutch Elm Disease, a significant drop in the Starling population, the maturation of new forests and the winter provisioning of bird food; in Wales this was reflected by a 159% increase in the breeding population between 1995 and 2008 (Baillie *et al*., 2010). The increase is no doubt responsible for a spike in the number of birds logged on the Welsh Islands, particularly on Bardsey, Ramsey and Skomer where this species is now expected annually. Although Skokholm records have also followed the trend, this has remained an exceedingly rare visitor, perhaps in part due to the

longer sea crossing required to reach the Island or the fact that Skokholm does not lie at the tip of a peninsula. A juvenile female flushed from Elders at the Well and later ringed on 7th October was thus a particularly welcome addition to three 'Island Lists' (GE, RD, RDB). The only other Skokholm records are of singles logged on 27th September and 12th October 2010 and on 20th September 2011.

Kestrel *Falco tinnunculus* **Cudyll Coch**

Uncommon recorded in all months but more regular during the post-breeding period
1936-1976: 8 trapped, 2013: 1 trapped

It proved another typical year for this species which breeds on the nearby mainland but which is yet to nest on Skokholm. A male on the 17th was the sole April sighting, a male was again logged on the 19th and 26th May and a further single on 27th May took the monthly bird-days total to three; there were no May bird-days last year but seven in 2016, again predominantly males. There were singles on the 20th and 22nd June and a male appeared on the 30th, probably the individual which was to be seen regularly in July. Birds were logged on 17 July dates, with a definite male noted on 14 dates and two birds on the 19th and 26th when a female was also present; a July bird-days total of 19 was the second highest on record, only down on the 22 of July 2002. August was quieter, with singles on four dates between the 4th and 10th and two on the 30th; a bird-days total of six was well down on the 27 of August 2015 but otherwise the highest in this month since 2003. There were 20 bird-days in September, with sightings on 16 dates including three on the 28th which was the highest daycount since October 2016. Numbers peaked in October, as they did in four of the previous five years, with birds noted on all but two dates, including two birds on 16 dates and three on the 27th; birds were seen to catch and eat a House Mouse and a Snipe during this period. An October bird-days total of 47 was the highest in any month since the 51 of October 2016 and was the joint third highest total in any month since the 48 of September 1997. Ten November singles, including one as the staff departed on the 26th, was the second lowest total in this month since 2013, only up on the nine of last year. A total of 109 bird-days were thus logged in 2018, the third highest of the last six years and

very close to the 2013-2018 mean of 106.83 ±sd 15.37. The largest Skokholm daycounts to date are the five noted in September 1975, August 1989 and September 2014, whilst the biggest monthly totals are the 73 of September 1975 and the 69 of September 1992.

Merlin *Falco columbarius* **Cudyll Bach**
Uncommon recorded in every month but with only three June and seven July records
1936-1976: 9 trapped, 2013-2017: 4 trapped

There were March records of an adult male on three dates between the 9th and 13th, of a female on seven dates from the 11th and of a first-winter male on four dates from the 23rd; although down on the 16 of last year, 14 bird-days was the fourth highest March total to date. There were daily April records of a female to the 7th, with a pellet on the latter date found to contain the BTO ring from a Wren. Following a six day absence, a female was again logged on 14th April when it was seen eating a Chaffinch. Two were noted on each of a further eight April dates from the 17th, birds either seen at the same time or of different sexes. Six singles logged during the same period took the April bird-days total to 30, a new record for this month and, equal with October 1967, the most bird-days to be logged in any calendar month. A female on the 1st and 2nd May, along with further singles on the 10th, 13th and 23rd, were the last of the spring, the latter four days later than the last of 2017 and the latest since one on the 29th in 2013.

The first of the autumn did not arrive until 24th September, 40 days later than the first of last autumn but eight days earlier than one on 3rd October 2016 which was the latest autumn arrival of the last seven years. One heading for Grassholm on 25th September was watched until it was too distant to be seen and a juvenile male was found dead along the Lighthouse Track on the same date; the dead bird had been decapitated and partially eaten, whilst a pellet sticking from its gizzard contained the remains of a Meadow Pipit. A further three singles took the September total to six; this was, equal with 1996, the highest total in this month since the 11 of 1993. Eight of the nine October singles sighted before the 23rd were females whilst the ninth bird was not sexed, four birds were logged on the 23rd, a female was seen on the 25th and 26th and a male on the 31st was the last of the month; an October bird-days total of 16 equalled 2016 and 2013 but was down on the 28 of last year and the 17 of 2015. The peak October daycount equalled the Island record logged on 7th October 1968;

whilst a male and two females seen at the same time were obviously different, the UHF radios were again essential to confirm the presence of a third female. A male was seen on the 1st and 2nd November, there were further singles on nine dates between the 4th and 24th (five females and four unsexed) and two unsexed birds on the 19th; although down on the 18 of last year, the November total was otherwise the highest since 2002. Two of the three highest annual bird-days totals have come in the last three years; a 2018 total of 84 bird-days, although down on the 105 of last year and the record 118 of 1968, was the third highest to date.

Peregrine *Falco peregrinus* **Hebog Tramor**
Scarce Breeder and Uncommon Visitor resumed breeding in 1988 following a 56 year absence
2013-2016: 4 pulli trapped

Following an increase in the number of non-breeding birds present in addition to the resident pair during the 2014 and 2015 seasons, two pairs of Peregrine attempted to nest on Skokholm for the first time in 2016 and did so again in 2017. Unsurprisingly this led to an increase in the number of aggressive interactions logged; although it is possible for a seabird island the size of Skokholm to support two pairs (despite the considerably lower seabird numbers, Bardsey Island in Gwynedd frequently holds two successful pairs), time spent interacting with neighbours perhaps resulted in the significant drop in productivity witnessed since 2014. This season saw a return to the situation observed in 2014 and 2015, with a single pair attempting to breed but the regular presence of additional birds which led to aggressive encounters; a second male, seen to be a subadult on eight occasions, arrived on 12 dates between 13th March and the end of May, whilst a second female was along the South Coast on three dates between 26th April and 3rd May. The South Coast ledge used by a second pair in 2016 and 2017 was accessed under a Schedule One Licence during May but there was no indication of a presence.

The number of breeding pairs, their location and fledging success since 2005.
Bl = The Bluffs, NB = Near Bay, NH = North Haven, SC = South Coast

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pairs	1	1	1	1	1	1	1	1	1	1	1	2	2	1
Site	NH	Bl	SC	SC	Bl	Bl	Bl	Bl	Bl	Bl	Bl	Bl SC	NB SC	Bl
Fledglings	0	2	1	2	1	0	4	2	3	0	0	1	1	0

The Bluffs ledges used between 2009 and 2016 were seen to be occupied regularly from 9th March and the female was incubating from 23rd April. The female was occasionally seen away from the nest and on 27th April was watched as she left the eggs to collect a Manx Shearwater carcass. On 19th May the female was attending to the eggs, perhaps turning them or interacting with soon to hatch young. The adults regularly sat away from the eyrie from 22nd May but returned to the nest ledge frequently. It was perhaps one of these departures which allowed a Great Black-backed Gull to access the eyrie and destroy at least one chick on 1st June; it is unknown how many young were present but a check the following day revealed nothing but white down. This was thus the third time in five years that no young have fledged on Skokholm, whilst the number of fledglings in the two most recent successful years was down on five of the previous nine years. Food taken during the spring included Teal, Manx Shearwater, Dunlin, Puffin and Jackdaw.

Peregrines were still encountered regularly following the chick stage failure, with daily records of up to three individuals until 15th June. Sightings became less frequent from 16th June, with up to two birds noted on 18 dates to the end of July. The first mainland juvenile was over Crab Bay on 24th July, whilst in August there were records on 17 dates, all singles bar two on three dates and four on the 23rd which was the highest daycount of the year. There were more regular sightings in September with up to three birds noted on 27 dates and 39 bird-days logged, two more than last year but a total well down on the 52-60 recorded in each of the Septembers between 2013 and 2016. The October total was similarly up on last year but down on the four years prior to that, with birds on 20 dates and a bird-days total of 25. There were 12 singles in November, with both an adult male and an adult female logged.

Magpie *Pica pica* **Pioden**
Rare approximately 17 previous records including an apparent semi-resident bird in 2007
1936-1976: 1 trapped

One which flew low and east along the Lighthouse Track on 13th March was only the third record in this month following birds between the 8th and 10th in 1984 and on the 15th in 1975 (GE). The most recent sighting was of one in flight between the Lighthouse and the Quarry on 4th September last year, this the first since 2015 and the sixth autumn record for Skokholm. Considering that Magpies breed on the adjacent mainland and on Skomer Island to the north, it is perhaps surprising that there are so few Skokholm observations; the open water of Broad Sound is seemingly enough to deter regular visits. The most recent previous records are of one on four dates between the 17th and 23rd April 2015, one on 22nd May 2012, one for four days from 19th April 2011 and one on 3rd June 2010. With the exception of a semi-resident bird in 2007 which apparently crossed Broad Sound frequently between 23rd May and 4th September, there have now been 11 records between 8th March and 3rd June with the remainder arriving between 11th August and 17th November.

Chough *Pyrrhocorax pyrrhocorax* **Brân Goesgoch**
Scarce Breeder and Uncommon Visitor bred in 1928 and then annually since 1992
1936-1976: 1 trapped

There were only two breeding pairs for a fifth consecutive year, with territories around the Dip and Steep Bay again being occupied. The Steep Bay pair were watched collecting nest material on 20th March and the Dip pair were doing likewise on 26th April, the latter a rather late date and the first indication that the 'Beast from the East' delayed the 2018 breeding season. There were regular breeding season counts in excess of the four Skokholm breeders, with additional birds noted on 30 dates between 6th March and 31st May and peak daycounts of ten on the 29th and 31st May when eight non-breeding birds were logged. The non-breeding flock peaked at an all-time spring record of 20 individuals last May, with the decline observed this year on both Skokholm and in the SPA as a whole attributed to a loss of birds during the freezing conditions prevalent during late February and

March (Hodges, 2019). There were records of up to six non-breeders on 23 June dates and no signs during the period that a Skokholm breeding attempt had been successful; fledglings were confirmed at Steep Bay on the 14th and at the Dip on 16th June last year, whilst both territories contained young from the 17th in 2016. A family group including three young fed at Spy Rock on 30th June before departing eastwards over Broad Sound and what were probably the same birds returned to Spy Rock the following day; the Skokholm pairs were still on territory during this period. The Dip pair were first seen with two fledglings on 8th July; this was one day earlier than in 2015 but otherwise the latest appearance of young to be logged in the last six years. The Steep Bay pair remained on territory into July but were not seen to collect food this year. Overall productivity was thus down on the previous two years and on the 2004-2018 mean (1.71 ±se 0.26).

The number of Chough pairs, the total number of fledged young and productivity 2004-2018.

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	1	1	2	2	2	2	2	3	3	2	2	2	2	2
2	3	1	5	4	3	2	4	0	2	3	2	5	8	2
2	3	1	2.5	2	1.5	1	2	0	0.67	1.5	1	2.5	4	1

There were only two July dates when the daycount could be attributed solely to our four breeding birds and their two offspring, with peak counts during the period of 13 on the 15th and 21st, 12 on the 10th and 11 on six dates; despite poor 2018 productivity, the July bird-days total was the highest on record and the peak count was only down on the 15 of 7th July 1992. Non-Skokholm birds were clearly finding the Island profitable during this period. Clatterings of up to 12, 11 daycounts of ten or more and a peak of 18 on the 15th took the August bird-days total to 275; although down on the remarkable August 2017 total of 411 (which included a daycount of 30 on the 29th, the second highest to be logged following the 32 of 28th September 1965), the bird-days total was otherwise up on every other previous August. September counts were closer to the mean, with daily records of up to nine taking the bird-days total to 177; the total was down on the 317 of last year and the peak count down on the 22 of last year, however both were close to those logged in 2016 when a maximum daycount of ten contributed to a bird-days total of 163. All but 12 October daycounts were of four birds or less, however a series of arrivals between the 15th and 28th saw peak counts of 25 on the 21st, 17 on the 26th and 14 on the 24th and 28th; the former was a new October daycount

record and took the bird-days total to 193, also a record for October (up on the 172 of 2015). November was similarly productive with 15 daycounts in excess of the four breeders, peaks of 12 on the 4th and 13 the following day and a bird-days total of 138; both the total and the maximum count were new Skokholm records.

Jackdaw *Corvus monedula* **Jac-y-Do**
Uncommon Breeder and Fairly Common Visitor
26 trapped, 10 retrapped
1936-1976: 83 trapped, 2011-2017: 67 trapped, 8 retrapped

The number of breeding Jackdaw on Skokholm has always been difficult to assess due to semi-colonial nesting and their secretive habits. Following their establishment as a breeding species in 1965, numbers rose to between 50 and 60 pairs between 1974 and 1976, dropped to 16 to 20 pairs between 1982 and 1988, dropped again to between six and 14 pairs from 1989 to 1996 and were most recently estimated at between 15 and 20 pairs during the period 2011 to 2017. This year saw a minimum of 22 pairs with the majority nesting colonially in the crevices and burrows of South Haven and the Quarry, but with further pairs in Rat Bay, Peter's Bay, Hog Bay, Crab Bay and near Frank's and Little Bay Points. Daycounts again suggested that there were more birds present during the breeding season than were proven to be nesting, although regular movements from the mainland were noted and perhaps accounted for some of the larger totals. There were six birds retrapped during the breeding season which had been ringed in previous years, most notably EY72401 and EY72402, ringed as adults in September 2013 and retrapped on 20th May and 18th April after 1715 days and 1683 days respectively; the current British longevity record stands at 6231 days (17 years, 22 days). Additionally EY72035, ringed as a juvenile in August 2013, was retrapped as an adult male on 20th May this year, EY96337, ringed as an adult in September 2014, was retrapped in May, EY86651, ringed as a juvenile in June 2014, was retrapped in June and EZ53141, ringed as an adult in May last year, was retrapped in July.

The total number of Jackdaw logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2014 to 2017 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	1621	1242	1256	1425	1968	1460	570	1902	234
2017	661	809	1118	1545	1533	1438	431	986	554
2016	1155	920	1063	1434	1483	1501	366	1215	408
2015	916	937	986	1584	1669	2271	818	806	70
2014	1154	1134	1073	1216	1304	1469	1015	834	89
2018	108	104	83	80	120	137	110	185	104
2017	69	46	57	81	88	100	62	123	189
2016	101	68	51	72	116	102	49	140	74
2015	84	79	62	134	180	120	112	115	43
2014	104	79	53	66	110	93	73	179	55
	15th	2nd	14th & 18th	30th	22nd	1st	28th	20th	1st

There were considerably more birds present in March this year, with a peak daycount of 108 being the second highest on record (only down on the 110 of 24th March 1993) and a mean of 62.3 birds per day which was almost twice that logged in recent years. Pairs were seen collecting nest material in several locations from the 22nd, three days earlier than last year and on the same date as in 2016, and birds were nest lining from the 31st. Following peaks of 104 on the 2nd (which included a minimum of 100 together over South Haven) and 76 on the 9th, no more than 52 birds were logged on each April date, a typical drop in numbers seen during the incubation period. There were 11 larger flocks noted during May which were perhaps non-breeders, with counts peaking at 39 on the 5th, 65 on the 14th and 35 on the 25th. Chicks were first heard at the Quarry on 18th May, five days

earlier than in 2017, six earlier than in 2016 and three earlier than in 2015. The first chicks to be seen out of the nest were in South Haven on 29th May (four days earlier than last year), but it was not until the 8th that youngsters were well away from their nest holes; the first fledglings were logged on the 9th last year and on the 8th in both 2016 and 2015. It again proved impossible to calculate the number of fledglings present in the mobile and nervous post-breeding flocks, although minimum counts of 24 between South Haven and the Well, five in Crab Bay and two on the Neck were made; the total was five more than last year and four more than in 2016. Two fledglings were taken by Great Black-backed Gulls during June, an occurrence also logged in 2017 and 2016 (a Rook and a Crow were also taken last year). A minimum of 120 over the Farm on the 22nd was the highest July daycount since 2015 and 137 on 1st August was the highest in that month since 2013. There was the customary departure for the mainland in late August, with no more than eight logged between the 25th and 4th September, however there were more arrivals during September this year with highs of 55 on the 13th, 75 on the 26th and 110 on the 28th; the latter equalled the third highest September daycount, only being down on 112 in 2015 and 115 in 2013. Subsequent arrivals were sporadic, with 26 October or November dates when five or fewer birds were present (including 19 blank days), but highs of 104 or more on eight calm mornings and peaks of 164 on the 19th, 185 on the 20th and 170 on 24th October; although down on the 189 logged on 2nd November last year, the peak October daycount was the fifth highest in any month to date, also down on the 200 of 5th November 1990, the 300 of 23rd October 1993 and the record 500 of 24th October 1993.

Rook *Corvus frugilegus* **Ydfran**
Scarce daycounts of up to 25 in 65 previous springs and of up to 21 in 32 previous autumns

One over the Farm on 5th April was the first of the year, this one day later than the arrival of the first of last year (a very approachable bird which lingered until 16th May when it was eaten by a Great Black-backed Gull). Another vocal flyover arrived from the north on 14th April and one on 28th May was over the Lighthouse and then the Farm. The only autumn record was of five birds which flew west along the north coast, returned east and then again headed west on 2nd November; this was the highest daycount since the seven of 16th October 2003, albeit some way off the Island record of 25 logged on 10th April 1953. Eight individuals in a year was down on the 12 of 2016 but up on the five of last year (when, in addition to the doomed long-stayer, there were three east on 22nd April and one at the Lighthouse on 5th May), the two flyovers of 2014, the singleton of 2012 and the six blank years logged between 2008 and 2015 inclusive.

Carrion Crow *Corvus corone* **Brân Dyddyn**
Uncommon Breeder and Uncommon Visitor
1936-1976: 152 trapped, 2013-2016: 8 pulli trapped, 1 retrapped

There were ten nesting pairs mapped this season, one more than in the previous two years and two more than in each year between 2013 and 2015. There were thus more pairs than in any of the previous 50 years; although prior to 1963 there were up to 12 pairs nesting on Skokholm, this had declined to just two by 1982, there was no breeding at all in 1984, 1985 and between 1991 and 1995 and there were only between two and five pairs from 1996 to 2012. Similar territories to last year were held near Warden's Rest, in Fossil Bay, North Gully, near the Devil's Teeth, in Peter's Bay and east of the Dip. Additionally a pair were again at Little Bay Point, an area last used in 2016, a pair were at the Stack, an area also last used in 2016, and a pair at Theatre Cove were perhaps the birds which nested to the east of Crab Bay last year. There was no indication of a pair occupying the traditional Hills territory, with a pair at Tabernacle Rock assuming the label of our sole inland nesting pair. There were again, on occasion, more birds present during the early spring than were found to be breeding, indeed the peak daycount got close to the spring record of 32 logged in the Marches of 2017 and 1959; there were five March and two April counts in excess of 20 birds, including highs of 27 on the 24th and 30 on 30th March and 31 on 1st April which included a murder of 22 in the Bog, the

largest flock of the spring. Only the pairs at Peter's Bay, Theatre Cove, Warden's Rest and North Gully fledged young, with the former two sites fledging singletons and the latter two fledging two. The resulting productivity value of 0.60 fledglings per pair was down on the 1.11 of last year, the 1.78 of 2017, the 1.88 of 2016 and was the lowest since 2013. Post-fledgling survival was seemingly poor, with a Warden's Rest fledgling found with a broken wing and a North Gully fledgling found in a weak state. Post-breeding daycounts failed to exceed the number of Skokholm breeders and their offspring until 12th September when a count of 28 included 22 together at Anne's Knoll. A daily presence continued in September and through to the November staff departure, with 13 daycounts of 26 or more (all in October) and highs of 33 on the 11th, 35 on the 16th, 42 on the 17th and 38 on 18th October; the peak, which included a flock of 40 on North Plain, was the second highest daycount on record, only down on the 48 of 9th November 2014 (which included 44 in a single flock).

Hooded Crow *Corvus cornix* **Brân Lwyd**
Rare 15 previous records of up to two individuals

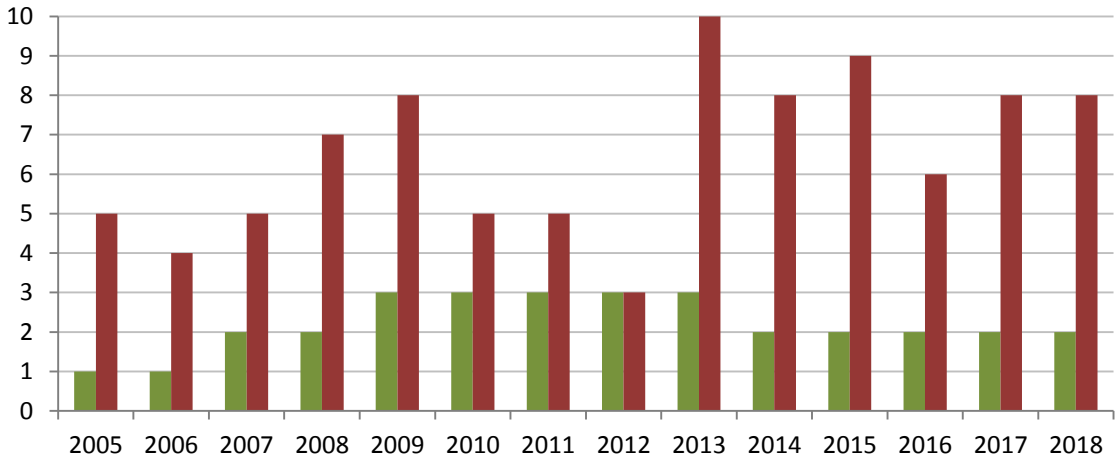
One sat at Warden's Rest on the morning of 18th October soon flew westwards and continued to do so until lost from sight (RDB); this was the first since one on 22nd March last year, the third single in four years and only the second autumn record for Skokholm following one on 11th September 1952. Of the 14 spring sightings, 11 have come in the period between 22nd March and 21st May, with further singles on 31st May and on the 14th and 15th June. There have been several large gaps between records, with no sightings between April 1939 and May 1951, September 1952 and April 1959, April 1959 and May 1970, May 1970 and April 1978, June 1982 and May 1994 and May 1994 and April 2012.

Raven *Corvus corax* **Cigfran**
Scarce Breeder and Uncommon Visitor
1936-1976: 67 trapped

For a fifth consecutive year only two active nests were located, both on the same ledges occupied in 2017; the west facing crevice on the eastern side of Steep Bay and the hidden ledge on the eastern side of North Haven were again used. With the exception of the two pairs which nested in 1966, only one pair of Raven was recorded in each year between 1928 and 2006, however this season became the 13th in which two or more pairs have bred (see graph below). The only spring records of birds additional to the Skokholm breeders were of six together on 22nd March, which approached from the north and were met above the Farm by the Steep Bay pair, and of a single on 6th May which was

pursued by both the resident pairs. A partially eaten Raven egg was found along the north coast on 1st April, however the Steep Bay nest contained five chicks on the 25th. Although the North Haven pair were regularly seen transporting Rabbit and Razorbill eggs to the nest area, the nest contents were again hidden from view. The five Steep Bay young fledged on 9th May, seven days later than the first of 2017 and nine days later than the first of 2015 but on the same date as in 2016. Two young fledged the North Haven nest on 10th May and a third was confirmed two days later.

The number of breeding pairs (green) and the number of fledged young between 2005 and 2018.



An average of four fledged young per pair matched 2017 and 2014 as the second most productive year in which more than one pair nested; only in 2015 has mean productivity been above four when more than one pair has been present and only in 2013 and 2015 have more young fledged in a single season. Adults were seen to be taking live prey during the chick feeding period, with birds watched as they despatched a Manx Shearwater and two Puffins, whilst Ravens also stole Rabbits from the Great Black-backed Gulls on at least two dates. An adult on 26th May was seemingly showing attentive fledglings how to break into an Oystercatcher egg. The breeders and their offspring potentially accounted for the daily sightings between 12th May and 29th August, although the family groups were often widely dispersed and 2nd June was the last date on which all three North Haven fledglings were seen. Nine birds together on 24th June was typical of the more social behaviour often

noted as the family groups begin to disband permanently. There were 14 birds logged on 30th August, including ten which came in together from the north; this was the second highest August daycount to date, only down on the 15 counted on the 17th last year. Daily September counts were all of six or less bar nine on two dates, 16 on the 12th (when 12 flew north pursued by two pairs which later returned), and 17 on the 15th which included 15 together at the Lighthouse. The two Skokholm pairs were probably responsible for all but two October records; pairs on the north coast and in Crab Bay were both engaged in allopreening when three birds approached from the north on the 21st, whilst a fifth bird was noted on the 27th. Daily November counts were typically also of four or less, although there were five on four dates, six on two dates and seven on the 23rd was the peak.

Great Tit *Parus major* **Titw Mawr**
Scarce typically a late autumn or winter visitor in groups of up to 25 and has overwintered
1 trapped, 1 retrapped
1936-1976: 36 trapped

A first-winter trapped on 7th October arrived on the same day as a Great Spotted Woodpecker (RD *et al*.). What was assumed to be the same ringed bird was seen around the Farm on the 9th and 10th and was retrapped on the 11th when it was found to have increased in weight from 17.4g to 18.2g. The ringed bird was again seen daily between the 13th and 15th October and was controlled in a garden on the nearby mainland on two occasions during December (see below). This was the first Skokholm record since 2011 when a single was logged on 12 dates between 18th March and 2nd April; the 2011 bird was perhaps the individual seen once in the November of 2010, an indication of possible overwintering which has been suspected several times in the past and confirmed in 1957-1958, 1992-1993, 1997-1998 and 2001-2002. Of the 725 previous bird-days, three were logged in September, 357 in October (including a record daycount of 25 on the 9th in 1957), 124 in November, 28 in December, nine in January, 58 in February, 128 in March, 17 in April and one on 28th May 1978.

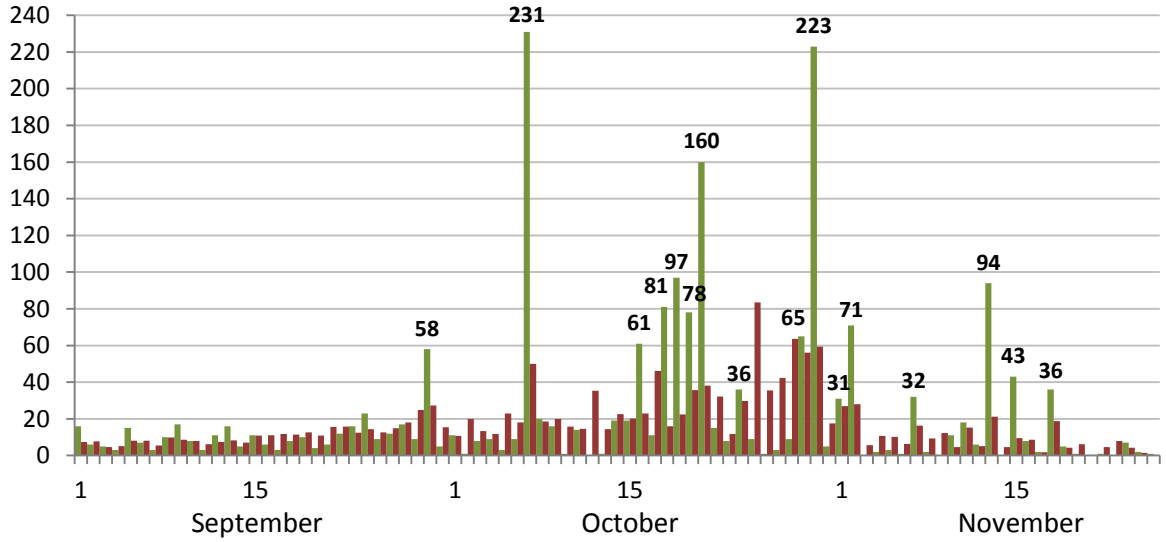
Ringing recovery TX22085
Originally ringed as a juvenile, WELL 6 MIST NET, SKOKHOLM 7th October 2018
Previously recovered as a juvenile, REEDBED MIST NET, SKOKHOLM 11th October 2018
Recovered as a juvenile female, MULLOCK, PEMBROKESHIRE 16th and 27th December 2018
Finding condition Intentionally taken

Distance travelled 9km at 66 degrees (ENE)
Days since ringed 70 and 81

Skylark *Alauda arvensis* **Ehedydd**
Uncommon Breeder and Common Visitor
10 trapped, 1 retrapped
1936-1976: 299 trapped, 2015-2017: 6 trapped (including 4 pulli)

The 19 territorial males mapped during April and May this year was two fewer than recorded in 2017 but three more than in 2016 and the second highest total for over 20 years; although up to 48 pairs bred in the 1960s, the most recent higher count other than that of 2017 was the 26 pairs of 1995. An additional singing male was logged on a single date but not encountered subsequently. There was again little evidence of a spring passage, with maximum daycounts of 19 in March, 21 in April and 25 in May all being down on last year and attributable to the Skokholm breeders. The first fledged young to be seen were around North Pond on 6th June, 15 days earlier than the first of last year. Given the number of overlapping territories and the secretive nesting habits of this species, it proved impossible to accurately assess productivity, however young were noted at six sites. Birds were again nest building in two territories on the 8th and 9th June, one was still feeding young at Migration Rocks on 12th July and what was seemingly a recent fledgling was at North Pond on 19th August. The number of birds logged each day declined during the post-breeding moult, with no more than 19 noted on each date between 2nd July and 23rd September.

The number of Skylark logged on each day of autumn (green) compared with the 2013-2018 average. 2018 counts of above 30 are labelled.



Five over high on 27th September was the first indication of an autumn passage and 58 were logged two days later; the latter was the highest daycount in this month since 9th September 1959. There were ten or fewer counted on 14 October dates, including a single blank day on the 12th which was one day later than the first blank day of last autumn. The first substantial passage of the season came on 7th October when a minimum of 231 approached from the northeast; although there have been two higher October daycounts in the last four years, namely 273 on the 28th in 2016 and 292 on the 25th in 2015, this was the biggest early October count since 1959 when a minimum of 301 was logged on the same date. There were two further large October counts, with 160 heading southwest on the 21st and 223 on the 30th; the latter count came in what has proven to be the peak week for Skylark passage during the last six years (see above chart). The October bird-days total was 1224, the highest in this month since the 1719 of 1988; the 1988 total included a daycount of 700, the second highest on record following a minimum of 1200 counted on 21st October 1956. There were sightings

on all but five November dates before the staff departure on the 26th, with highs of 71 on the 2nd and 94 on the 13th; the latter was the highest November daycount since 120 were logged on the 22nd in 1989 and a November bird-days total of 377 was the highest since the 518 of the same year.

Sand Martin *Riparia riparia* **Gwennol y Glennydd**
Fairly Common and Common in some years with daycounts of up to 400 in spring and 500 in autumn
Earliest 8th March 2000 (4th April 2018) **Latest** 25th October 1997 and 1971 (27th September 2018)
8 trapped
1936-1976: 8 trapped

There was no March record for the first time since 2013; four on 4th April were thus the first of the year, 12 days later than the first of last year, 16 days later than in 2016, 17 later than in 2015 and 18 later than in 2014. Records of up to 14 birds on 12 further April dates took the monthly bird-days total to 61, a figure close to the 2011-2018 mean of 62.8 but well down on the 189 of April 2017. There were 144 logged over 16 May dates, including highs of 57 on the 5th and 20 on the 12th; both the peak count and bird-days total were the highest in this month since 1989 when a record daycount of 400 contributed to a monthly total of 570. Six on the 1st and one on 29th June were unusual; there had only been 18 June bird-days this century. There were only 14 Sand Martin logged in July, including a high of nine on the 4th; this was well down on the 211 bird-days of July 2017 and the 94 of July 2016, these the two highest totals in this month to date.

The total number of Sand Martin logged each month (2017 to 2015 in parenthesis), along with the monthly maximum (2017 to 2015 in parenthesis) and the date(s) on which the 2018 peak was recorded.

March	April	May	June	July	August	September	October
0	61	144	7	14	309	72	0
(9, 22, 4)	(189, 67, 80)	(40, 70, 47)	(2, 0, 0)	(211, 94, 1)	(125, 74, 54)	(109, 14, 142)	(0, 3, 0)
0	14	57	6	9	235	51	0
(2, 15, 4)	(73, 12, 12)	(9, 17, 8)	(2, 0, 0)	(185, 75, 1)	(64, 29, 33)	(27, 3, 31)	(0, 3, 0)
	24th	5th	1st	4th	31st	24th	

August began quietly, with five bird-days between the 3rd and 5th and six on the 25th, however numbers increased sharply towards the end of the month with 34 on the 29th, 29 on the 30th and 235 on the 31st which included 150 counted in 15 minutes; the latter daycount was the third highest to be logged in August, only down on the 300 of 1969 and the 250 of 1953, whilst the monthly total was only down on the 472 of 1969. Sightings on eight September dates included 51 on the 24th which was the highest daycount in this month since 300 were logged on the 4th in 2007; the September bird-days total of 72 was down on the 109 of last year and record highs of 554 in 2002 and 1455 in 1967. Five birds ringed on 24th September took the year total to eight, doubling the number of Sand Martin which have been ringed on Skokholm. Three on 27th September were the last of the year, two days later than the last of 2017 and one day later than the last of 2015 but five earlier than the last of 2016.

Swallow *Hirundo rustica* **Gwennol**
Scarce Breeder and Very Abundant Migrant
Earliest 11th March 2000 (3rd April 2018) **Latest** 28th November 1932 (26th October 2018)
342 trapped (including 16 pulli), 13 retrapped, 1 control
1936-1976: 238 trapped, 2011-2017: 245 trapped (including 72 pulli), 63 retrapped, 10 controls

As with the preceding species, the first birds of 2018 were later than the recent average, with two on 3rd April being 22 days later than the first of last year and the latest arrival since nine on the 5th in 2015. There were sightings on all but one subsequent April date, with highs of 71 on the 19th and 21st taking the monthly bird-days total to 611; this was the lowest April total of the last five years, well down on the 1184 of last year. Birds were prospecting at a traditional nest site from 22nd April, two days earlier than last year and eight days earlier than in 2016, however it was not until 29th May that Swallows were seen collecting nest material (6th May last year). Four pairs again took up residence, although the Courtyard pair were late to settle with the first full clutch at this site not being logged until 21st July. Four breeding pairs matched 2017, 2016, 2014, 2012 and 2011, was one down on 2013, two down on 2015 and three down on the 2007 record. There were May highs of 265 on the 5th, 101 on the 19th and 97 on the 25th which took the monthly bird-days total to 1265; although up on the 1163 of last year, the total was well down on the 2457 of May 2016 and the 2012-2018 mean of 1386.3. There were 18 June daycounts in excess of the eight Skokholm breeders, including three fledglings at North Pond on the 19th which had arrived from elsewhere.

The first cold egg of the season was logged on 7th June, four days later than the first three of last year, three days later than the first single of 2016 and one day later than the first of 2015; this pair,

on one of the purpose built ledges in the Red Hut gas store, had four eggs on 22nd June but only one chick by 4th July, a bird which did go on to fledge. A pair in the Smoke Room had five eggs on both the 12th and 22nd June, four chicks on 4th July and fledged four on 11th July. The pair high up on the north side of the Wheelhouse had five chicks on 20th June, all of which had fledged by 5th July. The unusual Courtyard site was again used this year, with the nest hidden behind a thick screen of Sycamore and Elder; this pair had five chicks on 6th August, all of which had fledged by the 17th. Whereas three of the four pairs attempted second broods in both 2017 and 2016, only the Red Hut pair made a second attempt this year; they were collecting mud from Orchid Bog on 15th July, had two eggs on 21st July and 7th August, had only one chick on 16th August and fledged one 12 days later. Despite fewer second broods, the four pairs thus fledged 16 young, three more than last year; although down on the 5.75 of 2016, the resulting productivity value of 4.00 fledglings per pair was up on the 3.25 of last year and the 2013-2018 mean of 3.58. The only returning bird encountered this year had been ringed as a pullus in the Courtyard nest on 2nd July 2017; it was retrapped as it explored the inside of the Cottage on 26th May. A bird was watched as it picked up flakes of lime wash on the 1st and 2nd July.

The total number of Swallow logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2017 to 2013 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	0	611	1265	287	397	1343	12847	218	0
2017	6	1184	1163	298	488	927	18018	707	0
2016	9	771	2457	349	576	1062	2720	624	0
2015	0	907	1570	360	317	942	11446	729	0
2014	0	946	1220	329	416	454	30693	753	0
2013	0	347	859	365	259	480	8581	1396	9
2018	0	71	265	16	36	478	5308	62	0
2017	3	194	141	17	40	153	12979	136	0
2016	5	184	313	18	74	210	698	292	0
2015	0	112	203	24	15	77	5403	141	0
2014	0	198	176	26	46	45	12000	199	0
2013	0	50	164	39	19	30	3709	559	9
		19th & 21st	5th	1st	8th	31st	23rd	2nd	

A minimum of 30 along the north coast on 8th July was the first significant passage of the autumn, although there were no further movements in excess of 20 birds during the remainder of the month. It proved a record August, with peak daycounts of 87 on the 4th, 88 on the 30th and 478 on the 31st which took the monthly bird-days total to 1343; the bird-days total was up on the previous high of 1062 logged two years ago, whilst the peak daycount was also a new August record, up on the 350 counted on the same date in 1959. Although 20 or fewer birds were noted on ten dates, there were records on every day of September including seven three-figure counts and highs of 611 on the 5th, 5308 on the 23rd, 4640 on the 24th and 909 on the 27th; a September bird-days total of 12,847, although down on the 18,018 of last year and the 30,693 of 2014, was close to the 2012-2018 mean of 13,268.3. The peak daycount was less than half that logged in 2017, although the 12,979 of 18th September that year was the highest to date. There were birds on all but one October date to the 11th, including highs of 62 on the 2nd and 47 on the 7th, 33 over three further dates to the 17th and one over South Haven on the 26th which was the last of the year; both the peak count and bird-days total were the lowest to be logged in October since 2011. The last of the year was one day earlier than the last of 2017, five days earlier than the last of 2016 and three days earlier than the last of 2015.

Ringing recovery S190207
Originally ringed as one of four chicks, SKOMER ISLAND, PEMBROKESHIRE 29th July 2017

Recovered as an adult male, REEDBED NET, SKOKHOLM 27th August 2018
Distance travelled 5km at 149 degrees (SSE)
Days since ringed 394

House Martin *Delichon urbicum* **Gwennol y Bondo**
Common Migrant with record daycounts of 330 in April 1948 and 710 in September 2013
Earliest 20th March 1988 (4th April 2018) **Latest** 29th October 1975 (3rd October 2018)
11 trapped
1936-1976: 17 trapped, 2015: 1 trapped

One over the Lighthouse on the afternoon of 4th April was three days earlier than the first of last year and nine days earlier than the first of 2016 but 15 days later than the earliest Skokholm record. There were sightings on a further 11 April dates from the 12th, including highs of 14 on the 18th and nine on the 24th which took the bird-days total to 45, the lowest in this month since 2014. May proved more productive with records on all but three dates, highs of 56 on the 5th and 47 on the 24th and a bird-days total 313; there are only two higher May tallies, with 361 logged in 2016 and 315 in 1948. Two birds on 28th May briefly inspected the boxes on the side of the Lighthouse Garage, although they did not linger; these nest boxes, installed in the autumn of 2014, are still to be used. There were sightings of up to seven birds on all but one June date to the 14th, a single on the 24th and two on the 30th; a June bird-days total of 44 was the highest since the 46 of 1996. There were five noted over three July dates, these the first in this month since 2016; there had only been 45 July bird-days this century. The first of an average August was at the Lighthouse on the 5th and there were a further 20 over five dates during the month. Autumn passage again peaked in September with 280 birds noted over nine dates including highs of 212 on the 24th and 21 on the 27th; the monthly total and peak count were the highest since 2014 and the total the third highest since 1997, whilst there have only been five higher September totals and four higher September daycounts. There were 11 juvenile House Martin ringed between the 24th and 27th September, more than half the number previously ringed by the Observatory. In a typical October there were 25 on the 2nd and ten the following day which were the last of the year; the last of 2017 were two on the 27th and the last of 2016 a single on the 23rd, indeed three of the seven latest records have occurred since 2014.

Willow Warbler *Phylloscopus trochilus* **Telor yr Helyg**
Abundant Migrant although only Common in some years
Earliest 13th March 2007 (30th March 2018) **Latest** 31st October 1954 (18th October 2018)
686 trapped, 66 retrapped, 3 controls
1936-1976: 11,665 trapped, 2011-2017: 4214 trapped, 518 retrapped, 7 controls

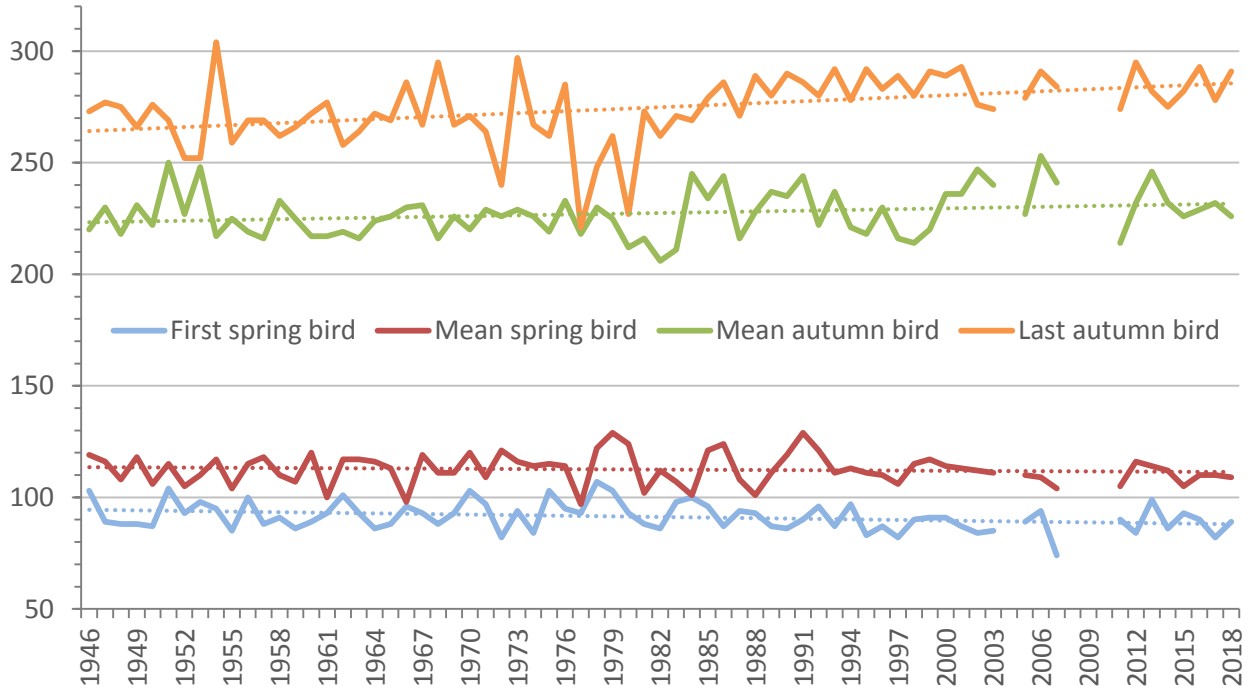
Three on 30th March, including a male singing at the Farm, were the first of the year, these one day earlier than the first of 2016 but seven later than the first of last year and 17 days later than the earliest Skokholm record. An analysis of the recently digitised Birdlog data reveals that the first individual of spring is arriving significantly earlier than it did only six decades ago (see chart below). Records on all but three April dates included 16 counts of fewer than ten but highs of 72 on the 11th (when all but two of 36 ringed birds were probably males), 62 on the 12th and 80 on the 13th which took the bird-days total to 429; the peak spring daycount was less than a third of that logged last April, whilst the bird-days total was the lowest in this month since 2006 and less than half of that logged in 2017. Half of the birds counted this spring had gone through by 19th April, one day earlier than the mean birds of 2017 and 2016; an analysis of the Birdlog data again suggests that the mean spring bird is passing through earlier than it did in the early post-War years. A large and pale bird, probably a *P. t. acredula*, was logged on 22nd April and a bird in suspended primary moult with a slight sixth primary emargination on 26th April, which appeared rather like an Iberian Chiffchaff, was confirmed as a Willow Warbler using mitochondrial DNA analysis. There were records on all but seven May dates, with fewer than ten noted on 21 days but highs of 21 on the 4th and 42 on the 5th;

the maximum daycount was the highest in this month since 2012, although a bird-days total of 122 was slightly down on last year and the 2012-2018 mean of 139.0. Nine of the ten highest May totals occurred before 1993, fitting nicely the pattern of earlier spring passage noted in more recent years. As is typically the case, June proved quiet with six bird-days including the last of spring on the 13th; the highest June total is the 26 logged in 2013. As noted in the previous five years, the vast majority of spring birds moved through very quickly; of 284 ringed during the period, none were retrapped on subsequent dates. An adult female, probably a failed breeder from the mainland, was ringed on 30th June and was still present on 5th July.

The total number of Willow Warbler logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2017 to 2014 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	4	429	122	6	101	785	184	3	0
2017	12	954	160	6	100	402	70	10	0
2016	4	496	93	0	104	441	116	4	0
2015	0	952	66	7	72	719	282	5	0
2014	23	677	135	9	457	378	550	1	0
2018	3	80	42	2	27	159	28	1	0
2017	5	263	25	4	15	60	10	6	0
2016	4	61	36	0	20	34	13	1	0
2015	0	180	9	2	21	113	61	1	0
2014	15	150	19	1	101	38	134	1	0
	30th	13th	5th	2nd	30th	21st	2nd	3 dates	

The number of days into the year that the first and last Willow Warblers were logged 1946-2018 and the number of days after which the mean spring and autumn birds went through.



Following another adult on the 11th, the first juvenile of the autumn was logged on 14th July, ten days later than the first of last year but on the same date as the first of 2016. Following singles on a further three dates, there were daily sightings from 21st July including highs of 18 on the 22nd and 27 on the 30th which took the bird-days total to 101; the maximum daycount was the highest in this

month since 2014 and the bird-days total was one up on last July but three down on that of 2016. As has been the case for the last five years, there were daily records in August, with highs of 143 on the 4th, 46 on the 5th and 159 on the 21st which contributed to a monthly total of 785; the maximum daycount was the 14th highest to be logged in this month and the highest since 1999, whilst the monthly total was the highest since 1976 and the sixth highest to date (the August daycount record is the 3000 noted on the 8th in 1948, whilst the three highest August totals are the 3938 of that year, the 1162 of 1958 and the 2121 of 1975). There were September counts on all but two dates to the 26th, all of ten or less bar 28 on the 2nd, 22 on the 3rd and 15 on the 4th; a bird-days total of 184 equalled the seventh highest to be logged in this month and both the total and peak count were the highest since 2015 when a daycount of 61 took the monthly total to 282. Singles on the 4th, 5th and 18th October were the last of the year; there have only been nine later birds seen on Skokholm. The mean autumn passage bird went through on 14th August, six days earlier than in 2017, three earlier than in 2016 and on the same date as in 2015; the digitised Birdlog data reveals that the date on which the mean autumn Willow Warbler goes through has been getting significantly later, a trend which mirrors the shift in the date on which the last bird is logged. Documented changes in phenology linked to climate change frequently cite earlier spring arrival dates, however the Skokholm Willow Warbler data suggests that it is departure dates which are changing more rapidly. As was noted in the previous five seasons, autumn juveniles frequently lingered for longer periods; of 402 birds ringed during the autumn, 12 were present for a further one to three days, seven were present for between four and eight days, five were present for between nine and 12 days, two remained for at least 14 days, three for 16 days and two further singles lingered for 21 days.

Ringing recovery JRT077
Originally ringed as a juvenile, KILPAISON MARSH, PEMBROKESHIRE 30th August 2017
Recovered as an adult, COURTYARD NET, SKOKHOLM 5th May 2018
Distance travelled 17km at 283 degrees (WNW)
Days since ringed 248

Ringing recovery KEH410
Originally ringed as an adult, LUNDY ISLAND, DEVON 22nd April 2018
Recovered as an adult, WHEELHOUSE HELIGOLAND, SKOKHOLM 26th April 2018
Distance travelled 74km at 325 degrees (NW)
Days since ringed 4

Ringing recovery KYN278
Originally ringed as a juvenile, STREAM NET, SKOKHOLM 21st August 2018
Recovered as an unidentified corpse, VENNBRIDGE, KENTON, DEVON 25th August 2018
Finding condition Taken by Sparrowhawk
Distance travelled 175km at 134 degrees (SE)
Days since ringed 4

Ringing recovery POL X43910
Originally ringed as a juvenile, PAUL DA MADRIZ, COIMBRA, PORTUGAL 1st September 2017
Recovered as an adult, WELL HELIGOLAND, SKOKHOLM 2nd May 2018
Distance travelled 1313km at 12 degrees (NNE)
Days since ringed 243

Chiffchaff *Phylloscopus collybita* **Siff-saff**
Abundant Migrant although only Common in some years. Bred successfully for the first time in 2015
Earliest 19th February 1998 (16th March 2018) **Latest** 14th December 2000 (18th November 2018)
397 trapped, 318 retrapped, 2 controls
1936-1976: 2565 trapped, 2011-2017: 1650 trapped, 537 retrapped, 9 controls

Although there is a possibility that early birds may have come and gone prior to the arrival of staff on 6th March, the first two of the year were not logged until the 16th; this was the latest arrival since two on the 17th in 2011, four days later than the first of last year and three days later than the first of 2016. Records of up to five birds on seven further March dates took the bird-days total to 18, a tally well down on the 169 of March 2017 and which equalled the lowest of the last decade. However numbers increased significantly in April, with daily sightings from the 2nd, highs of 65 on the 4th, 51 on the 11th and 94 on the 13th and a monthly total of 575; the maximum count was a new April record, topping the 72 of 2015 and the 75 of 1953, and the bird-days total was also a new record, eclipsing the 369 of 2015. Six of the eight most productive Aprils have come in the last six years. For a third year in succession it proved the best May ever, with daily sightings and peaks of 24 on the 5th and 17 on the 30th which took the bird-days total to 307, 110 more than last year's record tally; the five highest May totals have occurred in the last five years. June was also a record breaker, with daily counts of up to 14 birds, 41 different ringed individuals and an unprecedented minimum of 12 summering birds taking the bird-days total to 225, more than twice the 2015 record. The summering birds (six males, five females and one unsexed), all remained for at least 38 days, with the majority resident between May and September; the longest stays made by males were between 22nd April and 3rd November, 19th May and 13th November and 24th May and 9th October, whilst females lingered between 21st May and 11th September, 21st May and 7th August and 2nd June and 4th September.

It is possible that this increase in spring numbers has led to recent breeding attempts; in 2014 a pair lingered between May and October but were seemingly not successful with any nesting attempt, in 2015 a pair successfully fledged at least one and last year a bird observed nest building was not known to progress beyond that stage. This year saw a bird nest lining near the Well on the 5th and 6th May, with what was probably another nest building near the Lime Kiln on the 24th. However despite these positive signs, a record number of birds present during the summer and birds singing on the majority of dates, there was no indication of a successful breeding attempt. The only juvenile logged prior to September arrived on 14th July, five days later than the first of last year and eight days later than the first of 2016; it was seemingly independent and probably not from Skokholm.

The total number of Chiffchaff logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2017 to 2014 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	18	575	307	225	102	93	232	292	48
2017	169	248	197	50	25	71	208	164	23
2016	57	251	177	24	17	1	88	135	14
2015	18	369	164	97	32	19	178	253	112
2014	73	201	171	64	28	31	482	307	109
2018	5	94	24	14	7	6	16	19	5
2017	27	26	16	5	2	17	49	21	6
2016	14	46	12	6	2	1	15	25	2
2015	3	72	9	8	3	2	41	57	12
2014	12	19	19	4	2	4	133	24	11
	30th	13th	5th	5th & 10th	10th	2nd & 3rd	20th	15th	1st & 4th

Daily July counts of up to seven were mainly attributable to the summering birds and the sole incoming juvenile, although two adults were ringed during the month and another arrived from Skomer; the bird-days total was more than three times the 2005 record. Observations on all but one August date were again primarily of long-stayers, indeed no new birds were ringed during the period and only one definite unringed bird was seen; a significant autumn passage, which in 2017 began on 29th August, was not logged until September. There were daily September records, with ten on the 4th being the first definite autumn passage, 41 birds ringed during the month (including 36 juveniles)

and highs of 16 on the 20th, 15 on the 29th and 14 on two dates; the bird-days total of 232 was the highest in this month since the 482 of 2014, but the peak daycount was the second lowest of the last eight years. Sightings on all but one October date, including 51 new birds ringed and highs of 17 on the 1st and 8th, 18 on the 6th and 7th and 19 on the 15th took the bird-days total to 292; although the peak daycount was the lowest of the last six Octobers, the bird-days total was the second highest October tally on record, only down on the 307 of 2014. Birds were seen on every November date to the 18th, including five birds on two dates which contributed to a monthly total of 48, the third highest to date. An absence of staff during the winter months and an increase in the number of birds overwintering in Wales have inevitably reduced the relevance of the early and late dates recorded for this species; winter birds may well be going unrecorded.

Siberian Chiffchaff were trapped on the 7th and 20th October, the latter of which was retrapped on the 22nd and lingered to the 28th; dropped feathers were retained for potential mitochondrial DNA analysis. A third individual sheltered in front of the Howard's End Hide during an 8th November gale. Although several *P. c. tristis* have been described on Skokholm in the past, including in four of the last five years, only birds present on 2nd November 2014, 22nd October and 1st November 2015 and on 15th November 2016 have been confirmed using DNA analysis.

Ringing recovery HYK509
Originally ringed as an adult, SKOMER ISLAND, PEMBROKESHIRE 20th May 2018
Recovered as an adult male, WELL HELIGOLAND, SKOKHOLM 4th July 2018
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 45

Ringing recovery KVB366
Originally ringed as a juvenile, PORTH HELLICK, ST MARY'S, SCILLY 20th October 2018
Recovered as a juvenile, WELL 9 MIST NET, SKOKHOLM 30th October 2018
Distance travelled 211km at 20 degrees (NNE)
Days since ringed 10
An intriguing record of a north bound juvenile in October.

Yellow-browed Warbler *Phylloscopus inornatus* **Telor Aelfelyn**
Scarce Autumn Migrant the first for Wales was found on 2nd October 1959. Rare until 2013
Earliest 23rd September 2015 (14th October 2018) **Latest** 3rd November 2017 (15th October 2018)
2 trapped
1936-1976: 2 trapped, 2013-2017: 13 trapped, 3 retrapped

The first of the year was photographed on the roof of the Central Block and later ringed on 14th October. An unringed bird in the same area the following day was assumed to be the same as later trapped and ringed at the Well. Two individuals in an autumn was up on the single of 2017 but down on the five of 2016 and the four of 2015 and 2013; there have now been 17 individuals in the last six years. Although clearly still a Skokholm scarcity, this species has become commoner in recent times, primarily due to its continued breeding range expansion to the west of the Ural Mountains which has resulted in an increase in the number of birds wintering in western Europe. Nevertheless there have still only been approximately 35 Skokholm individuals since the first for Wales found in 1959, although recent ringing (including this year) has shown that records on consecutive dates, assumed in the past to be the same individual, may have actually been more than one bird.

Sedge Warbler *Acrocephalus schoenobaenus* **Telor yr Hesg**
Common Migrant and Uncommon Breeder previously a Scarce Breeder
Earliest 6th April 1961 and 2005 (19th April 2018) **Latest** 17th October 1957 (21st September 2018)
255 trapped, 158 retrapped, 3 controls
1936-1976: 1977 trapped, 2011-2017: 828 trapped, 408 retrapped, 12 controls

The first of the year on 19th April was a Skokholm breeder ringed as an adult in May 2016; it arrived on the same date as the first of last year but seven days later than the first of 2016. There were records on all but one subsequent April date, including a further four birds ringed as adults in 2017 which returned between the 20th and 22nd and a peak count of five on the 21st; a monthly bird-days total of 28 matched the 2011-2018 mean. Daily records in May, including highs of 17 on the 12th and 24th and 19 on the 20th, took the monthly total to 345, the fourth highest on record for May behind the 575 of 1953, the 376 of 1967 and the 351 of 2016. In total there were 15 ringed birds which were known to return this year, two more than in 2016 and the same as logged last year (which was the most recorded since ringing was reinstated). However, whereas only four of 15 birds in 2017 were adults, there were 12 returning adults this year including seven which probably returned in 2017; the oldest were a male ringed as a juvenile on 17th July 2015 which was retrapped exactly three years later and the bird ringed as an adult in May 2016. Additionally a female ringed as a

juvenile in July 2016 bred on Skomer in both 2018 and 2017. There were only three returning birds which had been ringed as juveniles in the preceding year, eight fewer than were logged last year.

The number of confirmed breeding pairs 2004-2018.

2004	2005	2006	2007	2008-09	2010	2011	2012	2013	2014	2015	2016	2017	2018
5	7	3	4	-	4	13	4	8	9	7	11	13	15

There were a minimum of 15 occupied territories, two more than last year and the most to date; the majority were again situated close to fresh water, with pairs at the Hills, the Top Tank, to the south of Home Meadow, near Bread Rock and on Isthmian Heath occupying drier areas. The first fledgling was at the Well on 26th June, five days earlier than the first of last year. There were 68 juveniles ringed during July (this compared with 52 in 2017, 42 in 2016, 34 in 2015 and 47 in 2014), however productivity proved impossible to calculate, primarily due to youngsters frequenting dense cover, closely positioned territories and the early arrival of fledglings from elsewhere. Although some Skokholm breeders were still feeding young until at least 19th August, birds were clearly arriving during the month, with peak daycounts of 41 on the 4th, 43 on the 9th and 30 on two dates taking the monthly total to 409; the peak daycount was the fourth highest in August and the most since 45 were logged on the 30th in 1966, whilst the bird-days total was a new August record, well up on the 335 of 2016 (the three biggest August totals have come in the last three years). No more than ten were logged each day from 22nd August to 7th September, the latter date the first of autumn without a record. Singles between the 11th and 13th and on 21st September were the last of the year, the latter five days later than the last of 2017; there have been 150 later Skokholm bird-days with the latest on 17th October 1957. Although up on the 17 of 2017, a September bird-days total of 31 was the second lowest of the last six years; the two highest September totals to date, including 75 in 2013, came during the same period. There were 199 juveniles ringed during the autumn, this compared with 101 in 2017, 107 in 2016, 79 in 2015, 86 in 2014 and 70 in 2013.

Ringing recovery S190944
Originally ringed as a juvenile, SKOMER ISLAND, PEMBROKESHIRE 25th July 2018
Recovered as a juvenile, STREAM NET, SKOKHOLM 5th August 2018
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 11

Ringing recovery S277472
Originally ringed as an adult, SOUTH MILTON LEY, DEVON, 1st August 2017
Recovered as an adult, WELL HELIGOLAND, SKOKHOLM 30th April 2018
Distance travelled 189km at 328 degrees (NNW)
Days since ringed 272

Ringing recovery S752496
Originally ringed as a juvenile, NANJIZAL, LANDS END, CORNWALL 8th August 2017
Recovered as an adult, WELL 9 MIST NET, SKOKHOLM 24th May 2018
Distance travelled 186km at 10 degrees (N)
Days since ringed 289

Ringing recovery S957713
Originally ringed as a juvenile, STREAM NET, SKOKHOLM 14th July 2018
Previously recovered as a juvenile, WELL 9 MIST NET, SKOKHOLM 16th July 2018
Recovered as a juvenile, TOUR AUX MOUTONS, LOIRE-ATLANTIQUE, FRANCE 6th August 2018
Finding condition Intentionally taken
Distance travelled 540km at 155 degrees (SSE)
Days since ringed 23

Ringing recovery S957808
Originally ringed as a juvenile, WELL 9 MIST NET, SKOKHOLM 4th August 2018
Recovered as a juvenile, SAINT-VIGOR-D'YMONVILLE, SEINE-MARITIME, FRANCE 14th August 2018
Finding condition Intentionally taken
Distance travelled 468km at 123 degrees (ESE)
Days since ringed 10

Ringing recovery S957828
Originally ringed as an adult female, WELL 9 MIST NET, SKOKHOLM 4th August 2018
Recovered as an adult, TRUNVEL, TREOGAT, FINISTÈRE, FRANCE 9th August 2018
Finding condition Intentionally taken
Distance travelled 430km at 172 degrees (S)
Days since ringed 5
Three birds ringed on Skokholm and controlled in France, including two ringed on the same day, is an excellent return on the 113 Sedge Warblers ringed during this period.

Ringing recovery Z006185
Originally ringed as a juvenile, COTTAGE HELIGOLAND, SKOKHOLM 21st July 2016
Previously recovered as an adult, SKOMER ISLAND, PEMBROKESHIRE 9th July 2017
Recovered as an adult female, SKOMER ISLAND, PEMBROKESHIRE 20th May 2018
Recovered as an adult female, SKOMER ISLAND, PEMBROKESHIRE 7th June 2018
Finding condition Intentionally taken
Distance travelled 4km at 343 degrees (NNW)
Days since ringed 668 and 686

Reed Warbler *Acrocephalus scirpaceus* **Telor y Cyrs**
Uncommon Migrant previously Scarce. Bred for the first time in 2016, fledging at least three
Earliest 17th April 2015 (19th April 2018) **Latest** 30th October 1997 (29th September 2018)
19 trapped, 10 retrapped
1936-1976: 15 trapped, 2011-2017: 51 trapped (including 4 pulli), 35 retrapped, 2 controls

The first of the year, trapped at the Well on 19th April, was two days later than the earliest spring record logged in 2015 and on the same date as one in 1996; there had only been 12 previous April bird-days. The same bird was noted each day between the 20th and 23rd, was perhaps the same singing from the Reedbed on the 21st and 23rd and, following a five day absence, was retrapped on the 29th when a second bird was also present; the latter observation was the first April record of multiple birds. There were singles seen near the Well on 30th April and the 4th and 6th May, although the presence or absence of a ring could not be confirmed. A new individual was ringed on 25th May and two in the Courtyard the following day were both unringed. There were four on 29th May, with a male singing at North Pond and three at the Well; this was the highest spring daycount to date, up on the three logged in the Mays of 1982, 2006 and 2017. At least one of the Well birds was still present on the 30th and a new bird trapped there on 2nd June, also logged on the 4th and 6th, was joined by a second bird on the latter date. One trapped on 22nd June was the last of a spring which lacked any evidence of a breeding attempt; there was no sign of the male which fledged a minimum of three in 2016 and which returned but failed to breed successfully last year.

Two juveniles ringed on 9th August were the first of the autumn, three days earlier than the first of 2017 and nine days earlier than the first non-Skokholm juvenile of 2016. There were further August singles in South Haven on the 26th, at the Well on the 27th and at the Hills on the 28th, whilst two juveniles were ringed at the Well on the 29th, one of which was still present the following day. In September there was an unringed juvenile on the 1st, five on the 2nd including four juveniles trapped at the Well, another new juvenile ringed on the 4th and two at the Well the following day; the 2nd

September maximum was the highest daycount ever logged on Skokholm. The 4th September juvenile lingered to the 12th and perhaps accounted for records of singles on the 8th and 9th, although another juvenile was ringed on the 11th which was one of three seen on the 12th. A juvenile ringed on 29th September was the last of the year; there have been 19 later bird-days, with one on 2nd October 2016 the most recent and one on 30th October 1997 the latest. A September bird-days total of 16 matched 2016 as the highest on record. A total of 11 non-Skokholm hatched juveniles was two up on the 2017 and 2016 ringing totals; although it is impossible to estimate the number of individuals present in previous autumns based on a list of sightings, it seems likely that more birds have visited Skokholm in the last three autumns than ever before.

Melodious Warbler *Hippolais polyglotta* **Telor Pêr**
Scarce almost annual 1955-1996 but less frequent subsequently and only eight spring records
Earliest 15th May 2015 (2nd September 2018) **Latest** 12th October 1955 (5th September 2018)
1 trapped
1936-1976: 37 trapped, 2011-2015: 4 trapped, 2 retrapped

One watched as it moved between East Bog, the Pig Sty and Boundary Hill on 2nd September was assumed to be the bird trapped in the Well Heligoland on the 5th (GE, RDB *et al*.); this was the first since one, also at Boundary Hill, logged between 28th September and 8th October last year and only the ninth this century. Following the first for Skokholm in 1955, there were records of up to three birds in every year to 1971 and in most years up to and including 1996, however the only sighting between 1997 and 2010 was a single logged on the 30th and 31st May 2002. More recently there were two birds in 2011 (singles between 31st July and 1st August and between the 19th and 20th August), three birds in 2012 (singles between the 2nd and 3rd September, the 15th and 17th September and on 6th October) and one on 15th May 2015.

Grasshopper Warbler *Locustella naevia* **Troellwr Bach**
Uncommon Migrant occasionally absent in autumn
Earliest 30th March 1981 (19th April 2018) **Latest** 7th November 1968 (24th September 2018)
3 trapped
1936-1976: 298 trapped, 2011-2017: 50 trapped

One ringed on 19th April arrived on the same day as the first of last year and the first of 2014, five days earlier than the first of 2016 but five later than the first of 2015. One singing on the 30th was the only other April record; a total of two April bird-days was 23 down on last year and equalled 2016 as the lowest tally of the last eight years. Two ringed on the 4th were the only birds of a typical May and two days later than the last spring birds of 2017. The first of the autumn was at the Bluffs

on 24th July and one was at Orchid Bog two days later; there have only been four previous July bird-days with one on the 10th in 1955 the only earlier autumn record. Despite these early autumn sightings, and despite the fact that there have been 102 previous August bird-days, there were no birds noted during the following month. Indeed the only other sighting was of one along the Lighthouse Track on 24th September, 20 days later than the sole autumn record of 2017. A total of seven birds in 2016 was the eighth best autumn on record, down on counts of between eight and 39 in six previous years and well down on a remarkable 99 logged in the autumn of 1970.

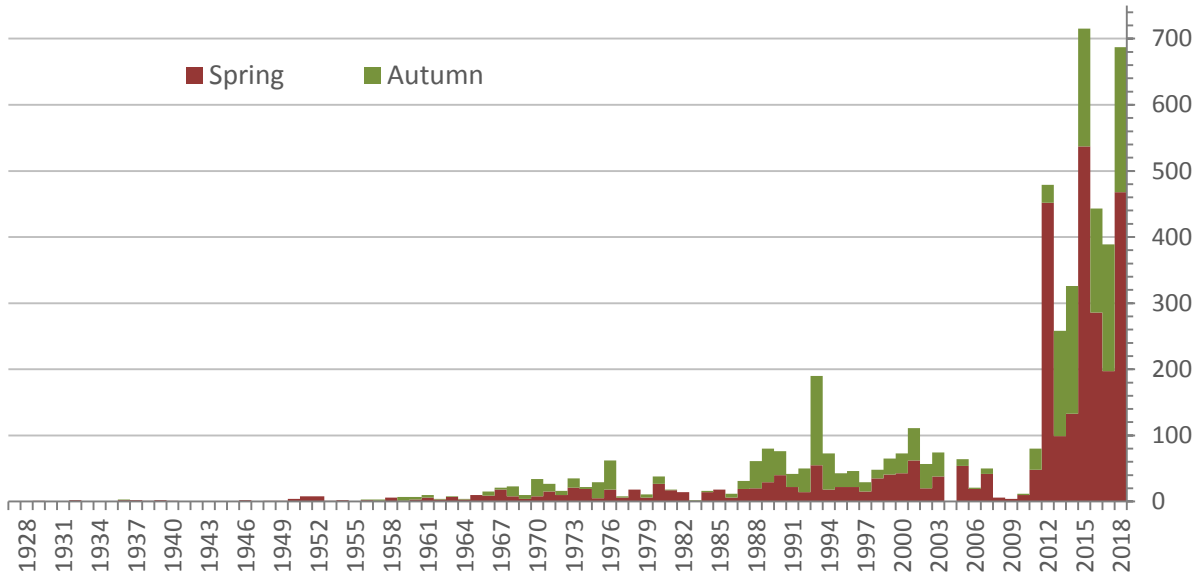
Blackcap *Sylvia atricapilla* **Telor Penddu**
Common but recorded by both Thompson and Betts as Uncommon and Scarce prior to the 1960s
Earliest 9th March 1997 (4th April 2018) **Latest** 2nd December 1996 (24th November 2018)
281 trapped, 40 retrapped, 1 control
1936-1976: 211 trapped, 2011-2017: 1045 trapped, 165 retrapped, 1 control

Eight arrived on 4th April, 11 days later than the first spring record of 2017 and one day later than the first of 2016. There followed sightings on a further 22 April dates including highs of 73 on the 12th, 164 on the 13th and 27 on the 14th which took the bird-days total to 413; the 13th April maximum, which included 78 birds trapped and ringed, was the highest daycount ever logged on Skokholm, up on the 129 of 15th April 2015, whilst the monthly total was the second highest to date, only down on the 469 of April 2015. May was quiet by recent standards, perhaps in part due to the number of birds which went through in April; there were up to eight birds logged on 20 May dates, this the third lowest peak May count of the last seven years, and a total of 41 bird-days logged, also the third lowest tally of the last seven years. Nevertheless there have only been four higher May totals, with 170 in 2012 the maximum. Sightings of up to three birds on 11 June dates totalled 14 bird-days, this the highest June total to date; there have only been birds logged in 20 Junes, including each of the last six. As noted for other species, Blackcaps typically moved through quickly during spring; of 202 ringed during the period, the only known lingerers were four birds present for two days, two for three days, one for four days and two for eight days.

A juvenile at the Well on 1st July was perhaps the bird ringed on the 2nd and retrapped on the 3rd; the first of 2017 was logged on the 6th. Further July records of up to two birds on six dates between the 17th and 24th included four new juveniles and an adult female and took the monthly total to 11, the highest to be logged in July; there had only been 34 July bird-days prior to this year. Perhaps surprisingly given the recent increase in autumn counts, there was no August record for the first

time since 2016 and for only the second time in the last six years. Numbers increased in September with sightings on 22 dates and highs of seven on the 20th and 30th and ten on the 24th which took the bird-days total to 65; the only higher September totals are the 75 of last year and the 80 of 2014, whilst the peak daycount matched one in 2014 as the second highest in September, only down on the 21 of the 16th last year. In October there were sightings on all but six dates including highs of nine on the 3rd and 5th and a record-equalling 20 on the 16th; an October bird-days total of 127 was 20 up on last year's record and the peak daycount was one up on last year, matching the 1989 record. Blackcap were seen on ten November dates, with highs of three on the 4th and four on the 11th contributing to a bird-days total of 16, the third highest to be logged in this month behind the 18 of 2014 and the 24 of 1993. A female in the Courtyard on 24th November was the last of the year; the only later birds have been a female on the 25th in 2000 and a male which lingered from 20th November to 2nd December in 1996, although late (and possibly even overwintering) birds could be going undetected due to the absence of staff late in the year. A total of 219 autumn bird-days was a new Skokholm record, up on the 192 of last year and the 193 of 2014. Of 79 birds ringed in autumn, nine were present for at least two or three days, four further birds were present for between four and six days and one remained for 12 days.

The total number of Blackcap bird-days logged in each spring and autumn since 1927.



The total number of Blackcap logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2017 to 2014 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	0	413	41	14	11	0	65	127	16
2017	4	164	27	2	1	3	75	107	6
2016	0	151	122	13	0	0	41	101	15
2015	0	469	63	5	8	5	53	103	9
2014	3	114	14	2	1	4	80	90	18
2018	0	164	8	3	2	0	10	20	4
2017	2	68	7	1	1	2	21	19	3
2016	0	17	19	3	0	0	6	18	4
2015	0	129	13	4	1	2	8	12	4
2014	2	20	4	1	1	2	10	9	4
		13th	4th	3rd	21st & 22nd		24th	16th	11th

Ringing recovery S989073
Originally ringed as a juvenile, ARDEAMUSH, LISDOONVARNA, CLARE, IRELAND 13th August 2017

Recovered as a first-summer male, WELL 9 MIST NET, SKOKHOLM 12th April 2018
Distance travelled 313km at 119 degrees (ESE)
Days since ringed 242
The increase in the number of Blackcap passing Skokholm is perhaps in part explained by an increase in the number of birds breeding in Ireland.

Garden Warbler *Sylvia borin* **Telor yr Ardd**
Uncommon Migrant although Scarce between 2005 and 2012, in 2017 and in 2018
Earliest 6th April 1966 (5th May 2018) **Latest** 2nd November 1968 (9th August 2018)
4 trapped
1936-1976: 172 trapped, 2013-2017: 20 trapped, 6 retrapped

One trapped along Well Stream on 5th May was 11 days later than the first of 2015 but six days earlier than the first of last year and three earlier than the first of 2016. Another was trapped in the Wheelhouse Heligoland on the 25th and the last of the month was at the Well on the 29th; three spring birds was one up on last year, 2014 and 2013, matched 2015 and was three down on 2016; all these totals are down on those of the 1980s and 1990s when numbers peaked at 17 in May 1988 and 62 in May 1993. Two ringed on 9th August were the only birds seen during the autumn; although an improvement on the blank autumn of last year and only one down on the three logged in 2016, there have been recent autumn bird-days totals of 13 in 2015 and 17 in 2014, whilst the record is the 31 of 1971. Two birds in a day matched the highest total since the three of 14th September 2002.

Lesser Whitethroat *Sylvia curruca* **Llwydfron Fach**
Scarce Migrant not recorded every year
Earliest 20th April 2016 **Latest** 3rd November 1927 (5th August 2018)
1936-1976: 31 trapped, 2011-2017: 17 trapped, 7 retrapped

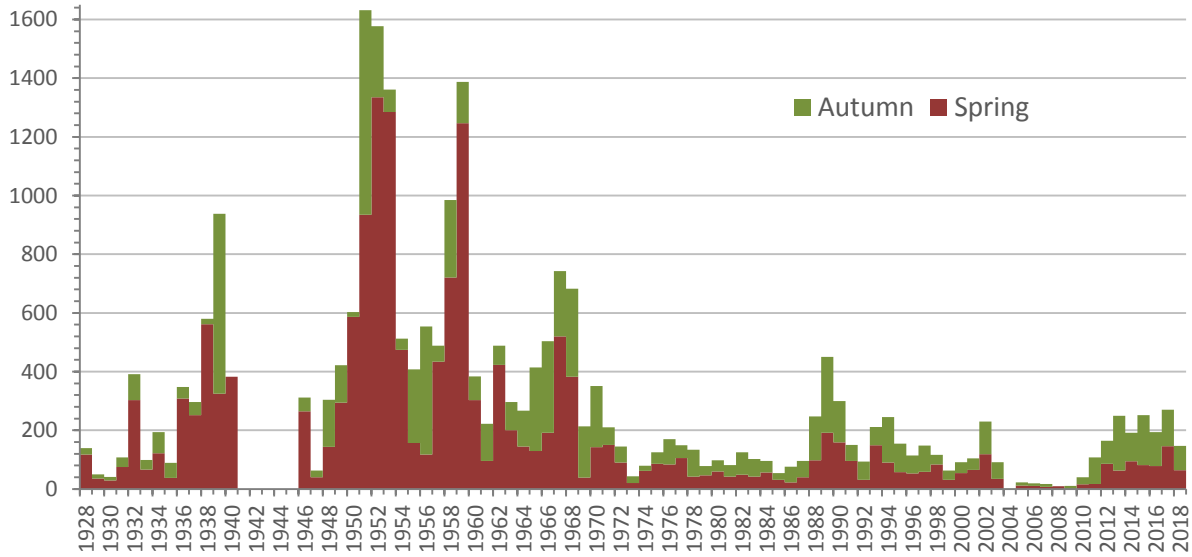
Although never common, this was the first year since 2012 without a spring record; there were two birds logged in the springs of 2017 and 2015, one in 2014 and 2013 and four in 2016 which matched the record totals of 2002, 1993, 1990, 1984 and 1972. A vocal bird near the Well Hide on 5th August was the first of autumn and disappointingly the only record of the year, matching the single autumn individual noted in each of the last three years (RD, WJ). The only autumn bird of last year, found in the Courtyard on 7th October, appeared a good candidate for a Siberian Lesser Whitethroat *S. c.*

blythi, however when later trapped the tail pattern and wing formula, with a second primary longer than the sixth, were a better match for *S. c. curruca*; an analysis of the mitochondrial DNA held within a dropped feather confirmed the identification as *S. c. curruca* and highlighted the importance of in-the-hand examination when faced with subspecific identification. The only autumn record of 2016 was a probable Siberian bird, with a wing formula and tail which supported the identification; a feather sample currently resides with Professor Martin Collinson at the University of Aberdeen. The only confirmed Siberian Lesser Whitethroat for Skokholm, and one of only three DNA tested birds to be logged in Wales, was ringed on 5th October 2014.

Whitethroat *Sylvia communis* **Llwydfron**
Fairly Common Migrant previously Common, has bred in eight years (most recently in 1998)
Earliest 5th April 1966 (20th April 2018) **Latest** 30th October 1968 (24th September 2018)
51 trapped, 6 retrapped
1936-1976: 5898 trapped, 2011-2017: 354 trapped, 85 retrapped, 2 controls

The first of the year in each of the previous five seasons arrived between the 17th and 20th April; this year proved no exception with one on 20th April the first, an arrival on the same date as the first ten of last year and the first single of 2016 but 15 days later than the earliest Island record. A further single on the 28th and two different individuals on the 29th were the only other birds logged during the month; an April bird-days total of four was 25 down on last year and the lowest since the two of 2010. There were records on 18 May dates from the 4th, with highs of seven on the 4th and ten the following day taking the bird-days total to 52; the peak daycount was the second lowest of the last seven years and the bird-days total the third lowest during the same period, almost half the 100 bird-days logged last May. What were probably seven different individuals accounted for records of singles on eight June dates, the bird-days total being nine down on last June but matching the 2012-2018 mean. There was no indication of a breeding attempt this year; a territorial male was seen building a cock nest last June, with similar behaviour observed in 2015 and 2014, however there has been no confirmed breeding on Skokholm since 1998. Spring birds again went through quickly; of 32 ringed during the period, none were retrapped on subsequent days.

The total number of Whitethroat logged in each spring and autumn since 1928.



The first juvenile of the year was found on 11th July, three days earlier than the first of last year but five later than the first of 2016. Counts of up to two birds on nine further July dates took the monthly total to 12, a total down on the previous seven years which ranged from 29 to 64. An adult male ringed on 16th July was still present two days later and a juvenile ringed on the same date was

still present on 4th August; of 19 autumn ringed individuals, these were the only two encountered on subsequent dates. In August there were 39 noted over 17 dates including highs of five on the 21st and six on the 22nd and 23rd; the bird-days total was down on the 74 of last year and was the lowest since 2014, whilst the maximum daycount was down on the nine of last year but otherwise the joint third highest of the last nine years. In September there were daily records of up to six birds to the 10th, three on the 12th, singles on three dates between the 17th and 23rd and two on the 24th which were the last of the year; a bird-days total of 32 was up on the 21 of last year and the highest in this month since the 43 of 2014. The last two of the year were on the same date as the last of 2017 and two days earlier than the last of 2016.

Firecrest *Regulus ignicapilla* **Dryw Fflamben**
Scarce Migrant recorded in 40 years since 1949, including 23 since 1988. More regular in autumn
2 trapped
1936-1976: 23 trapped, 2013-2017: 17 trapped, 12 retrapped

The first of the year was at Howard's End on 8th April, this the earliest spring sighting since one on 29th March in 2006 and the 15th earliest Skokholm bird-day. The only other spring record was of a female with a substantial pollen horn ringed on 31st May (below photograph); there have only been May records in four previous years, most recently in 2016, whilst one-day singles in five previous Junes are the only later spring birds. One ringed on 29th September, one day later than the first of last year, was the only Firecrest seen during the autumn; this species is typically more regular in the second half of the year, with ten birds logged in autumn 2017, two in 2016 and 11 in 2015.

Goldcrest *Regulus regulus* **Dryw Eurben**
Common but only Fairly Common in some years
88 trapped, 28 retrapped
1936-1976: 438 trapped, 2011-2017: 559 trapped, 137 retrapped

It proved the quietest March since 2011, with five different individuals logged over four dates; a March total of five bird-days was well down on the 60 of last year, this the third highest tally in this month behind the 94 of 1989 and the 124 of 1974. Perhaps in part due to the extreme March weather, passage peaked in April this year with 83 bird-days logged over 11 dates to the 14th and a single on the 22nd; an April bird-days total of 84 was the highest since the 101 of 1975 and the third highest to date. There were peak April daycounts of 19 on the 7th, 24 on the 9th and 14 on the 13th,

the maximum matching that logged on 16th March last year as the second highest spring daycount behind the 25 of 18th April 1972. In May there was one in the Quarry on the 6th and different females with wrinkled post-breeding brood patches ringed on the 18th and 29th; there have now been records in 28 Mays including six of the last seven. As was the case last year, spring individuals were moving through quickly, with none of the 25 birds ringed during the period retrapped on a later date.

A male at the Lighthouse on 30th August was the first of the autumn, 17 days later than the first of last year, 16 later than the first of 2016 and 15 later than the first of 2015; an August bird-days total of one was well down on the record of 31 set last year. There were daily September observations from the 4th, with highs of 13 on the 23rd and 24th and ten on the 29th taking the bird-days total to 131; although well down on the record-breaking 728 bird-days logged last September and the lowest total of the last four years, there have only been 11 higher tallies in this month. There were October records on all but five dates to the 28th, including highs of 16 on the 6th and 37 on the 7th which contributed to a total of 169 bird-days; the peak count was nine down on last year but otherwise the highest in October since the 52 of 2013, whilst the total was the second lowest of the last seven years, albeit the 15th biggest to be logged in this month. There was no November sighting for the first time since 2012, with two on 28th October the last of the year, six days earlier than the last of 2017 and 11 days earlier than the last of 2016. Goldcrests remained for longer in autumn than they had in spring; of 63 birds ringed during the autumn, seven remained for at least one or two more days, four remained for three days and three birds remained for eight, nine and 11 days respectively.

Wren *Troglodytes troglodytes* **Dryw**
Fairly Common Breeder only noted as a Common Winter Visitor prior to first breeding in 1988
97 trapped, 86 retrapped
1936-1976: 876 trapped, 2011-2017: 522 trapped, 358 retrapped

The 63 territorial males mapped this year included 60 registered on multiple visits and three singing in discreet areas but only noted on one of four survey dates. Perhaps surprisingly, given the snow and freezing conditions prevalent during February and March, the total was five up on that of last year and two up on the 2016 Skokholm record. The last eight years, all with over 50 mapped territories, are remarkable for the fact that the previous peak in breeding numbers was the 19 territories located in 1994 (six years after breeding was first recorded); the most recent survey prior to the renovation period located only ten territories in 2007. The reason for this substantial increase in the number of territorial males is unclear. The first fledglings were logged on 30th May, five days earlier than the first of last year and three days earlier than the first of 2016.

Prior to the establishment of Wren as a Skokholm breeding bird, this species was considered a common winter visitor with a substantial arrival noted each October; such an arrival was perhaps again evident in the daily census figures this year (see table below), although it is possible that birds are also more active during this post-moult period. Of ten retrapped in 2018 which had been ringed in previous years, seven ringed as juveniles in 2017 had survived their first winter, two ringed as juveniles in 2016 had survived their second winter and one ringed as a first-year on 21st March 2016 and retrapped on 18th October this year had survived three winters. There was no sign of ELH901, ringed as a juvenile in the September of 2012 and retrapped for a 24th time after five years and three days on 5th September last year; the oldest known British Wren wore a ring for seven years, three months and six days.

The total number of Wren logged each month 2018-2016. Note that the March and November recording periods are different each year.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	763	1129	1451	1337	975	930	701	945	591
2017	768	1322	1090	910	818	1047	860	1111	293
2016	1012	1074	1081	961	758	729	758	1177	627

Starling *Sturnus vulgaris* **Drudwy**

Very Abundant bred from 1946, peaking at 53 pairs in the 1960s but last confirmed breeding in 2006
20 trapped
1936-1976: 1082 trapped, 2013-2017: 55 trapped

Whereas March 2017 proved the quietest on record, March this year saw daily counts from the arrival of staff on the 6th, nine daycounts in excess of 104, highs of 192 on the 9th, 165 on the 10th and 175 on the 11th and a bird-days total of 2151; the bitter early spring weather perhaps kept Starlings in milder coastal areas for longer than in recent years and led to the highest March daycount since 2000 and the highest March total since 1964. Records of up to 42 birds, but typically fewer than ten, on all but one April date to the 12th, along with a single on the 18th, took the monthly total to 113; given that there was no April record in 2017 for the first time in the history of recording on Skokholm, it was pleasing that the peak count was the highest since 2013 and the total the highest since 2003 (when Starlings were still breeding on the Island).

A single on the 17th and two on the 29th was a rather typical May showing since Starlings ceased to breed. In June there were lone adults on the 4th and 12th, two the following day which included a singing male, two on the 23rd which included the first juvenile of the year and singles each day between the 24th and 27th, three of which were probably the same juvenile; this was only the second juvenile-plumaged bird to be logged since 2015, a sad reflection of the Pembrokeshire breeding population which saw a 90% decline in numbers between 1988 and 2007 (Rees, 2012). Although the 2017 July bird-days total of 201 was massively down on peaks of 3612 in 1995 and 4516 in 1989, it was considerably up on July totals logged between 2010 and 2016 which ranged between 11 and zero; this year saw a return to the recent norm with singles logged on seven dates. There were no August or September records for the fourth time in nine years. Following a single on the 14th and three the following day, there were daily October sightings from the 17th, with eight three-figure counts and highs of 494 on the 19th, 320 on the 24th, 286 on the 25th and 385 on the 29th; a bird-days total of 2846 was the highest in this month since the 3277 of 1994 and the peak daycount was the highest since a minimum of 1000 was logged in 1995. November was even more productive with daily counts until the staff departure on the 26th, lows of 95 or less on six dates but seven daycounts in excess of 500 and highs of 1395 on the 5th, 1522 on the 16th, 1679 on the 18th and 1594 on the 19th; a November bird-days total of 12,099 was the highest in any month on record, although this is biased by the fact that Starlings were often just logged as present in the past. More tellingly the peak daycount was the highest since 1950 were logged in November 2013, well down on historical daycounts of 3000 in October 1959, 5000 in November 1968 and at least 10,000 on 5th November 1970. Although a winter presence would see more logged, the drop in numbers of this red-listed species has been dramatic.

Blackbird *Turdus merula* **Mwyalchen**

Common Visitor and Scarce Breeder peaking at nine pairs in 1990 but recently seven pairs or fewer
85 trapped (including 3 pulli), 51 retrapped, 1 control
1936-1976: 1718 trapped, 2011-2017: 358 trapped (including 13 pulli), 250 retrapped, 1 control

Although spring daycounts again failed to exceed the total number of Skokholm breeders, there was evidence that migrants were passing through; given that the majority of the Skokholm breeders and first-winters were already ringed, eight females ringed between 10th March and 5th May and not encountered again were probably passage birds. Additionally a female ringed on 20th May, eight days after the first Skokholm youngsters left the nest, was on Skomer Island 11 days later. Of nine individuals known to have survived from previous years, three males had survived their first winter, two males and a female had survived a second winter, two males had survived a third winter and female LH16008, ringed as a first-winter in March 2013 and subsequently retrapped 13 times, had survived six winters and worn a ring for five years, 38 days; the longevity record for a ringed Blackbird is 14 years, 285 days. There were six breeding territories mapped this year, the same as last year but one fewer than in 2016 and 2015; pairs bred near the Wheelhouse, the Cottage, the Well, Isthmian Heath, the Pig Sty and the Hills. Three pulli ringed in the Courtyard had fledged by 12th May, five days later than the first fledglings of 2017 and two days later than the first of 2016. Productivity again proved difficult to calculate due to overlapping territories, second broods and potentially the arrival of youngsters from elsewhere, however fledglings were seen in five territories, eight were trapped before 1st September (11 in 2017, nine in 2016, seven in 2015, 12 in 2014 and 14 in 2013) and 12 further unringed juveniles were logged during the same period; productivity was thus estimated at 3.33 fledglings per pair, this the highest of the last six years (up on the 2.83 of last year and minimums of 2.29 in 2016, 1.29 in 2015, 2.17 in 2014 and 2.80 in 2013).

As was noted by Betts, Thompson and in recent reports, the number of sightings declined steeply during the period of adult post-breeding moult in August and September; there were monthly totals of 64 and 107 respectively. It proved the quietest October of the last four years, with records on 26 dates, 18 daycounts of six or less and highs of 18 on the 19th, 34 on the 28th, 19 on the 29th and 24 on

the 30th; the peak daycount was well down on the 72 of last year, albeit fractionally up on the 32 of 2016 and the 31 of 2015, whilst the bird-days total of 196 was down on the 301 of last year and the 327 of 2016. The first unringed adults arrived on 25th October and bigger, presumed northern birds were first logged on the 28th when seven individuals had wing chords of between 134mm and 144mm. There were daily counts in November, typically of 19 or less but with highs of 52 on the 18th, 23 on the 19th and 21 on the 25th which took the bird-days total to 330; the November total was the highest since the 474 of 2015, although a later than average staff departure increased a tally which was already well down on record highs of 587 in 1990, 793 in 1967 and 843 in 1939.

Ringing recovery LC03318
Originally ringed as a first-year female, KILPAISON MARSH, PEMBROKESHIRE 8th January 2018
Recovered as an adult female, WHEELHOUSE HELIGOLAND, SKOKHOLM 19th November 2018
Distance travelled 17km at 283 degrees (WNW)
Days since ringed 315

Ringing recovery LH16421
Originally ringed as a first-year female, COTTAGE HELIGOLAND, SKOKHOLM 20th May 2018
Recovered as a first-year female, SKOMER ISLAND, PEMBROKESHIRE 31st May 2018
Finding condition Intentionally taken
Distance travelled 4km at 343 degrees (NNW)
Days since ringed 11

Fieldfare *Turdus pilaris* **Socan Eira**
Uncommon Winter Visitor listed as Fairly Common by both Betts and Thompson
Earliest 14th September 1977 (19th October 2018) **Latest** 13th June 1980 (13th April 2018)
2 trapped
1936-1976: 7 trapped, 2016: 1 trapped

Up to five birds were present for five days from the return of staff on 6th March, with a further single on the 17th taking the monthly bird-days total to 18; this was the fourth year of the last six with a March sighting and the total was the highest since the 38 of 2001, no doubt in part due to freezing conditions earlier in the month driving birds to the coast. Three on 13th April were the last of the spring; there have only been April sightings in three years this century, most recently in 2013 and 2015. Six on 19th October were the first of the autumn, nine days earlier than the first of last year and one earlier than the first of 2016, but five days later than the first of 2015 and nine later than the firsts of 2014 and 2013. Sightings of up to seven birds on seven further dates took the October total to 31, the fourth highest this century behind the 44 of 2016, the 105 of 2004 and the 52 of 2003 and well down on the 1971 record of 330. Counts on 12 November dates, all singles bar two on three dates and five on the 18th, took the bird-days total to 19; the November total was the sixth highest this century, but considerably down on record highs of 146 in 2015 and 332 in 1967.

Redwing *Turdus iliacus* **Coch Dan-aden**
Common Winter Visitor
Earliest 20th September 2001 (11th October 2018) **Latest** 18th June 1979 (18th April 2018)
22 trapped, 2 retrapped
1936-1976: 157 trapped, 2013-2017: 101 trapped, 5 retrapped

The 'Beast from the East' encouraged thousands of Redwing to the Pembrokeshire coast, a movement which no doubt led to the highest March bird-days total and the highest March daycount to be logged on Skokholm since 1969. Following a 6th March count of 122, numbers dwindled to 64 on the 7th, 25 on the 8th and 13 on the 9th. Records of up to eight birds on ten further dates took the monthly total to 258; there have only been four higher March tallies with 852 in 1965 the maximum.

Nine arrived on 13th April and up to two were noted during the following five days, taking the monthly total to 15; there have only been higher daycounts and totals in two previous Aprils, with a daycount of 11 taking the total to 30 in 1984 and a daycount of 52 taking the total to 78 in 2013. A single at Sugar's Delight on 11th October arrived on the same date as the first of autumn 2015 and 2013, a week earlier than the first three of last year but four days later than the first of 2016 and two days later than the first of 2014. Records on a further 12 October dates, including highs of 41 on the 19th and 28th and 39 on the 27th, took the monthly total to 206; the October total was the fifth highest this century, albeit well down on the 1214 logged last year (when an unprecedented arrival on the 26th saw at least 1124 birds grounded in thick fog, a daycount which more than doubled previous highs of 350 in October 1973, 400 in March 1965 and October 1958 and 500 in February 1929). Sightings on all but three November dates before the departure of staff on the 26th included highs of 37 on the 5th, 44 on the 17th and 36 on the 18th and led to a bird-days total of 320; the total was the fifth highest to be logged in November, although this was in part due to a longer than average period of Island occupation. Indeed the peak November daycount was down on two of the last four years and well down on highs of 200 in 1994 and 150 in 1968 (the latter of which contributed to a record November bird-days total of 915).

Song Thrush *Turdus philomelos* **Bronfraith**
Common Visitor but breeding has not been recorded
34 trapped, 4 retrapped
1936-1976: 465 trapped, 2013-2017: 218 trapped, 15 retrapped

Cold weather movements associated with the 'Beast from the East' were no doubt responsible for the highest March totals since 1969; there were records on all but five dates between the return of staff on the 6th and the 30th, including highs of 37 on the 6th, 14 on the 7th and 16 on the 10th which took the bird-days total to 104. The peak March daycount was the 13th highest to date and the bird-days total the sixth highest; seven of the 12 higher daycounts occurred in 1965 when a minimum of 350 on the 4th took the monthly total to a record 961. A first-winter retrapped on 8th March had been ringed on 23rd October 2017 and a particularly grey individual seen at the Well each day between the 22nd and 25th did not look like those breeding on mainland Britain. Up to two birds on four dates between the 3rd and 7th April were the last of the spring, the latter 12 days earlier than the last of 2017 and 14 earlier than the last of 2016 and 2015. One ringed on 4th June was unseasonable; there have only been 37 previous June bird-days, with 12 this century and the most recent in 2006. An adult ringed on 9th July was perhaps the bird seen near the Well on the 10th and

11th, whilst singles were in Crab Bay on the 16th and at the Well on the 17th; five July bird-days equalled the fifth highest total logged in this month. One at the Gap on 16th August was eight days earlier than the first of last autumn and one at East Bog on 10th September was the first in this month since a single in 2016. Following one on the 4th and three on the 5th, there were sightings on all but one October date from the 15th including highs of eight on two dates, ten on the 29th and 15 on the 30th which led to a monthly total of 83; both the peak daycount and October total were the lowest of the last six years, well down on last year when a record daycount of 142 contributed to a monthly total of 376. An adult retrapped on 25th October had been ringed as a first-winter on 2nd November 2015 and retrapped on 26th October last year; it would be fascinating to know where this individual, which has visited Skokholm in at least three different winters, heads to breed. Daily November sightings until the departure of staff on the 26th included highs of 46 on the 18th, 38 on the 20th, 62 on the 24th and 39 on the 25th. Although a longer than average staff presence contributed to the highest November total since 2014, the peak daycount was similar to recent years; a November high of 62 matched 2013 and 2014 and was fractionally up on the 58, 50 and 52 logged between 2017 and 2015 respectively, all totals down on the November daycount record of 110 made in 1967.

Spotted Flycatcher *Muscicapa striata* **Gwybedog Mannog**
Fairly Common Passage Migrant
Earliest 19th April 1966 (30th April 2018) **Latest** 23rd October 1968 and 2001 (1st October 2018)
33 trapped
1936-1976: 1613 trapped, 2011-2017: 172 trapped, 12 retrapped

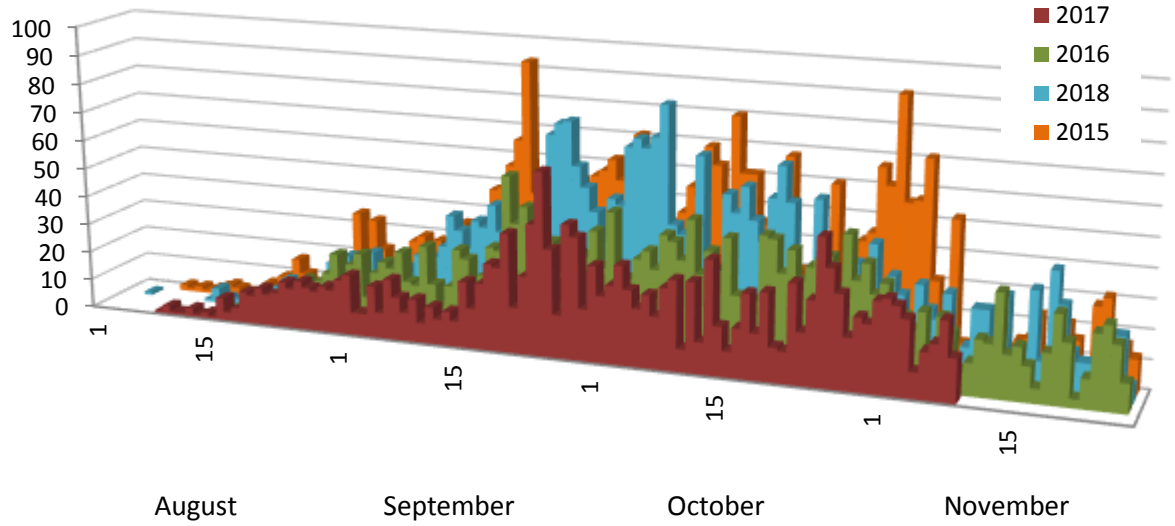
Two in South Haven on 30th April arrived on the same date as the first of 2015, five days earlier than the first of last year and seven days earlier than the first of 2016 but 11 days later than the earliest Skokholm record. There were no further sightings until two were found on 19th May, this the first of ten daycounts during the month which included highs of seven on the 26th, 12 on the 27th and six on two dates; there were 12 noted on six previous May days, most recently in 2016, whilst higher daycounts logged in 12 years include a peak of 40 on the 10th in 1958. A May bird-days total of 52, although down on a record 145 logged in 1967 and recent highs of 72 in 2016 and 65 in 2015, was up on the post-War May average of 43.67. In June there were six on the 1st, three on the 2nd and singles on the 5th, 9th and 15th which took the monthly total to 12, the third highest of the last seven years.

One was at the Well on 13th August, this on the same date as the first of August 2015, six days earlier than the first of 2017 and four days later than the first of autumn 2016. There were singles noted on a further five August dates, along with six on the 21st and four on the 30th which took the bird-days total to 16, twice that observed last year but virtually half of the 31 logged in August 2016. It proved an excellent September by recent standards, with sightings on 14 dates and highs of 15 on the 2nd, 14 on the 3rd, nine on the 4th and five on two dates which took the bird-days total to 65; the peak daycount was the highest in any month since 21 were logged in September 2004 and the tenth highest September count to date, whilst the bird-days total was the highest in this month since the 91 of 2013 and the fifth highest to date (a September daycount record of 30 took the monthly total to a record 166 in 1969). One ringed on 1st October was the last of the year, one of only 22 October bird-days logged this century and one of only 94 logged since the first in 1952.

Robin *Erithacus rubecula* **Robin Goch**
Abundant Winter Visitor and Passage Migrant bred in 1939, 1940 and 1980
103 trapped, 76 retrapped, 2 controls
1936-1976: 717 trapped, 2011-2017: 550 trapped, 457 retrapped, 1 control

A first-winter retrapped on 7th March weighing 17.5g had been ringed on 6th October 2017 weighing 17.3g; perhaps due to severe late-winter weather, a single spring retrap was down on the three of 2017, 2015 and 2014 and the eight of 2016. The lack of over-wintering birds was reflected in the March bird-days total, with a high of seven on the 8th and sightings on only 14 dates between the 6th and 22nd taking the tally to 36; this was the lowest March total since 2012, down on the 79 of last year and well down on recent highs of 198 in 2016 and 146 in 2013. There were sightings on six consecutive April dates from the 3rd, with a high of three and a minimum of four different individuals present, whilst one at the Lighthouse on the 13th was the last of the month; April bird-day totals have varied considerably, with ten this year up on the five of 2016 and the single of 2014 but down on the 20 of last year, the 132 of 2015 and the 54 of 2013. There was again no indication of a breeding attempt, with a single on 18th May, another on the 29th and 30th and no June record for the fourth time in seven years.

The number of Robin recorded on each autumn day between 2015 and 2018.



A moulted juvenile on 4th August was the first of the autumn, five days earlier than the first of 2017. There followed sightings on all but one August date from the 12th, including highs of 11 on the 22nd and 29th, 19 on the 28th, 22 on the 30th and 12 on the last day of the month which took the bird-days total to 130; there have been five higher August daycounts of up to 40, all logged in either 1993,

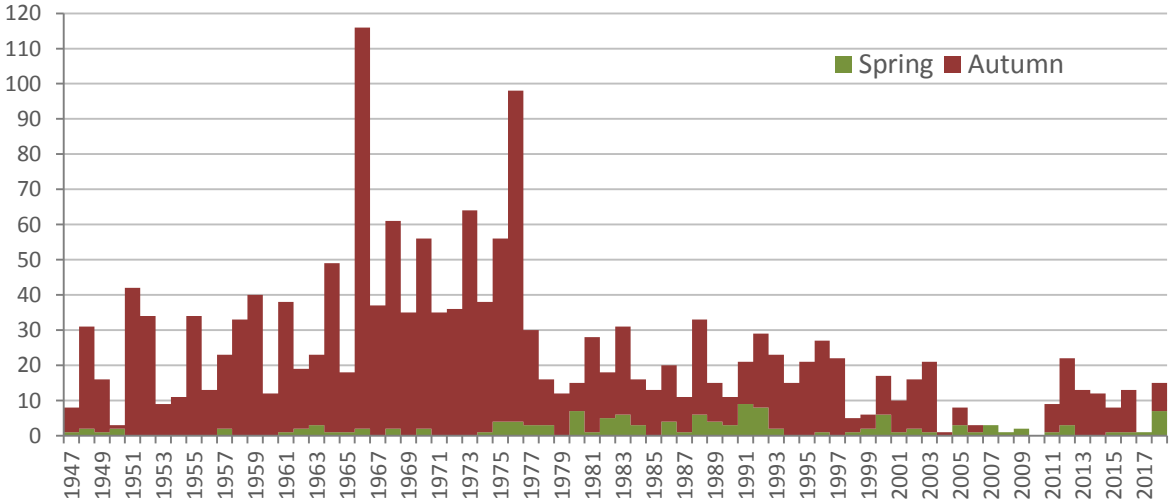
2015 or 2016, whilst the total was the ninth highest in this month, albeit down on the last three years. The September bird-days total of 1019, which included daily sightings and highs of 71 on the 24th, 75 on the 25th and 76 on the 26th, was the third highest to date, only down on the 1198 of 2015 and the 1649 of 2014. However Robin were routinely under recorded in the past, just being noted as present in the Log following quiet or average days; the peak daycount is perhaps thus more informative. There have been 12 higher September daycounts logged during five previous years, with highs of 150 on two dates in 1994 and 128 counted on the 28th in 2014. As is typically the case, numbers peaked in October with highs of 72 on the 4th, 73 on the 6th and 84 on the 7th taking the bird-days total to 1394, the third highest on record behind the 1485 of 2015 and the 1638 of 2014. However, for the reason stated above, it is probably more relevant that the peak daycount was the tenth highest to date, down on highs of 150 again logged twice in 1994 and 118 counted on the 2nd in 2014. There were fewer birds noted on each November date, with highs of 34 on the 1st and 16th and 41 on the 18th taking the bird-days total to 535; the peak count was the third highest of the last six years, down on the 91 of 2015 and the 63 of 2014. We regularly speculate as to where the birds which arrive to Skokholm each autumn have originated; something of an indication was provided this September when a youngster ringed near Gateshead arrived to the Island (see below). No individuals ringed on Skokholm in previous winters were found to have returned prior to the departure of staff on 26th November.

Ringing recovery AAB8549
Originally ringed as a juvenile, ROWLANDS GILL SEWAGE WORKS, TYNE AND WEAR 24th June 2018
Recovered as a juvenile, LIBRARY NET, SKOKHOLM 5th September 2018
Recovered as a juvenile, WELL HELIGOLAND, SKOKHOLM 6th September 2018
Distance travelled 428km at 214 degrees (SW)
Days since ringed 73 and 74

Pied Flycatcher *Ficedula hypoleuca* **Gwybedog Brith**
Uncommon Migrant more frequent in autumn and sometimes absent in spring
Earliest 10th April 1993 (19th April 2018) **Latest** 17th October 1988 (5th September 2018)
4 trapped, 1 control
1936-1976: 393 trapped, 2011-2017: 29 trapped, 3 retrapped

A male on 19th April was the first of the year, 16 days earlier than the first of last year; there have only been five earlier spring records, with a male on the 15th in 2015 the most recent. Two birds on 29th April included a first-summer male and a female which had been ringed as a chick in woods to the east of Snowdonia the previous June (see below).

The total number of spring and autumn Pied Flycatcher bird-days logged between 1947 and 2018.



Two the following day included a different female and what was perhaps the same male at the Well. A female at the Lighthouse on 26th May and another near the Devil's Teeth on 1st June took the spring bird-days total to seven, at least six of which were different individuals; there were only three bird-days logged in total during the previous four springs and 27 this century, with the all-time spring highs being seven in 1980, nine in 1991 and eight in 1992. A juvenile ringed on 5th August was the first of the autumn; there have only been six earlier autumn bird-days, with two on 1st August 2002 the most recent. There followed a single on the rocks of Crab Bay on the 29th and two at the Well the following day, one of which was a juvenile trapped and ringed. In September there were two on the 3rd, one of which was trapped, and unringed singles near Sugar's Delight on the 4th and at the Well on the 5th. Although an improvement on the blank autumn of last year, a total of eight autumn bird-days was the second lowest of the last six years, down on recent highs of 13 in 2013 and 12 in 2016 and 2014; historically autumn counts peaked at 114 in 1966 and 94 in 1976, whilst the record daycount is the 30 logged on 30th August 1952.

Ringing recovery S652613
Originally ringed as one of four chicks, LAKE VYRNWY, POWYS 17th June 2017
Recovered as a first-year female, COTTAGE HELIGOLAND, SKOKHOLM 29th April 2018
Distance travelled 170km at 227 degrees (SW)
Days since ringed 316

Black Redstart *Phoenicurus ochruros* **Tingoch Ddu**
Uncommon Migrant has probably overwintered on occasion
1 trapped
1936-1976: 100 trapped, 2013-2017: 12 trapped, 2 retrapped

The only March birds were a female at Spy Rock on the 20th and what may have been the same smart male at the Lighthouse on the 21st and 23rd. In April there was a drab bird around Fossil Bay on the 2nd and 3rd, what was thought to be a different female-type bird at Warden's Rest on the 4th, three on the 5th which included a first-year trapped in the Wheelhouse Heligoland, males along the south coast on the 9th and at the Lighthouse on the 10th, two at the Lighthouse on the 13th and a single there on the 18th. A male in North Gully on the 5th and a female on the Lighthouse on the 26th were the only May birds and took the spring bird-days total to a rather typical 16; although there were only six spring bird-days noted last year, there were 14 in 2016, 19 in 2015, eight in 2014 and 23 in 2013. One around the Bird Observatory buildings on 17th October was the first of the autumn, three days later than one in the same area last year and two days later than the first of 2016. One at the Lighthouse on the 20th was the only other October sighting and took the monthly total to just two; although there were no October birds in 2013 and two were also seen in 2015, there have been up to 18 logged in recent years and historical highs of 86 in 1988, 92 in 1975 and 243 in 1968. In November there were singles on the 16th, 18th and 19th and three on the 20th when birds were at the Bluffs, North Gully and the Farm; the peak November daycount matched the highest logged this century but was well down on the record of 13 counted in 1992, whilst the November bird-days total was the third lowest of the last six years, down on the recent high of 12 logged in 2015 and the record 38 logged in 1992 and 1968.

Redstart *Phoenicurus phoenicurus* **Tingoch**
Uncommon Migrant
Earliest 1st April 1991 (3rd April 2018) **Latest** 2nd November 1968 (6th October 2018)
5 trapped
1936-1976: 394 trapped, 2013-2017: 28 trapped, 2 retrapped

A male between Fossil Bay and Purple Cove on 3rd April was the first to be reported anywhere in Britain and Ireland this year, although another male was found at Grove, Buckinghamshire on the

same date; there have been two earlier Skokholm records, with one of each sex logged on the 2nd in 1956 and a female found on the 1st in 1991, whilst a male was also noted on the 3rd in 1995. A male found at the Neck on the 10th was perhaps the same as that which frequented the Cottage Garden on the 11th, however males at the Well on the 12th and at the Wheelhouse on the 13th were certainly different, with three individuals ringed during the period. Another male at the Lime Kiln on the 29th was perhaps the same as one at the Farm the following day, although clearly two could have been present as shown by the rapid passage of ringed males earlier in the month. The first of May was a male at the Table on the 3rd, the first female of the year was ringed on the 5th, what was possibly the same female was at Medicine Rock on the 6th and a female on the 17th was the last of the spring. A total of 11 spring bird-days was the second-highest this century, only down on the 13 of 2015, however it was well down on highs of 36 in 1991 and 55 in 1966.

A juvenile ringed on 5th October was the first of the autumn, seven days later than the first two of last autumn and 21 later than the sole autumn record of 2016; there was no September sighting for the first time in six years. A bird in the Quarry the following day was almost certainly a different individual and the last of another very quiet autumn; two autumn bird-days was down on the seven of last year and recent highs of eight in 2014 and 2013. Although never common on Skokholm, this species was, as noted for that other denizen of Welsh woodland the Pied Flycatcher, previously more regular with monthly totals of up to 51 and a maximum daycount of 20 noted on 21st September 1988.

Whinchat *Saxicola rubetra* **Crec yr Eithin**
Uncommon previously Fairly Common
Earliest 8th April 1997 (5th May 2018) **Latest** 2nd November 2014 (21st October 2018)
2 trapped
1936-1976: 326 trapped, 2013-2017: 15 trapped, 4 retrapped

Two on 5th May, including a first-year male trapped and ringed, were the first and only birds of spring; although on the same date as the first of 2016, these were otherwise the latest spring arrivals since 2013, 11 days later than the first of last year. Two spring individuals matched 2013 but was one down on 2014 and two down on minimums of four logged in 2017, 2016 and 2015. Previously double-figure spring totals were the norm, with 43 bird-days in May 1989 the maximum, whilst the highest daycounts were of seven, counted in the Mays of 1960 and 1989. Three around Home Meadow on 30th August were the first of the autumn; this was the latest autumn arrival since one on 4th September 2014, three days later than the first of 2016, 16 later than the first of 2015 and 18 later than the first of last year. Following a single at the Well on 31st August, there were September

records of one at Purple Cove on the 1st, three on the 2nd when two were at Orchid Bog and one was at the Lime Kiln, two at Isthmian Heath on the 5th and North Plain on the 6th, one at Isthmian Heath each day between the 8th and 11th and singles at the Lime Kiln on the 13th, Gull Field on the 27th and Orchid Bog on the 29th. Records of singles logged on seven October dates between the 11th and 21st perhaps all referred to the same individual, a first-winter which reappeared on the latter date having been ringed on the 19th; a mobile bird could certainly have gone unrecorded during a period which included some gale force winds and heavy rain. There have been later records in seven previous seasons, including most recently a bird which lingered until 2nd November in 2014 to become the latest autumn sighting. An autumn bird-days total of 26, although down on the 31 of last year and the recent high of 63 in 2014, was the fifth highest this century; historical counts peaked at 128 in the autumn of 1968, a total which included a record daycount of 40 on 10th September.

Stonechat *Saxicola rubicola* **Clochdar y Cerrig**
Fairly Common bred in 1928 and 1932
6 trapped
1936-1976: 336 trapped, 2013-2017: 72 trapped, 2 retrapped

In March there were sightings of up to three males and a female between the 6th and 9th, up to two males and a female on the 11th and 12th, up to two males and three females between the 16th and 20th, a lone male on the 22nd and a lone female on the 25th; a maximum March daycount of five was the fourth highest this century and a bird-days total of 28 was the third highest behind the 38 of 2015 and the 52 of 2016. There were no April birds for the first time in four years, but for the 15th time since 1999, and no May birds for the first time in three years, but for the 16th time since 1999. A juvenile ringed on 26th July was the first of the autumn, 40 days later than the first juvenile of a very early arrival last year. One at North Pond two days later was the only other sighting during the month; there had only been July sightings in six years this century, including 13 bird-days last year which was the second highest total in this month to date. The only August records were of a juvenile ringed on the 4th and another at South Pond on the 5th; there had only been August records in 32 previous years, including six this century and with a bird-days total of nine in 1974 the maximum. Six birds arrived on 13th September, this equalling the 11th highest September daycount but down on the seven of last year and the 13 of 2016. Sightings of up to five birds on ten further September dates took the bird-days total to 26, the lowest of the last five years but the seventh highest this

century; recent totals include 45 in 2017 and 2015, 50 in 2014 and 87 in 2016 which is the highest to be logged in this month. The October total was similarly down on recent years, with up to five birds noted on 18 dates taking the tally to 35; this was the lowest October total of the last six years, although peaks during this period of 163 in 2014 and 185 in 2016 are the highest on record, the latter the highest bird-days total in any month to date. Sightings of up to five birds on 18 November dates took the monthly total to 44, equalling the fifth highest to be logged in this month; the two biggest November bird-days totals have also come in recent years, with 71 in 2016 and 83 in 2014.

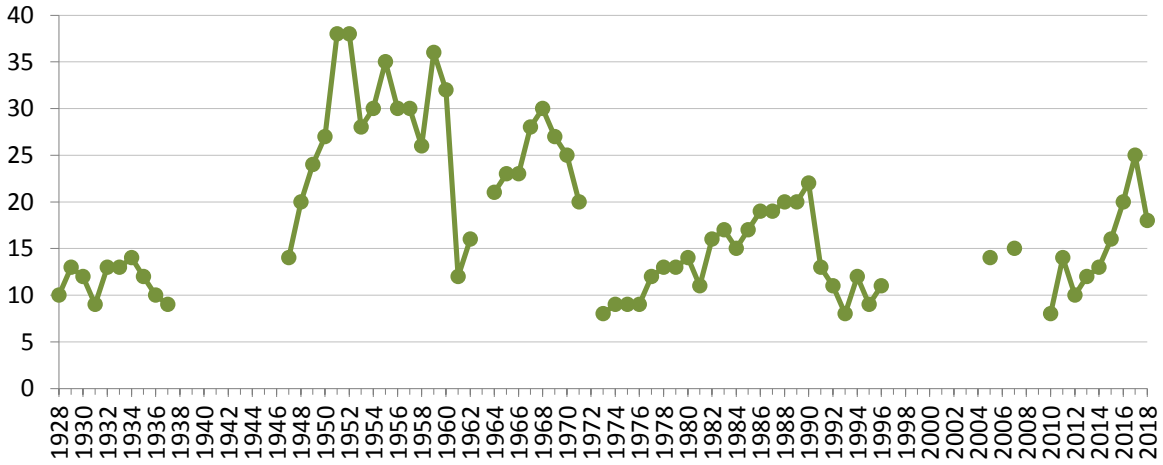
Wheatear *Oenanthe oenanthe* **Tinwen y Garn**
Abundant Migrant and Uncommon Breeder
Earliest 2nd March 2003 (16th March 2018) **Latest** 13th November 1999 (24th October 2018)
85 trapped, 70 retrapped
1936-1976: 3578 trapped, 2011-2017: 236 trapped (including 6 pulli), 72 retrapped

Staff had to wait ten days for the first Wheatear to arrive, with two males on 16th March the first of the year; bar one on the 17th in 2016, this was the latest spring arrival of the last eight years, four days later than the first of last year. Three males the following day included A12, the first of our colour ringed breeding birds to arrive back. There followed March daycounts of up to 11, taking the monthly bird-days total to 77; both the maximum daycount and total were the lowest of the last six years, down on a peak daycount of 25 in 2016 and a peak total of 205 last year. The colour ringed first-year A61 arrived to Crab Bay on 30th March; it had been seen on the Lizard, Cornwall nine days earlier (see below). There were 642 bird-days logged during April, 140 fewer than last year and the third lowest total of the last six years; peak counts were also down, with highs of 56 on the 29th and 75 the following day being down on the 108 of last April, the 151 of April 2016 and the April record of 1200 logged on the 18th and 28th in 1938. The majority of early migrants were definitely nominate, with the first five Greenland-type birds noted on 28th April, 16 days later than the first of last year and 22 days later than the first of 2016. There followed daily records of *O. o. leucorhoa* to 8th May, typically of five or fewer birds but with a high of 44 on 30th April; numbers peaked at 25 on 18th April last year. There were two further Greenland-type birds on 18th May and one two days later was the last of the spring, four days later than the last of 2017 and five later than the last of 2016.

The colour ringing project organised and executed by Ian Beggs revealed that ten of 15 males trapped in 2017 survived the winter migration (66.7%), as did nine of 19 females (47.4%); combined overwinter survival was thus a minimum of 55.9%. Additionally nine of 32 colour ringed Skokholm

fledglings survived the winter and returned to their natal corner of Pembrokeshire (28.1%). Of the 28 returning colour ringed birds, 24 established breeding territories on Skokholm, whilst an additional seven breeding adults were marked this year (with a green ring inscribed with a unique white alpha-numeric code). Survey work during the spring revealed 18 breeding pairs, seven fewer than mapped last year and two fewer than in 2016 but a total very close to the 1928-2018 mean (17.97 ±sd 8.11); there have been more territories located in 28 previous years, with the 38 of 1951 and 1952 the maximum. The first birds seen with nest material were logged on 15th April, the same date as last year, chick provisioning was first noted at the Sugarloaf on 14th May, one day earlier but at the same site as last year, and the first fledglings were seen near Fossil Bay on 27th May, two days earlier than last year; the first fledglings were observed on the 26th in 2016, the 29th in 2015 and the 23rd in 2014. There were fledglings in the majority of territories, however the mobile nature of the young and a minimum of eight second broods in 11 territories made productivity monitoring difficult. At least 70 different juveniles were recorded, 63 of which were colour ringed; this equates to minimum productivity of 3.89 chicks per pair, a value up on the 2.12 of 2017 and the 2.65 of 2016 but down on the 4.00 of 2015. First brood juveniles were shown to be exceedingly mobile, with several colour ringed birds spending time at the opposite end of the Island to their natal territory; the short sward around the Lighthouse and on North Plain again proved particularly attractive.

The number of Wheatear breeding territories located each year 1928-2018 (where data exists).



It again proved difficult to detect early autumn migrants, primarily due to the number of breeding birds and their mobile offspring, although early August peaks of 62 on the 4th and 56 on the 5th included up to ten unringed birds believed to have been from elsewhere; the former was the highest August daycount since 1952. An August bird-days total of 859 was the biggest of the last seven years, up on the 767 of last year and the recent high of 848 logged in 2015. Ringed birds were outnumbered by unringed migrants from 17th August and two colour ringed birds on 2nd September were the last known Skokholm birds logged. With the exception of 33 on the 12th and 37 on the 23rd, counts on all but one September date were of 19 or less; a monthly bird-days total of 252, although up on the 208 of last year, was otherwise the lowest of the last six years, down on a peak of 612 in 2013. The October tally was the lowest of the last seven years, with up to two birds noted on five dates to the 6th, three on the 18th and a single on the 24th the only birds logged. The last was five days earlier than the last two of 2017; there have been 82 later bird-days since 1927. Obvious *O. o. leucorhoa* were only noted on nine autumn dates, with a maximum daycount of 12 on 23rd September taking the autumn bird-days total to 40. This was the fourth year in a row without a large autumn daycount, the high of 62 being well down on the 123 of 6th September 2014, the 121 of 6th September 2013 and the Island record 207 counted on 9th September 1951.

Ringing recovery left tarsus green with white A61, right tarsus Z006936
Originally ringed as a juvenile, SKOKHOLM 1st July 2017
Recovered as a first-year male, LIGHTHOUSE, THE LIZARD, CORNWALL 21st March 2018
Recovered as a first-year male, CRAB BAY, SKOKHOLM, 30th March 2018
Recovered as a first-year male, CRAB BAY, SKOKHOLM, 9th April 2018
Finding condition Colour ring read in field
Distance travelled 193km at 179 degrees (S)
Days since ringed 263

House Sparrow *Passer domesticus* **Aderyn y To**
Scarce although not recorded every year, most recently absent in 2016 and 2010
1 trapped
1936-1976: 20 trapped, 2013-2015: 5 trapped

A female at the Farm on the morning of 15th October was the first of the year and two days earlier than the only two of last year. A vocal female, which flew in from the north on 19th October, briefly alighted in the Courtyard Sycamore before heading off high and east. Two females on the 24th, including one which was trapped and ringed, were the last of the month, taking the October bird-days total to four; there have only been eight higher monthly totals, with 11 in May 1977 the record.

The last of the year was a male seen briefly at the Farm on 13th November; singles in 1989, 2013 and 2014 are the only other November occurrences. There were only eight Skokholm records prior to 1957, then sightings in all but two years until 1978, birds in ten of the years between 1979 and 2004 and most recently 14 records of up to three birds in ten post-2004 years.

Tree Sparrow *Passer montanus* **Golfan y Mynydd**
Scarce flocks of up to 30 logged in 24 previous years, although a single in May 1994 the most recent
1936-1976: 7 trapped

One sat on the Lighthouse weathervane on the morning of 26th May soon departed for the north (RDB); this was the first Skokholm record since one on 31st May 1994. Remarkably a second was found at the Well on 29th September, this the first in this month since a single which lingered for four days from the 10th in 1989 and only the eighth autumn record for the Island (HD). Although there were just six singles logged prior to 1959, including the second for Pembrokeshire in May 1934, this species became quite regular between 1960 and 1989, with records, usually in May or June, in approximately two out of every three years. A total of 166 bird-days had been logged prior to this year, with the largest daycounts being 15 on 26th May 1981, 19 on the 26th and 27th May 1977, 30 on 19th May 1975 and 11 on 14th May 1967.

Dunnock *Prunella modularis* **Llwyd y Gwrych**
Fairly Common Winter Visitor previously a Scarce or Uncommon Breeder with up to 12 pairs
15 trapped, 19 retrapped
1936-1976: 304 trapped, 2011-2017: 36 trapped, 58 retrapped, 1 control

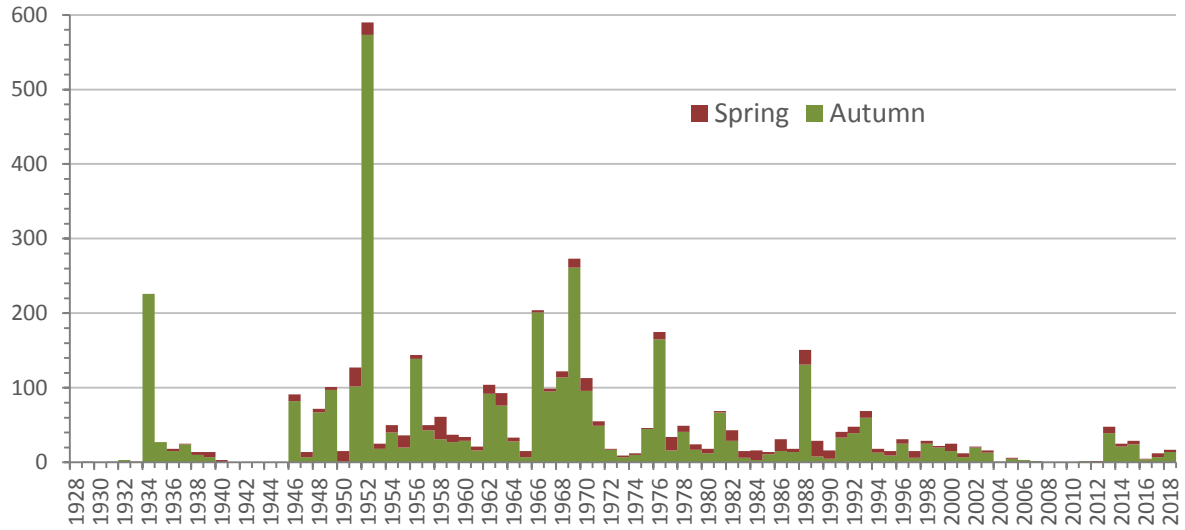
A minimum of two birds overwintered, with first-years ringed on 26th September and 6th October 2017 still present on 10th March and 14th April respectively. Up to three birds were logged on all but three March dates from the return of staff on the 6th, although one at the Quarry on the 9th was perhaps the only individual different to the three lingering around the trapping area; a total of 48 March bird-days, although up on the eight of last year, was down on the 74 logged in both 2016 and 2015. There were daily April sightings of up to two birds until the 8th and a single on all but one further date to the 18th, whilst one which arrived on 29th April remained until at least 5th May; the last of the spring on 6th May was probably the latter ringed individual. There was again no indication of a breeding attempt; breeding was last observed in 2012 when three pairs were mapped and at least two young fledged. One along the Lighthouse Track on 24th September was the first of the autumn, eight days later than the first of last year and four days later than the first of 2016. Singles were noted on a further three September dates and ten were logged on the 29th; the latter daycount, which included a vocal flyover, was the highest in September since 1994. Counts of up to nine birds on all but two October dates took the bird-days total to 136, the seventh highest to date; the only bigger October total this century was the 168 of 2015, whilst a minimum of 480 in 1994, which included three record daycounts of 50, is the maximum. There were sightings of up to seven birds on all but two November dates before the departure of staff, the peak matching one in 2014 as the highest this century and the bird-days total of 77 being the second highest since the 84 of 1992, only down on the 86 of 2015. There were no autumn retraps of birds ringed in previous winters; only two individuals since 2012 have been shown to have returned after a summer away, with one ringed in the October of 2013 retrapped in September 2014 and TX22013, ringed as a juvenile in October 2014, having returned after at least two of three breeding seasons until last seen in November 2017.

Yellow Wagtail *Motacilla flava* **Siglen Felen**
Uncommon previously Fairly Common or Common on occasion and more regular in autumn
Earliest 10th March 1966 (5th May 2018) **Latest** 18th November 1967 (11th October 2018)
1936-1976: 79 trapped, 2013-2015: 2 trapped

A flyover which briefly landed at Orchid Bog on 5th May was the first of the spring, seven days later than the first of last year but five days earlier than the first of 2016. A mobile female *M. f. flavissima* which commuted between South Pond and Orchid Bog on 21st May was probably the same individual seen the following day, this the last of another quiet spring; a total of three spring bird-days was the third lowest of the last seven years, down on the five of last year, the recent high of nine in 2013 and the spring record of 30 logged in 1958. One around Home Meadow and North Plain on 31st August was one day earlier than two which frequented the same area last autumn; although the first autumn bird of 2016 was not noted until 13th September, the previous three years had seen arrivals on the 18th, 20th and 25th August. Two of the three birds logged on 1st September were definitely *M. f. flavissima*, five the following day included three grounded birds, at least two were present on the 3rd and there were mobile singles on the 24th and 29th; a peak September daycount of five matched one in October 2013 as the highest in any month since the six of 8th September 1993 but was down on a remarkable Skokholm record of 150 logged on 25th August 1952. One over Home Meadow on 11th October was the last of the year, this on the same date as the last of 2016 but four days earlier than one taken by a Merlin in 2017; there have been 21 later autumn bird-days, with one on 5th November 1992 the most recent (other than the 2017 fatality). A total of 14 autumn bird-days was up on the seven of last year, but down on the 24 of 2015, the 21 of 2014, the 39 of 2013 and the Skokholm record of 573 logged in 1952. Although numbers fluctuate markedly between years and historical highs were probably in part due to the presence of livestock tempting passage

birds down to feed, there are seemingly far fewer Yellow Wagtails passing Skokholm than there were 50 years ago.

The total number of Yellow Wagtail bird-days logged in each spring and autumn since 1928.



Grey Wagtail *Motacilla cinerea* **Siglen Lwyd**
Uncommon Visitor Scarce in spring but occasional double-figure daycounts in autumn
1 trapped
1936-1976: 8 trapped, 2013-2016: 1 trapped, 1 control

The first of the year headed north over the Bluffs on 26th March and one on 2nd April was the only other spring sighting; there have only been 75 previous spring bird-days, with 18 this century and counts of up to five in six of the last seven years. This was thus an above average spring showing for a species described in 1939 as a 'curiously rare visitor' and by Thompson (2007) as usually providing only 'a handful of autumn records each year'. Three flyovers on 29th August were the first of the autumn, three days later than the first August record of last year (although there had been one on 13th July that year, this one of only 15 bird-days to be logged in July). A further five on the 30th took the August bird-days total to eight, this equalling 1993 as the highest total since the 24 of 1981 and the joint fourth highest total in this month. There were records on ten September dates, with highs of five on the 13th and 29th and ten on the 24th taking the bird-days total to 30; the maximum daycount equalled four previous years as the third highest on record (the peak being the 25 of 8th September 1960), whilst the bird-days total, although down on each of the last five years, was the 14th highest to date (the peak being the 110 of 2014). Records on 13 October dates were all of three or less bar five on the 4th which took the bird-days total to 24; the peak October daycount equalled 2015 and 1975 as the second highest to date, whilst the bird-days total was the fourth highest (with 39 in 2016 the maximum). One west off the Bluffs on 2nd November was the last of the year; there have now been 18 November bird-days including six in the last five years.

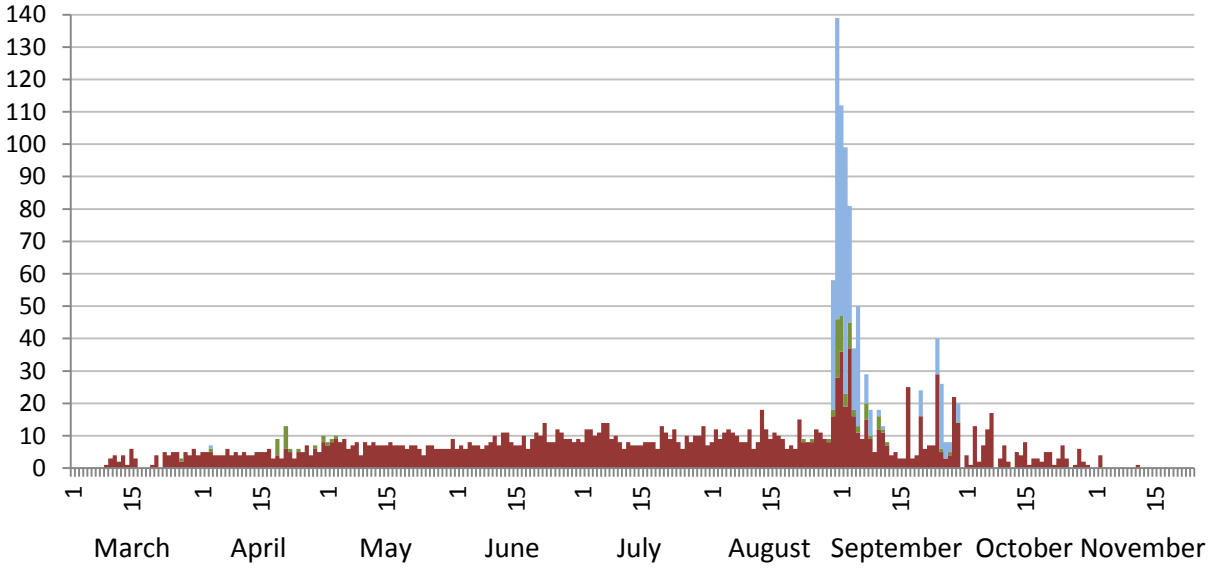
Pied Wagtail *Motacilla alba* **Siglen Fraith**
***M. a. yarrellii* Scarce Breeder and Fairly Common Visitor**
***M. a. alba* Common Migrant** flyovers unassigned to race are also Common
***M. a. alba* Earliest** 11th March 1997 (27th March 2018) **Latest** 29th October 1988 (27th September 2018)
31 trapped (including 5 pulli), 20 retrapped
1936-1976: 349 trapped, 2011-2017: 135 trapped (including 23 pulli), 57 retrapped, 3 controls

The first of the year was a single Pied Wagtail at Winter Pond on 9th March. There followed records of up to six birds on all but four March dates, with what appeared to be a genuine absence between

the 17th and 19th. The first White Wagtail of the year was at Home Meadow on 27th March, ten days earlier than the first two of last year but 11 days later than a male in 2016 which was the second earliest Skokholm record. Nominate birds were logged on seven April dates, with peak daycounts of five on the 19th and seven on the 21st, and singles were noted on the first three days of May; a spring bird-days total of 22 was fractionally up on the 18 White Wagtail of last year but down on the 49 of 2016 and the recent high of 75 in 2013. Pied Wagtail were first observed nest building on 19th April, two days later than in 2017 but on the same date as in 2016. Five breeding pairs were subsequently mapped; this equalled last year and the Skokholm record, was one more than in 2016 and two more than in each year between 2015 and 2013. Three returning breeders were encountered this season, with a male ringed in April 2017 having survived at least two winters, a male ringed in August 2015 having survived at least four winters and a male ringed on 28th July 2014 having survived at least five winters and worn a ring for three years, nine months and eight days; the longevity record for a British ringed Pied Wagtail is eight years, nine months and one day. There was no indication that any Pied Wagtail other than the Skokholm breeders were present during the breeding season.

Chick provisioning was first noted on 28th May when the Courtyard pair were delivering ants and *Episyrphus balteatus* to their young, food which was seen to be collected from as far away as Wallsend; food deliveries were first observed on 23rd May last year. The first two fledglings of the year left a nest in the wall adjacent to Eclipse on 9th June and three fledged in the Courtyard the following day. Both these pairs went on to have second broods, with the Courtyard pair adopting an old Blackbird nest and the Eclipse pair moving to a crevice in the face of the Knoll; both pairs were again feeding young on 12th July, the former going on to fledge five and the latter three. Pairs in Crab Bay and in the Lighthouse Smoking Room were only known to make one nesting attempt, with the Crab Bay pair fledging two on 13th June and the Lighthouse pair fledging three six days later. A pair between North Haven and Orchid Bog, which were collecting nest material at the Well from 23rd April, were not seen with young. A total of 18 fledglings matched that produced by five pairs last year, however the resulting productivity figure of 3.60 fledglings per pair was down on the 5.25 of 2016, the 4.33 of 2015, the 3.67 of 2014 and the 5.00 of 2013.

The number of Pied Wagtail *M. a. yarrellii* (maroon), White Wagtail *M. a. alba* (green) and unraced *M. alba* wagtail (blue) logged during the 2018 season.



Although the peak August count of *M. a. yarrellii*, the 28 logged on the 31st, matched the total number of Skokholm breeders and their offspring, there was still evidence of an autumn passage; flyovers were occasionally seen well enough to assign them to the British race and there were ten non-Skokholm juveniles trapped and ringed between 6th July and 31st August. Sightings on all but one

September date were typically of 12 or fewer birds, but there were highs of 36 on the 1st, 37 on the 3rd, 25 on the 17th and 29 on the 24th when *M. a. yarrellii* arrived from elsewhere. The first White Wagtail of autumn, an adult in South Haven on 23rd August, arrived on the same date as the first of last autumn but five days later than the first of 2016. There were a further 63 *M. a. alba* logged during the period, including highs of 18 on 31st August and 11 on 1st September; although up on the 41 of 2016, the autumn White Wagtail total was down on the 103 of last year, the 262 of 2015, the 106 of 2014 and the 197 of 2013. However there were more unraced flyovers logged this year, with 439 August and September bird-days and highs of 93 on 31st August, 65 on 1st September and 76 on 2nd September; there were only 124 flyovers logged last autumn, with 81 in 2016, 390 in 2015, 506 in 2014 and a recent high of 730 in 2013. A single White Wagtail on 27th September was the last of the year, this two days earlier than the last of 2017 and 2014 and six days earlier than the last of 2016 and 2015. Pied Wagtail numbers declined during October, with daily counts of up to 17 birds until the 7th and sightings of up to eight birds on all but four dates until the end of the month. In November there were four on the 3rd and singles at Home Meadow on the 11th and the Lighthouse on the 26th which were the last of the year; six November bird-days was the second lowest total of the last six years, down on the November record of 20 logged in 2013.

Ringing recovery Z006249
Originally ringed as a first-summer male *M. a. yarrellii*, SPRING TRAP, SKOKHOLM 26th July 2016
Previously recovered as a first-summer male, WHEELHOUSE NET, SKOKHOLM 30th August 2016
Recovered as an adult, SKOMER ISLAND, PEMBROKESHIRE 29th April 2018
Finding condition Metal ring read in field
Distance travelled 4km at 343 degrees (NNW)
Days since ringed 642

Richard's Pipit *Anthus richardi* **Corhedydd Richard**
Rare logged in 18 previous autumns and two springs, with peak daycounts of four in 1968 and 1970

A typically vocal and rather skittish bird flushed from Purple Cove on 10th October was picked up in flight over South Pond and briefly relocated on the ground at Frank's Point before it flew off north (GE, RDB). There have now been records in three consecutive years following one which grounded on Home Meadow on a drizzly 2nd November last year and a bird over North Plain and Orchid Bog on 21st October 2016. The only other records this century were on 15th September 2014, the 4th and 5th October and 10th November 2001 and on 2nd May 2000. There has now been a total of 67 Skokholm bird-days, 40 of which have come in October.

Meadow Pipit *Anthus pratensis* **Corhedydd y Waun**

Very Abundant Visitor and Uncommon Breeder

141 trapped, 83 retrapped

1936-1976: 4102 trapped, 2011-2017: 861 trapped (including 5 pulli), 270 retrapped

Although there was seemingly something of an arrival on the 11th, March counts until the 21st were all of 48 or less, with mobile groups of up to 12 either going through or perhaps arriving for the breeding season; the March bird-days total was the lowest of the last seven years, this possibly due to freezing weather delaying the return of birds to the Island. Numbers increased from 21st March when many were establishing territories, however there were still occasional flocks which peaked at 14 on 25th March and 47 on 3rd April. Birds were collecting nest material from 22nd April, with survey work during April and May revealing 35 breeding territories and an additional five singing males which were encountered on only one of four visits; the total number of territorial males matched the 38 territories and two single visit registrations logged last year and the 40 territories mapped in 2016, totals up on the 30 of 2015 and the 28 of 2014 and 2013. Adults were first seen carrying food on 20th May, seven days later than in 2017 and five days later than in 2016, whilst the first fledglings were found along the north coast on 10th June, the same day as the first of last year but ten days later than the first of 2016. Although no attempt was made to monitor productivity, it was apparent that many pairs fledged young; a good breeding season was probably reflected in the July and August totals which were the highest of the last six years. Youngsters were still being fed until at least 21st August, one day earlier than the last sighting of 2017. There were 31 birds retrapped which had been ringed on Skokholm in previous seasons, this compared with 15 last year and 16 in 2016 and 2015; 13 birds had survived their first winter, seven birds had survived two winters, eight had survived three winters and three had survived four winters.

As is typically the case, numbers increased in August with eight three-figure daycounts matching last year and highs of 162 on the 21st, 205 on the 30th and 187 on the 31st taking the bird-days total to 2748; both the peak daycount and bird-days total were new August records. There were 14 September daycounts in excess of 100 individuals, with highs of 162 on the 14th, 228 on the 20th, 222 on the 23rd and 183 on the 24th; whereas the majority of daycounts were made up of lingering flocks rather than of obvious passage birds, there were clear easterly movements of 88 over the Well on the 20th and of 71 in only two minutes on the 23rd. Both the September bird-days total of 3252 and the peak daycount of 228 were the third lowest of the last six years, the peak daycount being down on the 305 of 2017, the 634 of 2014 and the 1353 of 27th September 2013 (the latter was the second highest on record, only down on the 2000 of 3rd October 1972). There were October highs of 144 on

the 3rd and 176 on the 6th, the latter count including 128 eastbound birds, whilst no more than 84 were logged each day from the 8th, no more than 63 from the 19th and no more than 26 from the 25th to the end of the month; both the October bird-days total of 1428 and the peak daycount were within 16 birds of the 2013-2018 means. There were November sightings on all but two dates before the departure of staff; following a high of 35 on the 2nd when 17 were together at the Lighthouse, there were no more than 23 noted from the 3rd, 16 from the 8th and six from the 19th. There have only been higher November daycounts in four previous years, most recently with up to 60 in 1990.

The total number of Meadow Pipit logged each month, along with the monthly maximum and the date on which the 2018 peak was recorded. Counts from 2017 to 2015 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018	728	1294	1793	1256	1780	2748	3252	1428	200
2017	1046	1380	1230	1007	1772	2636	3559	1261	17
2016	1251	1919	1373	1410	1631	1676	2985	1191	89
2015	1097	1396	874	990	1544	2138	2548	1469	165
2018	84	90	90	61	103	205	228	176	35
2017	93	73	79	57	107	179	305	160	6
2016	98	109	81	87	78	121	198	203	15
2015	82	89	45	52	81	160	181	161	28
	25th	3rd	3rd	23rd	24th	30th	20th	6th	2nd

Tree Pipit *Anthus trivialis* **Corhedydd y Coed**
Uncommon although Scarce between 2004 and 2012 and more regular in autumn
Earliest 16th March 1966 (29th April 2018) **Latest** 13th October 1959 (10th October 2018)
1 trapped
1936-1976: 122 trapped, 2013-2017: 5 trapped, 1 retrapped

One north over the Hills and then North Gully on 29th April was 28 days later than the first of last year but 16 days earlier than the only spring record of 2016; the 2017 arrival was, equal with a single in 1976, the second earliest Skokholm sighting following one on 16th March 1966. A grounded bird in Crab Bay on 2nd May was the only other spring record; two spring bird-days was the third lowest total of the last six years, down on the 12 of last year and well down on the record of 34 logged in spring 1964. One at the Top Tank and Home Meadow on 6th August was the first of the autumn; this was the earliest autumn arrival since one on 27th July 2005, 14 days earlier than the first of last year and 11 days earlier than the first of 2016. There were sightings on a further 12 August dates, all singles bar two on the 9th, three on the 14th, five on the 23rd and ten on the 30th; the peak daycount, which coincidentally came on the same date as ten were logged last year, also equalled that of 8th September 1953 and was the third highest daytotal on record behind the 12 of 7th September 1966 and 25th August 1973. The August bird-days total of 29 was only down on the 33 of 1976, the 30 of 1966 and the 45 of 1959. The only birds of a typical September were singles on the 1st and 2nd, two on the 5th and one on the 10th. One around the Farm on 10th October was seen well on several occasions; the last of 2017 also spent 10th October in the vicinity of the Farm, whilst there have only been three later Island records, with singles on the 11th in 1997 and 1988 and on the 13th in 1959.

Rock Pipit *Anthus petrosus* **Corhedydd y Graig**
Scarce Visitor and Uncommon Breeder with a high of 67 pairs (1959) and a low of 17 pairs (1983)
9 trapped, 1 retrapped
1936-1976: 2593 trapped, 2011-2017: 253 trapped (including 2 pulli), 88 retrapped

There were no spring birds resembling Nordic breeding *A. p. littoralis* for a fourth consecutive year, indeed there was again no indication that the birds logged this spring were anything other than the

Skokholm breeders; there are records of *A. p. littoralis* logged in seven previous years, most recently with one on 22nd March 2014. Following a period of rapid population growth, this year saw a significant drop in the number of breeding territories, perhaps due to the freezing conditions and extreme weather prevalent early in the year; a minimum of 41 mapped territories was 32.8% down on the 61 of last year and the lowest total since 2014, down on the 53 of 2016 and the 44 of 2015. It was noted in 2017 that there had been an increase in the number of birds nesting on the plateau of the Island, perhaps due to crowding around the coastal reaches; there were seven inland territories mapped last year, a total which dropped to two this year, one less than logged in 2016. Adults were first seen provisioning chicks on 19th May, 16 days later than last year, and fledglings were first seen at Warden's Rest on 3rd June, six days later than the first of last year and three days later than the first of 2016. Second broods were seemingly attempted in some territories, with birds still feeding young in South Haven on 30th July. Daycounts again increased from mid-August as birds made their customary move up onto the plateau, peaking at 77 on 23rd September and 78 on 15th October; no doubt due in part to the substantial decline seen in the size of the breeding population, but perhaps also due to a poor breeding season, the peak September and October daycounts were both the lowest of the last seven years, well down on the recent high of 165 logged in September 2014 and the Skokholm record of 400 noted in September 1934. The ringing total was similarly the lowest of the last five years, well down on the recent high of 2014 when 80 were ringed and 62 retrapped; there was only one adult retrapped during the breeding season this year, a bird which had been ringed as a juvenile on 24th August 2015 and had thus survived three winters.

Chaffinch *Fringilla coelebs* **Ji-binc**
Fairly Common to Abundant listed by both Betts and Thompson as Common to Very Abundant
15 trapped
1936-1976: 255 trapped, 2013-2017: 53 trapped, 3 retrapped

Although the number of Chaffinch logged each spring has always fluctuated, it again proved one of the quieter springs on record for a species which at one time overwintered in small numbers. In March there were singles on the 13th, 24th, 28th and 31st, whilst in April a female seen each day between the 9th and 13th had been eaten by a Merlin on the 14th. A female ringed on 22nd April was the last of the spring. Two over on 28th September were two days later than the first four of last autumn; perhaps surprisingly there have only been records in 27 Septembers, including four of the last five. In October there were daycounts of up to four on six dates to the 7th and of up to 31 on each date between the 14th and 25th. Numbers increased significantly on 27th October when 27 eastbound groups totalled 328 birds and the following day when 50 eastbound groups totalled 492; although down on the 622 counted on 3rd November last year, the latter daycount was otherwise the highest to be made in any month since 900 were logged on 29th October 1993 (albeit well down on the daycount record of 3200 counted on 22nd October 1966). A further 124 bird-days over the last three days of October took the monthly total to 1100, the highest to be logged in any month since the 1627 of October 1993 and the 11th highest monthly total to date. There were daily sightings in November until the departure of staff on the 26th, all of 36 or less bar 47 on the 2nd, 89 on the 5th and 45 on the 13th; although down on the 804 of last year, the monthly bird-days total of 427 was otherwise the highest in November since 1993 and the seventh highest on record.

Brambling *Fringilla montifringilla* **Pinc y Mynydd**
Uncommon although Scarce on occasion and with records in only 15 springs
Earliest 25th September 1976 (15th October 2018) **Latest** 27th April 1949 (13th April 2018)
1936-1976: 5 trapped, 2013-2017: 4 trapped

One which dropped into the Cottage Sycamore on 13th April was the first spring record since 17th April 1997 (below photograph); there have only been 30 previous spring bird-days, 13 of which were in April and only six of which were later than this 2018 bird. Feathers found at the Lime Kiln on 23rd

April had perhaps been there for a few days. The first of the autumn, which flew over the Quarry on 15th October, was five days later than the first of last year but five days earlier than the first three of 2016. There were sightings on a further ten October dates from the 19th, all of two or less bar three on the 19th, seven on the 29th and four on the 30th; although it was the third highest since 1995, only down on counts of nine and ten made last year, the peak October daycount was well down on an impressive 70 logged on the 27th in 1975 and 1966 highs of 375 on the 24th and a quite remarkable 800 on the 22nd. An October bird-days total of 24 was the highest to be made in any month since the 27 of October 1993, albeit massively down on record totals of 223 in October 1973 and 1382 in October 1966. In November there was a single on the 1st, five on the 2nd and one on the 18th which was the last to be logged before the staff departure; a total of seven November bird-days was down on the 20 of last year and November highs of 25 in 1970, 42 in 1968 and 108 in 1967.

Greenfinch *Chloris chloris* **Llinos Werdd**
Uncommon but recorded by both Betts and Thomson as Fairly Common or Common
1936-1976: 93 trapped, 2011: 4 trapped, 1 retrapped

One on 8th April was the first spring sighting since 5th April 2015 and one of only four spring records in the last six years; although there have been no spring birds in nine post-1946 years, up to 36 bird-days have been noted in a single spring during the same period. One over on 6th October was the first of the autumn, 12 days earlier than the first of last year. The only other October records were of one eating Blackberries north of the Wheelhouse on the 10th, three on the 24th and four east on the 29th. One on 5th November was the last of another quiet year. Ten autumn bird-days was up on the nine of 2017 and 2015, the five of 2016, the two of 2014 and the blank autumn of 2013, but down on the 12 of 2012 and the 23 of 2011. Although historical counts have fluctuated, there have been 12 autumn totals in excess of 200, most recently the 251 of 2003, and highs of 422 in 1976, 525 in 1966 and 581 in 1939. Since the eight birds noted in 2005, there have now been records in ten years totalling only 93 bird-days. This significant decline is likely linked to the spread of trichomonosis which has led to a 59% decline in the British population in just ten years (Massimino *et al*., 2017).

Common Rosefinch *Carpodacus erythrinus* **Llinos Goch**
Rare 57 bird-days, including 18 in spring, logged over 20 previous years
Earliest 3rd May 1970 (16th September 2018) **Latest** 12th October 1995 (27th September 2018)
1936-1976: 4 trapped, 2011-2015: 5 trapped, 1 retrapped

A juvenile found under the north face of the Knoll on 16th September was the first Skokholm record since one on 11th June 2015 and probably the bird seen in the Courtyard the following day (RDB *et*

al.). A vocal and conspicuous bird on the 22nd was seen at the Well, North Pond, the Pig Sty and East Bog (RDB *et al*.); it is tempting to think that such an obvious individual was new in, however the intervening period had seen some exceedingly rough weather which may have encouraged more secretive behaviour. The latter option was perhaps given some credence on 26th September when a Common Rosefinch was found at East Bog, in the same Elder as the bird was watched on the 22nd (DA *et al*.); what was almost certainly the same individual was last seen at Crab Bay the following day. There has now been a minimum of six birds in eight years, with singles between the 5th and 10th September 2014, on 8th June 2013, between the 27th and 29th August 2012 and between the 2nd and 11th September 2011 in addition to that listed above. Prior to these the most recent sightings were a single on 25th May 2003 and an Island daytotal record of three on 11th October 2001. Interestingly the last three spring records have all been one day birds whereas the last three autumn records have all lingered, this perhaps also suggesting that the 2018 sightings were all of the same, occasionally skulking, individual.

Linnet *Carduelis cannabina* **Llinos**
Common bred in 1929, 1997 and 1998
5 trapped
1936-1976: 63 trapped, 2011-2017: 38 trapped

Singles on four March dates from the 20th made for the lowest total in this month since 2013. The usual April increase in numbers saw records on all but three dates from the 3rd, with five or fewer on 16 days but highs of 27 on the 11th, 46 on the 19th and 32 on the 21st which contributed to a monthly total of 226; the peak April daycount was the highest since 64 were logged in 1997 and the third highest count in this month to date, whilst the bird-days total was only down on the 333 of April 1960. Daycounts of up to nine birds on 16 May dates took the monthly total to 47 which was, equal with 2013, the second highest May total this century. Two birds on three dates between the 6th and 9th, a single on the 28th and four on the 30th totalled 11 June bird-days, this matching 2015 as the highest total in this month since the 25 of 2000. July also saw a small number of birds logged, with two on the 3rd, singles on the 7th and 11th and six on the 26th which were the last birds to be seen before September; there was no August record for the first time since 2014 but for the 11th time this

century. Following two on the 23rd, there were sightings on all but one September date including highs of 37 on the 24th, 66 on the 27th and 82 on the 29th; the latter daycount was the second highest to be logged in September, only down on the 137 of 2015, whilst the September bird-days total of 242 was only down on the 270 of 2015 and the 259 of 1994. October was similarly productive with records on all but eight dates and highs of 81 on the 7th, 124 on the 14th and 89 on the 18th and 22nd which led to a bird-days total of 892; although the peak daycount was only the fourth highest of the last four Octobers, the bird-days total was the third highest to be logged in any month, only down on the 939 of October 1975 and the 911 of October 1959. Perhaps surprisingly, given the number of well above average totals logged in 2018, the only November sightings were of a single on the 1st and of two on the 2nd; there have been 30 higher November totals, with three bird-days being the lowest tally of the last six years, well down on the November record of 188 logged in 2016.

Lesser Redpoll *Carduelis cabaret* **Llinos Bengoch Leiaf**
Uncommon recorded by both Betts and Thompson as Scarce
4 trapped
1936-1976: 16 trapped, 2013-2017: 10 trapped

Two ringed on 19th April were the first of the year, four days later than the first of last year and five days later than the first of 2016. A flyover on the 21st was the only other April sighting and only the 45th April bird-day to be noted since the first in 1958. Although well down on the record of 54 bird-days logged in 2016, it proved the fourth most productive May to date with counts of up to three birds on 11 dates taking the bird-days total to 16. Four grounded singles and two flyover singles noted over six dates to the 21st took the June total to the third highest on record, only down on the ten of 1981 and the seven of 2013. One at the Farm on 17th July was only the 23rd to be seen in this month and a flyover on the 23rd made September 2018 only the 14th September with a record. The only October birds were a flyover on the 14th, one sat in the Lime Kiln Elder on the 15th and four over on the 30th; an October bird-days total of six, although down on the 29 of 2017 and the 16 of 2015, was otherwise the highest since the eight of 1996. The last of the year were flyover singles on the 2nd and 25th November; there have now been 27 November bird-days, 16 of which have come in the last five years.

Crossbill *Loxia curvirostra* **Gylfin Groes**
Rare 70 previous bird-days logged over eight previous years
1936-1976: 7 trapped

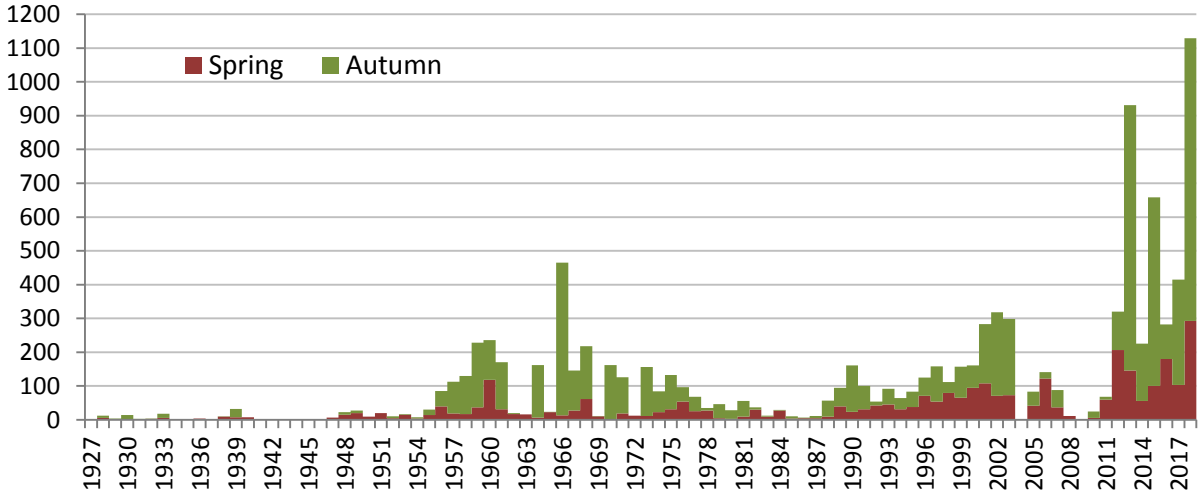
Seven birds, one of which was red, flew from Spy Rock to the Hills on 26th October but could not be relocated (GE); this was the second largest crookedness to be seen on Skokholm. The only other definite Island records concern singles on the 12th and 29th August 2002, one on 5th October 1999, an immature on 13th July 1997, three on 30th August 1993 (one of which was seen each day to 2nd September), counts of up to 11 birds on eight dates between 5th July and 25th August 1966, four on 27th July and three on 1st September 1959, five on the 2nd and four on 3rd July 1953, one on the 13th and four on 14th September 1953 and one on 5th July 1929. The 2018 sighting was thus one of only two October records and the latest to be logged on Skokholm.

Goldfinch *Carduelis carduelis* **Nico**
Common but recorded by both Betts and Thomson as Fairly Common
33 trapped, 2 retrapped
1936-1976: 65 trapped, 2011-2017: 100 trapped, 3 retrapped, 2 controls

Two on the 26th and a single on 28th March were the first of what was to prove a record year. There were birds on 20 April dates, with five or fewer noted on 14 days but highs of 17 on the 13th and 21 on the 19th which took the bird-days total to 116; both the maximum daycount and monthly total

were new April records, both up on highs logged in 2012 when there was a daycount of 20 and a bird-days total of 112. Although counts on 17 May dates were of three or less, records on a further ten days included highs of 16 on the 1st and 23 on the 5th which bolstered the bird-days total to a record 136; the previous May daycount record was the 16 of 2013 and the previous May bird-days record the 113 of 2016. June became the third record month on the bounce, with sightings of up to six birds on 20 dates taking the total to 38, 13 more than the previous 2012 high. Males were singing on four June dates, however there was again no indication of a breeding attempt; Goldfinch are yet to nest on Skokholm but, given the increase in the number of spring sightings, it is perhaps only a matter of time.

The total number of Goldfinch bird-days logged in each spring and autumn since 1927.



Sightings on five dates between the 6th and 11th July included the first two juveniles of the year on the 9th and totalled a record 12 bird-days; the first juvenile of last year was not noted until the 27th, whilst the eight July bird-days of last year was the previous high. There have only been August sightings in five previous years, a tally which was not added to this year. Following a single on the 4th, there were birds on nine September dates from the 21st, including highs of 37 on the 23rd and a record 114 on the 30th which took the bird-days total to a record 237; the previous daycount record was the 63 of 2015 and the previous record total the 120 of last year. Observations on 21 October dates included 12 daycounts of four or less but highs of 119 on the 6th, 67 on the 7th and 170 on the 15th which contributed to a bird-days total of 582; the only higher daycount to be logged in any month on Skokholm, the 285 of 14th October 2013, took the October total for that year to 746, a tally which remains the only one in any month higher than the 582 of this October. There were only five November bird-days, with singles on the 1st and 2nd, two on the 7th and a male singing at the Farm on the 26th; the total was the lowest of the last six years, down on a high of 138 logged in 2015.

Siskin *Carduelis spinus* **Pila Gwyrdd**
Uncommon sometimes Scarce and with records in just ten previous springs
1936-1976: 37 trapped, 2017: 1 trapped

Flyover singles on the 9th and 21st April were the first spring birds since the three singles of 2016; there have only been 24 previous spring bird-days, 14 of which have been this century. Two together on 3rd October were the first of the autumn, these on the same date as the first of last year but 13 days later than the first autumn birds of 2016. There were sightings on a further nine October dates from the 19th, including highs of nine on the 22nd and 17 on the 29th which took the monthly total to 46; although down on the 111 bird-days of last October, this was otherwise the highest October tally since the 54 of 1997 and the tenth highest total to be logged in this month, albeit well down on record totals of 210 in October 1975, 405 in October 1993 and 2156 in October 1988 (the latter of

which included remarkable daycounts of at least 1200 grounded by fog on the 26th and 800 the following day). In November there were four on the 2nd and six on the 18th, the tally equalling last year as the fifth highest in this month to date. Siskin have now been logged in 40 years since the first 11 for Skokholm were found in 1949.

Reed Bunting *Emberiza schoeniclus* **Bras y Cyrs**
Uncommon Breeder and Scarce Visitor bred in 1960, in most years 1967-1980 and since 2005
13 trapped, 10 retrapped
1936-1976: 174 trapped, 2011-2017: 74 trapped, 138 retrapped

As noted in the majority of recent years, the entire Island population was almost certainly absent upon the return of staff. Following five blank days, the first three males of the year made a vocal appearance on 11th March, whilst a lone male on the 16th was the only other record before almost daily sightings began on the 25th. There was again no indication that the birds logged during the spring and summer were anything other than the Skokholm breeders, with all daycounts totalling less than the number of breeding birds and with no obvious flyovers. There were only four territories mapped, with pairs at Isthmian Heath, the Well, the Pig Sty and South Pond; this was three down on the Island record of seven pairs mapped each year between 2015 and 2017 and one down on the previous high recorded in 2014, 2013 and 1977. Only two ringed birds were known to return to the Island, five fewer than last year; a male and a female, both ringed in April 2017, had survived at least two winters. This apparent decline in adult survival, perhaps linked in part to the extreme weather prevalent during the 'Beast from the East', probably explains the drop in the number of pairs which took up residence this year. Nest building was first observed on 5th May, three days later than last year, and food deliveries were first logged on 11th June, six days later than last year.

Fledglings were located in all four territories, with two found at both South Pond and the Pig Sty and a minimum of six at the Well which probably included the young from Isthmian Heath. Productivity was thus a minimum of 2.50 fledglings per pair, a value up on the 1.86 of last year, the 1.43 of 2016, the 2.00 of 2015 and the 1.80 of 2014. In total there were five youngsters trapped around the Well and Farm before the end of August, two fewer than last year; there were six young ringed in 2016 and eight in both 2015 and 2014. In the years in which Reed Bunting did not breed on Skokholm they were considered a scarce visitor, with a small number of birds noted most Octobers. Such small scale arrivals are difficult to detect now that a breeding population has again established, however immigration was confirmed this autumn when six different first-winters were ringed between 14th October and 2nd November (this being more than the number of unringed Skokholm fledglings).

Additionally a high flyover on 2nd October, a daycount of eight on 14th October (following a 16 day period in which only 11 bird-days were logged) and two over with Chaffinches on 1st November were probably also indicative of an autumn passage. Counts again dwindled towards the end of the season, with only 30 November bird-days logged before the 26th.

Lapland Bunting *Calcarius lapponicus* **Bras y Gogledd**
Scarce but only recorded in 46 previous years and with just five spring records, most recently in 2017
Earliest 30th July 1957 (4th October 2018) **Latest** 8th June 1963
1936-1976: 1 trapped, 2017: 1 trapped

It proved a poor year by recent standards, with a single associating with Meadow Pipit north of the Farm on 4th October the only record (RD); the first of autumn 2017 was five days earlier and the first of 2016 five days later. There were four birds logged last autumn, 13 in 2016, a single in 2015, three in 2014 and two in 2013. The only autumn counts higher than that of 2016 are the 45 of 1993 (which included a record daycount of 11 on 20th October), the 14 of 1973, the 17 of 1960, the 15 of 1957 and the record 56 of 1956.

The Non-avian Report

The 2018 season proved to be yet another diverse and exciting one for records of non-avian species on Skokholm. Targeted surveys and ad hoc observations made during the daily census produced a substantial number of records documenting the abundance of resident and regular migrant species, and also highlighted the presence of rare arrivals and previously unrecorded residents. Despite eight decades of intensive field study on Skokholm, there were still seven new species of moth and one new species of plant added to the Island list, the latter of which was also a first for the County.

The 2018 sightings are listed systematically below and, where appropriate, compared with the now digitised historical records, Thompson (2007) and observations made since 2012.

Invertebrates

Dragonflies and Damselflies

Common Blue Damselfly *Enallagma cyathigerum* (Charpentier, 1840)
With the exception of 1994, when numerous adults, breeding and nymphs were recorded at North Pond, this species has remained an insect rarely encountered on Skokholm.

A male found resting on Bluebells northwest of North Pond on 7th June, along with a single above Crab Bay on the 24th, were the only confirmed records this year. Additionally lone 'blue' damselflies noted on the 21st, 24th and 26th July were not identified to species level. This was only the second year since 2013 in which this species has been encountered, the other being 2014 when a minimum of 15 at North Pond on the 17th and 18th June took the annual total to 33.

Migrant Hawker *Aeshna mixta* (Latreille, 1805)
The first of the season, a single at the Well on 9th August, was four days earlier than the first of 2017 but four days later than in 2016. One at the Bluffs on the 16th was the only other August record, a total of two being down on the 14 logged in August last year. In September there were singles at Crab Bay and the Neck on the 5th, one on the 24th and two at North Pond on the 29th; a September total of five was close to the seven of last year. Singles at the Well on the 7th and 11th October were the last of the season, taking the annual total of nine; recent totals have been 21 in 2017, 13 in 2016, 36 in 2015 and 15 in 2014, however there were no sightings in 2013. Although unidentified hawkers reported on the 3rd, 5th and 12th July, 29th August and 7th September may have bolstered the tally, the 2018 total is still the second poorest of the last six years, this perhaps something of a surprise given that this species has undergone a significant range expansion on the mainland in recent years.

Emperor Dragonfly *Anax imperator* (Leach, 1815)
It was the best year of the last six for sightings of this hefty dragonfly on Skokholm. One on 25th June was the first of the season and over three weeks earlier than the first of 2017; the only earlier records in the last six years were in 2014 when there were two on the 17th and one on 24th June. There followed singles at Sugar's Delight on the 26th and at East Bog on the 27th, three on the 28th (which included one arriving from the sea) and further singles along the Lighthouse Track on the 29th and at Isthmian Heath on the 30th. In July there were four along the Lighthouse Track on the 2nd, six at widespread locations on the 3rd (the highest post-2004 daycount), three on the 5th and a single on the 11th; the latter was a remarkable observation of a female perched on floating Thongweed in South Haven and ovipositing into a flat calm sea. A female on the 12th was the last sighting of 2018, taking the July total to 15 and the year total to 23; there were four in 2017, ten in 2016, 18 in 2015 and six in 2014. As with the preceding species, there were no sightings in 2013.

Red-veined Darter *Sympetrum fonscolombii* (Sélys, 1840)
A male feeding along the Lighthouse Track on 3rd June was the only record of the year, although single unidentified *Sympetrum* were seen the following day and on 5th September. This becomes the

sixth consecutive year that this species has been recorded on Skokholm. The first to be documented was a male at the Bluffs on 20th July 2013. There followed a single male in 2014, an impressive influx of 31 in 2015 which included five pairs in copula at North Pond, another lone male in 2016 and 24 in 2017 which again included at least three mating pairs. Red-veined Darter breed regularly in southern England, but these sites are still not thought to hold established populations (British Dragonfly Society, 2019); it is thus possible that the Skokholm records are of migrants from the Continent.

Common Darter *Sympetrum striolatum* (Charpentier, 1840)
Two males in the Well Heligoland on 4th August was the only record of the year and the first since a female present in the Courtyard on the 2nd and 3rd July 2016. Although recently scarce, this was historically one of the most commonly encountered species of Odonata on Skokholm; there are records of breeding in both 1997 and 1956 and an astonishing 923 were logged between July and September 1948.

Moths

As in the previous five years, the 2018 moth records listed here are the result of both active trapping and ad hoc recording in the field. An impressive diversity was again discovered, with 17 Island scarcities logged (moths with fewer than five previous records) and seven additions made to the Island list (19 in 2017). Less frequently recorded immigrants such as **Olive-tree Pearl**, **White Speck**, **Small Mottled Willow** and **Scarce Bordered Straw** added some late season variety, but it was another relatively quiet year for encounters with many of the regular migrants, species such as **Diamond-back Moth**, **Rush Veneer**, **Vestal** and **Rusty Dot Pearl**. **Silver Y** bucked this trend, with the combined total being the highest of the last six years. Nocturnal trapping was carried out using the solar mains powered Skinner Trap. Within the following text 'Nationally Rare' refers to a species which occurs in 15 or fewer hectads (10x10km squares) in Great Britain, whilst a 'Nationally Scarce' species occurs in between 16 and 100 hectads.

15 **Orange Swift** *Hepialus sylvina* (Linnaeus, 1761)
The first record of the year was of a single taken from the light trap on 14th August. Nine individuals were observed along the Lighthouse Track at dusk the following day and a further 14 were logged

during the remainder of the month. A single on 6th September was the only other individual to be trapped, the only record of the month and the last of the year.

17 **Common Swift** *Hepialus lupulinus* (Linnaeus, 1758)
Perhaps due to the extended life cycle of this species, which sees the larva overwinter twice before maturation, the number of adults attracted to the light each year tends to fluctuate. This season a total of 47 were trapped between 25th May and 23rd June, with a peak catch of 13 on 30th May; a maximum of five in 2017 took the total to 20.

18 **Map-winged Swift** *Korscheltellus fusconebulosa* (De Geer, 1778)
Although this species is regularly encountered on the Island, high counts are unusual, this despite an abundance of the larval foodplant Bracken *Pteridium aquilinum*. A single taken from the light trap on 23rd June was the first. A further 14 were logged over four dates, including two trapped on 11th July which were the last of the year.

118 **Pygmy Sorrel Moth** *Enteucha acetosae* (Stainton, 1854)
This Nationally Rare Nepticulid was first recorded on Skokholm in 2014 when the distinctive larval mines were found on the leaves of Common Sorrel *Rumex acetosa*, the plants growing in a Manx Shearwater census plot adjacent to North Pond. The mines have been encountered at the same location in each subsequent year, including this season when a total of 39 separate spirals were found. The search for mines is not exhaustive, indeed it is likely that many more are present, however given that the area surveyed for Manx Shearwaters is the same each year, an improvement on the 12 spirals of 2017 may reflect a genuine increase. Although Common Sorrel grows abundantly on Skokholm, the leaf mines of this species are yet to be encountered away from North Pond.

170 **Five-spot Burnet** *Zygaena trifolii* (Esper, 1783)
The first four caterpillars of the year were found in the North Pond Manx Shearwater census plot on 30th May, whilst the first adult was on the wing at North Pond on 26th June (ten days later than the first of 2017). There were a further 12 noted in June and 756 in July, the latter tally being well down on the 1436 of July 2017 but up on the 389 of 2016. A peak of 130 on the 16th was the only three-figure daycount in July; in 2017 there were six dates on which this was the case. As is to be expected, the number of adults encountered fell sharply in August, with sightings of four dates to the 6th totalling just six; there were 31 in August 2017 and 14 in 2016.

186 **Common Sweep** *Psyche casta* (Pallas, 1767)
This species was not documented on Skokholm until 2013, probably due to the unobtrusive nature of the adult males and the easily overlooked larval cases. Although no adult males were observed this season, several larval cases were noted during seabird census work near the Lighthouse in May. It is likely that the Common Sweep is far more abundant than recent ad hoc records suggest; during a whole Island Storm Petrel census in 2016 a minimum of 100 cases were found on loose stones and scree, the majority in a section of the west coast rarely explored so closely.

383 **Thrift Clearwing** *Synansphecia muscaeformis* (Esper, 1783)
One found at Twinlet on 10th June was the first of the year, four days earlier than the first of 2017 but five days later than the first of 2016. An additional 16 moth-days were recorded over four June dates, with a peak count of eight on the 25th; whilst the majority of records came from sites along the North Coast, two of the four logged on the 24th were on the Neck. Four between Purple Cove and Twinlet on 3rd July were the first of the month. A pheromone lure brought to Skokholm by a guest was deployed at three sites around Steep Bay on the 10th, resulting in an impressive daycount of 15 separate individuals. A deployment at the Dip on 14th July attracted two individuals; these were the first at this site for at least a decade. During the last five years of ad hoc recording, most sightings have come from the North Coast, particularly the area between Purple Cove and Twinlet

where Thrift *Armeria maritima* is at its densest; that the pheromone lure confirmed a low-level presence at a new site perhaps suggests that this species could be more widespread than recent observations indicate. A pheromone lure supplemented 2018 total of 38 moth-days was still five short of last year, but was up on the 29 of 2016 and the 31 of 2015.

385 **Common Nettle-tap** *Anthophila fabriciana* (Linnaeus, 1767)
This diminutive nettle specialist is without doubt overlooked, with the only record this year being of 12 counted along the Lighthouse Track on 12th September. Despite this low total being at least in part attributable to recorder effort, conspicuous numbers such as the 411 of September 2016 were seemingly not present.

464 **Diamond-back Moth** *Plutella xylostella* (Linnaeus, 1758)
It was another disappointing year for records of this miniature immigrant. Two along the Lighthouse Track on 6th June were the first of the season and the only moths seen until one was found at the Neck on 19th October. Singles taken from the light trap on the 20th and 21st October were the last. A moth-days total of five was close to the seven of 2017, numbers dwarfed during the eruption year of 2016 when the tally reached an impressive 4425.

672 **Parsnip Moth** *Depressaria heraclei* (Goeze, 1783)
Two trapped on 20th June were the first to be documented this year. Caterpillars numbering in their hundreds were found on several Common Hogweed *Heracleum sphondylium* flowers situated in the Courtyard and west of Home Meadow; the stems were not investigated for pupa. Several adult moths were found in the Ringing Hut and a minimum of 100 hibernating insects were disturbed from behind mirrors and picture frames whilst preparing the Farm accommodation for the winter.

826 **Coast Groundling** *Caryocolum vicinella* (Douglas, 1851)
A single found on loose scree along Quarry Storm Petrel Transect Four on 2nd July was the only record of the season; there were four in 2017. First observed on Skokholm in 2014, this attractive Nationally Rare Gelechid has since been recorded in low numbers at widespread locations including South Haven, Crab Bay, North Gully and the Lighthouse. Low counts are in part due to the inconspicuous nature of this species and its tendency to crawl under dense patches of vegetation, however a lack of Sea Campion *Silene maritima*, the larval foodplant, in the usual light trapping areas around the Farm may explain why it is not encountered more frequently.

966 **Black-headed Conch** *Cochylis atricapitana* (Stephens, 1852)
This species, which is widespread across the British Isles but more common in coastal areas, is regularly encountered in the trap, although escapes prior to being counted are not unusual. This season a total of 11 were logged between 21st May and 12th June. Numbers perhaps correlate with

the relative abundance of Common Ragwort *Jacobaea vulgaris*, the larval foodplant, the extent of which varies markedly from season to season.

970 **Barred Fruit-tree Tortrix** *Pandemis cerasana* (Hübner, 1786)
A single attracted to the light trap on 30th June was the only record of the year; there were five trapped in 2017. This species was not recorded on Skokholm until 2016 but has been encountered in each subsequent year, raising speculation that it could be a recent, low density, colonist. This is primarily a woodland moth whose larvae feed on deciduous trees.

1288 **Twenty-plume Moth** *Alucita hexadactyla* (Linnaeus, 1758)
One found in the Lighthouse Common Room on 1st September was the first to be logged since a single, also inside the Lighthouse, on 21st November 2016. Surprisingly this was only the third to be observed on Skokholm, with the other record a single found on 14th August 2013. Honeysuckle *Lonicera* spp., the larval foodplant, is present on sections of comparatively sheltered, Rabbit-free cliff; it is thus quite likely that this could be a scarce breeding species.

1293 **Garden Grass-veneer** *Chrysoteuchia culmella* (Linnaeus, 1758)
This is one of the most commonly encountered Crambids on Skokholm and was almost certainly under-recorded on the Island this year. Nevertheless it was often found in low numbers during late June light trapping sessions.

1333 **Meadow Grey** *Scoparia pyralella* ([Denis & Schiffermüller], 1775)
This distinctive micro is regularly encountered on the Island and is particularly conspicuous amongst Bracken during spring seabird monitoring. A minimum of 300 on 3rd June were the first to be noted this season. The first two to be attracted to the light trap were taken on the 5th, a minimum of 100 was logged on the 6th and there were minimums of 200 on the 7th and 8th. A further 71 were trapped during the remainder of June, including four on the 30th which were the last.

1342 **Narrow-winged Grey** *Eudonia angustea* (Linnaeus, 1758)
One trapped on 27th September was the only record this year of a species seldom observed on Skokholm. Prior to a single in 2017 and two in 2014, the most recent encounter was in 1998, whilst 1996 is the only other year in which this micro has been documented. Given that the larvae feed on mosses, it is likely that this is an inconspicuous Island resident.

1376 **Small Magpie** *Eurrhypara hortulata* (Linnaeus, 1758)
A freshly dead adult found in Officer's Mess on 16th May was the first record of the year. The first live individual was trapped on 8th June and a further five came to light between the 12th and 24th. A single diurnal record on 3rd July was the last of the year, taking the 2018 moth-days tally to eight; this continued a run of poor totals for this stunning micro, with only 14 counted in 2017 and eight in 2016, totals down on the 50 of 2015 and the 79 of 2014.

1395 **Rusty Dot Pearl** *Udea ferrugalis* (Hübner, 1796)
It was again a poor year for records of this regular Skokholm immigrant. The first of the season was not logged until 16th October, when a singleton was attracted to the Lighthouse Common Room window after dark. Four came to the light trap the following night, six were taken on the 20th and a catch of three on the 21st was the last of the year. An annual total of 14, whilst disappointing compared to the 88 of 2017, is completely overshadowed by observations made in 2014 when, on 8th August alone, a minimum of 150 were flushed from a single patch of North Haven vegetation.

1398 **Rush Veneer** *Nomophila noctuella* ([Denis & Schiffermüller], 1775)
One along the Lighthouse Track after dark on 6th September was the first record of what was to be another quiet year for this distinctive and typically common immigrant. Following just one further record in September, there were 12 noted on 11th October, one on the 19th and four trapped over three nights between the 17th and 21st; the latter moth was the last of the season. An annual total of 19 was the second lowest of the last five years, down on the 31 of 2017, the 235 of 2016 and the 179 of 2015 but up on the seven of 2014.

1399 **Long-legged China-mark** *Dolicharthria punctalis* ([Denis & Schiffermüller], 1775)
Although this species was first noted in 1998, it was not documented again until 2013. It has since been recorded annually, albeit in low numbers. A single along the Lighthouse Track on 17th July was the only record, marking 2018 as the seventh year in which this distinctive, Nationally Scarce species has been found on the Island. The increase in Skokholm observations may perhaps be attributable to the 2013 crash in Rabbit numbers which has led to more diverse and mature vegetation; the resulting increase in dead and decaying plant matter would benefit the larvae of this species. Its mainland range is restricted to cliff and beach habitats along the southwest coast.

1405 **Mother of Pearl** *Pleuroptya ruralis* (Scopoli, 1763)
This beautiful moth is infrequently recorded on Skokholm. A minimum of five, observed at Billy's Dyke in the early hours of 22nd July following a Storm Petrel ringing session, were the only individuals to be encountered this season. Although low, this total makes 2018 the best year of the last six for records of this species; there were four in 2017, none in 2016, one in 2015, three in 2014 and one in 2013. Given that the larvae feed on Nettle, it is perhaps surprising that the only other years in which Mother of Pearl have been found are 1996, 1997 and 1999.

1408 **Olive-tree Pearl** *Palpita vitrealis* (Rossi, 1794)
This stunning immigrant, only previously logged on 28th August 2017 and 25th October 2013, was observed twice this year. The first individual was flushed from Bracken near the Cottage Heligoland Trap on 5th October; this moth proved twitchable as it settled nearby. A second was found amongst

Bracken on Isthmian Heath on 20th October. Although widespread in southern Europe, where its larvae feed on jasmine *Jasminium* spp. and on both the leaves and fruit of olive *Olea* spp., its occurrence in the British Isles is sporadic and eruptive. There has, however, seemingly been a recent increase in the number found in Britain each year.

1424 **Rosy Tabby** *Endotricha flammealis* ([Denis & Schiffermüller], 1775)
One on 4th July was the first in what was an excellent year for a species whose unusual upright resting posture makes it particularly distinctive in the field. A further 133 were logged between the 19th and 30th July, with a high of 40 on the 25th. The majority of sightings came from the Lighthouse Track and the Well where clusters of adults could be found feeding on the flowers of Ragwort. There were 65 recorded between the 1st and 10th August, with a peak count of 20 on the 6th. Rosy Tabby were also encountered regularly during late summer moth trapping sessions, with 15 found over three dates between 26th July and 10th August. A year total of 214 was the highest of the last six and well up on the 35 of 2017, the 56 of 2016 and the ten of 2015.

1458 **Thistle Ermine** *Myelois circumvoluta* (Fourcroy, 1785)
One at the Farm on 8th June was the first appearance of this distinctive thistle dependent Pyralid since 2016. The only other Skokholm sightings came in 2015, 1997 and 1996.

1523 **Dusky Plume** *Oidaematophorus lithodactyla* (Treitschke, 1833)
This species was discovered at Billy's Dyke in 2016, in an area where Common Fleabane *Pulicaria dysenterica*, the larval foodplant, is abundant. This stunning plume continued to thrive on Skokholm in 2017 when moths were also found at Orchid Bog. The first record of this season came from Billy's Dyke on 17th July. An additional 16 moth-days were logged at the same site between the 19th and 22nd, with a peak of nine noted on the latter date. Singles encountered along Well Stream on the 5th and 6th were the only August records and the last of the year.

1634 **The Lackey** *Malacosoma neustria* (Linnaeus, 1758)
A single was taken from the light trap on 30th June, this the first sighting of this species since 1992. The only other Island records occurred in 1968, 1960 and 1937. The principal larval foodplants are Hawthorn *Crataegus monogyna* and Blackthorn *Prunus spinosa*; whilst the former is not present on the Island, the latter does exist in the Cottage Garden and in the shelter of North Haven. However, given the paucity of Skokholm records, this was quite probably a wanderer from the mainland.

1689 **Mullein Wave** *Scopula marginepunctata* (Goeze, 1781)
This year yielded two records of a species irregularly encountered on Skokholm, with singles trapped

on the 6th and 10th August. Previously there was one in 2017, five in 2016, six in 2014 and one in 2013, whilst it has been suggested that Mullein Wave may be responsible for several reports of the much rarer and locally-extinct Weaver's Wave *Idaea contiguaria* present in the moth database.

1708 **Single-dotted Wave** *Idaea dimidiata* (Hufnagel, 1767)
Singles trapped on the 4th and 11th July continued a recent run of infrequent encounters with an *Idaea* rarely logged on Skokholm. Following records in 1937 and 1960, there was a 54 year absence until six were discovered in 2014. Nine were noted in 2015, whilst three were found in both 2016 and 2017. This is primarily a species of damp areas where its larvae feed during the autumn on Cow Parsley *Anthriscus sylvestris* and Burnet Saxifrage *Pimpinella saxifraga*; given that neither of these foodplants are known from Skokholm, the regularity of recent records is perplexing.

1713 **Riband Wave** *Idaea aversata* (Linnaeus, 1758)
Singles on the 26th and 30th June were the first of the year. Two, taken from the light trap on 4th July, were the only others in 2018. This rarely encountered Skokholm Wave has now been logged in five of the last six years; there were singles in both 2017 and 2016, five in 2014 and one in 2013. Additionally the digitised records reveal sightings in six further years. Two distinct forms of Riband Wave are found in the British Isles, with the typical form showing a dark band across all four wings and a plain ab. *remutata* which, instead of a dark band, has two narrow cross lines (UK Moths, 2019); although Nationally the prevalence of both forms is approximately equal, only ab. *remutata* has been noted on Skokholm during the last six years.

1716 **Vestal** *Rhodometra sacraria* (Linnaeus, 1767)
Two trapped on 21st October was the only record of this striking immigrant this year; despite sightings of a single in 2017 and an unprecedented 18 logged in 2016, this remains a scarce visitor to Skokholm. Vestals were not encountered in either 2015 or 2014, however there were three in 2013 and observations in five years prior to this, the most recent of which was in 2000.

1725 **Dark-barred Twin-spot Carpet** *Xanthorhoe ferrugata* (Clerck, 1759)
Two on 8th May were the first to be taken. A further 97 were caught subsequently, with 16 in May, nine in June, ten in July (along with two additional diurnal observations), 61 in August (including a peak catch of 35 on the 6th) and a single on 18th September which was the last. An annual total of 101 is the best of the last six years, up on the 58 of 2017, the 57 of 2016 and the 11 of 2015.

1742 **Yellow Shell** *Camptogramma bilineata* (Linnaeus, 1758)
This species, one of Skokholm's most conspicuous day flying macro moths, is often flushed from Bracken during the summer months. The first of the season was logged on 9th June, ten days later than the first of 2017 but five days earlier than the first of 2016. There followed totals of 90 during

the remainder of June (89 in 2017, 149 in 2016 and 229 in 2015), 281 in July (373 in 2017, 381 in 2016 and 415 in 2015) and 117 in August (71 in 2017, 101 in 2016 and 70 in 2015). The peak daycount of 36 logged on 25th July was down on the 84 of 6th July 2017, whilst the annual moth-days total has declined in each of the last four years.

1756 **Northern Spinach** *Eulithis populata* (Linnaeus, 1758)
A fine specimen taken from the light trap on 30th June was an addition to the Skokholm list. This is primarily a species of bog and upland heath whose larvae feed on Bilberry *Vaccinium myrtillus;* this record is thus most certainly of an accidental visit from the mainland.

1764 **Common Marbled Carpet** *Dysstroma truncata* (Hufnagel, 1767)
Although an abundant mainland species, finding a Common Marbled Carpet on Skokholm is a scarce event. Two individuals were logged this season, with a first generation adult trapped on 12th June and a second generation individual trapped on 13th September. These records mirror 2017 when a single moth was also encountered during each flight period. The only other Skokholm records are of two in 2016 and three in 2015.

1776 **Green Carpet** *Colostygia pectinataria* (Knoch, 1781)
There were two records of this distinctive species this year, with singles taken from the light trap on 25th May and 6th June. Although the larvae feed on Bedstraw *Galium* spp., members of which grow on the Island, there are surprisingly only three previous Skokholm records, with singles logged in October 2016, June 2013 and September 2000.

1777 **July Highflyer** *Hydriomena furcata* (Thunberg, 1784)
A single taken from the light trap on 11th July, along with another the following day, were quite remarkably the first and second records for Skokholm. On the wing during July and August, this species is widespread and common over much of Britain where it shows a preference for hedgerows and woodland margins. Although it is likely that these individuals strayed from the nearby mainland, the *Salix* spp. present on the Island may prove suitable.

1808 **Sandy Carpet** *Perizoma flavofasciata* (Thunberg, 1792)
Following a two year absence, there were two sightings this year; the first of the season was a singleton which came to light on 28th May, whilst a second individual was found at dusk, resting in the vegetation along Well Stream on 15th June. Although this species, whose larval foodplants include various campions *Silene* spp., is widely distributed throughout Wales, it remains a relatively scarce Skokholm find; the only previous records came in 2015, 2014, 1937, 1912 and 1910.

1819 **Mottled Pug** *Eupithecia exiguata* (Hübner, 1813)
The first Skokholm record of this common British moth was taken from the light trap on 25th May. Given the lack of previous sightings and the scarcity of larval foodplants such as Blackthorn *Prunus spinosa*, it is likely that this individual was an accidental to Skokholm.

1823 **Netted Pug** *Eupithecia venosata* (Fabricius, 1787)
Singles taken from the light trap at the Farm on the 5th and 12th June were the only records this season. This Nationally Scarce pug, whose larvae feed on Sea Campion *Silene maritima*, is probably an under-recorded breeder on Skokholm; there were two logged in 2017 and 11 in 2016.

1825 **Lime-speck Pug** *Eupithecia centaureata* ([Denis & Schiffermüller], 1775)
It was a good year for sightings of this bird dropping mimic, with a total of 43 coming to the light trap between 25th May and 6th September and a peak count of 20 on 6th August. There were 33 recorded in 2017.

1830 **Wormwood Pug** *Eupithecia absinthiata* (Clerck, 1759)
Four on 6th August and a further two on 14th August were the only records of the season; an annual total of six was nevertheless an improvement on the single of 2017. Like many of Skokholm's invertebrates whose breeding ecology relies on the presence of Common Ragwort, numbers in the trapping area probably fluctuate in accordance with the number of plants; an impressive 50 were encountered during 2014 when Ragwort was abundant around the Farm buildings.

1834 **Common Pug** *Eupithecia vulgata* (Haworth, 1809)
Singles were taken from the light trap on the 12th and 24th June, making 2018 just the second year since 1960 in which this tree loving species has been recorded on Skokholm. These sightings come hot on the heels of the three trapped during what was considered to be an exceptional 2017.

1837 **Grey Pug** *Eupithecia subfuscata* (Haworth, 1809)
Two trapped on 30th June was the only record this season of what is another seldom documented species. The only previous encounters came in 2014, 2016 and 2017.

1862 **Double-striped Pug** *Gymnoscelis rufifasciata* (Haworth, 1809)
One taken from the light trap on 14th August was the only record of the year, this continuing a recent run of Skokholm sightings. There were singles in 2017 and 2016, three in 2014 and one in 2013, whilst prior to 2013 this species had only been recorded in three years.

1902 **Brown Silver-line** *Petrophora chlorosata* (Scopoli, 1763)
This fairly common Skokholm moth is regularly flushed from Bracken during the early summer months. One at North Pond on 14th May was the first of the year, 12 days later than the first of 2017. A further 16 were encountered diurnally during the remainder of the month and 26 were taken from the light trap. In June a total of seven were trapped and 29 were logged during the daily census, including a peak count of 20 on the 3rd. A single, trapped on the 24th, was the only July record and the last in what was another quiet year for this species.

1906 **Brimstone Moth** *Opisthograptis luteolata* (Linnaeus, 1758)
The first of the year, on 17th May, was a diurnal record of a moth found resting on a cliff at Steep Bay. The second, a very fresh individual, was attracted to the light trap eight days later. The only other recent record is of a singleton trapped on 9th June 2016, whilst the database shows that this distinctive species was also logged in 1995, 1994, 1960 and 1937.

1995 **Puss Moth** *Cerura vinula* (Linnaeus, 1758)
It was an exciting year for records of this rare Skokholm species, a moth which prior to this season had only been seen in 1937, 1912 and 1910. A fairly fresh moth, taken from the light trap on 25th May, was the first of the year. A second was trapped on the 30th, this time an immaculate female.

Eggs which had been deposited on the trap during the night of 30th May were retained and went on to hatch. The extraordinary caterpillars, which were fed on the leaves of Willow, successfully

moulted into their final instar and were released at the Well on 3rd July. Remarkably, on 25th July, a large Puss Moth caterpillar was found outside of the Cottage; eggs had clearly been placed in locations other than on the light trap.

1952 **Common Heath** *Ematurga atomaria* (Linnaeus, 1758)
A male watched in flight over North Pond on 3rd June was followed to some nearby vegetation where it briefly settled; this was the first sighting of this species on Skokholm. Given that this is a common and widely distributed moth on the Pembrokeshire mainland, it is perhaps surprising that there have been no previous encounters. A diurnal species of heath, moorland and open woodland, its caterpillars feed predominantly on clovers *Trifolium* Spp., heath *Erica* Spp. and Common Heather *Calluna vulgaris,* the latter of which still grows in a very small area to the east of North Pond.

1972 **Convolvulus Hawk-moth** *Agrius convolvuli* (Linnaeus, 1758)
A smart adult found along the track between North Pond and Twinlet during the afternoon of 28th August was the only record this year. There has been a recent upsurge in the number of Skokholm sightings of this substantial immigrant, with three in 2017, nine in 2016 and singles in both 2015 and 2014, however the only record prior to these was logged in 1940.

1984 **Hummingbird Hawk-moth** *Macroglossum stellatarum* (Linnaeus, 1758)
One outside of the Cottage on 29th May was two days later than the first of 2017 but nearly six weeks earlier than the first of 2016. A second, found at Spy Rock on the 31st, was the only other May record. June proved poor for this fantastic immigrant, with a single at Frank's Point on the 27th the only sighting. There were 12 logged over seven July dates, including a maximum of three on the 27th when one was at the Red Hut and two were around the Farm. There were six August moth-days logged between the 2nd and 6th, when the Buddleia *Buddleja davidii* outside of the Cottage proved particularly attractive, and another four between the 27th and 31st. September was quiet, with one on the 3rd feeding on Goldenrod flowers at the Farm, two on the 24th and singles on the 25th and 26th. Five sightings in October took the year total to 35, five fewer than were logged in 2017.

2026 **Vapourer** *Orgyia antiqua* (Linnaeus, 1758)
The first in an unprecedented year for records of this species was an adult male, found at East Bog on 5th August. Three males were outside of the Lighthouse on 11th September and a further two were encountered on the 26th. Five adult males were logged in October and a flightless female was found on the 20th; the latter was discovered on the exterior wall of the Bird Loo where it had emerged from its cocoon and produced eggs (below photograph). This was seemingly the first record of an adult female on Skokholm. She was still present, and had produced more eggs, on the

24th, but by the 27th she was no longer visible. A second female with eggs was found on the latter date, next to a cocoon on a rail trap which had been in storage in the Ringing Hut. There have been regular sightings of larvae, albeit in low numbers, since 2013, but records of adult males were rare until 2017 when nine were found. Additionally the digitised Log lists four previous occasions when adult males have been discovered, with records in 1968, 1992, 1996 and 1998, whilst four earlier records do not list the life history stage encountered.

2047 **Scarce Footman** *Eilema complana* (Linnaeus, 1758)
One trapped on 6th August was the only record and only the second for Skokholm following one taken on 24th July last year. This is a coastal species in Wales, whose larvae feed on a variety of lichens and mosses; it is perhaps thus surprising that Scarce Footman has not been found previously.

2057 **Garden Tiger** *Arctia caja* (Linnaeus, 1758)
It was another comparatively good season for this charismatic species, a moth which on Skokholm has never been encountered in large numbers. The first four were taken from the light trap on 11th July, whilst a single trapped the following night was the last of the year. A moth-days total of five matched last year and was up on the single, dead insect found in 2016. Despite an abundance of Common Nettle *Urtica dioica*, one of the larval foodplants, Garden Tiger remains a scarce Island species; the digitised database holds only 18 records for the period 1910 to 2011.

2060 **White Ermine** *Spilosoma lubricipeda* (Linnaeus, 1758)
A total of 84 individuals were taken from the light trap this year, the first of which was logged on 28th May. The only catches which exceeded low single-figures were of ten on the 5th, 20 on the 6th and 11 on 8th June. There were ten trapped in July, with one taken on the 11th the last adult of the year. A caterpillar was observed on 17th September.

2061 **Buff Ermine** *Spilosoma luteum* (Hufnagel, 1766)
This species typically occurs more abundantly on Skokholm than the White Ermine; this year was no exception. Four on 21st May were the first of the year. A further 18 were trapped during the rest of May, there were 97 in June, 50 in July and 20 in August. What was assumed to be an unusual second generation individual on 9th October was the only record of the month and the last of the year. An annual total of 190 was up on the 137 of 2017 and 117 of 2016, almost matching the 191 of 2015.

2063 **Muslin Moth** *Diaphora mendica* (Clerck, 1759)
Six, trapped over three dates between the 21st and 28th May, were the only moths during what was a

poor year by recent standards; there were 22 logged in 2017 and 54 in 2016. Nevertheless 2018 becomes only the 12th year in which Muslin Moth has been documented on the Island.

2064 **Ruby Tiger** *Phragmatobia fuliginosa* (Linnaeus, 1758)
Although diurnal sightings have been logged in recent years, all records of this stunning moth came from the light trap this year. The first was taken on 25th May, there were two singles trapped in June, two in July and three in August. Two on 14th August were the last of the year. A cumulative total of just eight moth-days represents a poor showing for this species on Skokholm; there were 23 in 2017, 13 in 2016 and 49 in 2015.

2069 **Cinnabar** *Tyria jacobaeae* (Linnaeus, 1758)
The first record of an adult was a late one this year, with one found at the Neck on 9th May being 18 days later than the first of 2017 and five days later than the first of 2016. A total of 237 adults were trapped at night during the season (125 in 2017 and 258 in 2016), with peak catches of 67 on the 6th and 63 on 7th June. As expected, the bulk of the overall total was made up of diurnal observations; there were 296 logged in May (482 in 2017) with a maximum daycount of 86 on the 29th, 1010 in June (1037 in 2017) with peak counts of 86 on the 2nd, 82 on the 6th and 87 on the 9th and 63 in July (124 in 2017) with ten on the 4th the highest daycount of the month. A single on 24th July was the last adult of the year. The first caterpillar was found at the Neck on 1st July, 17 days later than the first of 2017. A poor Ragwort year was probably at least in part responsible for the low number of caterpillar sightings which followed. The biggest caterpillar count was of 67 feeding across three plants on 9th July, this compared with 2017 observations from the Neck which produced estimates in the thousands. Caterpillar counts remained low throughout the month, with 30 recorded on a small plant on the 17th and 48 noted on one plant on the 20th.

2080 **Square-spot Dart** *Euxoa obelisca grisea* (Tutt, 1902)
This Nationally Scarce coastal Noctuid is on occasion the most commonly encountered species during late summer trapping sessions, however a single taken from the trap on 26th July was the first of what would prove a quiet season. A further 31 were encountered in August, with nine on the 6th being the highest count. An annual total of just 32 was the lowest of the last five years, down on recent highs of 95 in 2017 and 92 in 2016.

2087 **Turnip Moth** *Agrotis segetum* ([Denis & Schiffermüller], 1775)
Two second brood individuals was a typical showing for what is a scarce species on Skokholm. One was observed after dark on 20th August, whilst another came to the light trap on 20th October. Four were logged in 2017 and singles were noted in both 2016 and 2015.

2089 **Heart & Dart** *Agrotis exclamationis* (Linnaeus, 1758)
A single trapped on 26th June was the only 2018 encounter with this common mainland moth. Heart & Dart is probably a scarce Skokholm resident; there were four taken in 2017 and ten in 2016.

2090 **Crescent Dart** *Agrotis trux* (Stephens, 1829)
A total of 17 were taken from the moth trap over six dates between 6th July and 10th August. This continued the pattern of decreasing numbers observed in recent years; there were 76 trapped in 2015, 41 in 2016 and 32 in 2017.

2091 **Dark Sword-grass** *Agrotis ipsilon* (Hufnagel, 1766)
Whereas the early spring of 2017 saw a significant influx of this almost annual immigrant, the first of this season was not logged until 25th May when one was taken from the trap. A further 23 were encountered during the remainder of the year, 22 of which were attracted to the light trap. A peak count of six was noted on 20th October and two four days later were the last of the year. Although down on an exceptional 2017 tally of 89, a year total of 23 still constitutes a good showing; there

were ten in 2016, four in 2015 and, despite intensive autumn trapping, no Dark-sword Grass were found in 2014.

2098 **The Flame** *Axylia putris* (Linnaeus, 1761)
Just three were taken this year, with two on 30th June and one on 4th July. This species has proven to be much scarcer of late than it was in the past; whereas there were 15 logged in 2016 and five in 2017, 2015 and 2014, the digitised database includes catches of 108 on 10th July 1996 and 65 on 4th June 1997.

2102 **Flame Shoulder** *Ochropleura plecta* (Linnaeus, 1761)
A total of 21 were caught between 20th May and 14th August and a peak catch of six was taken on 25th May. This species has been logged annually in recent years, with 48 in 2017, 31 in 2016, three in 2015 and 49 in 2014. Flame Shoulder also appear regularly in the Skokholm database, particularly during the late 1990s when similar quantities were recorded as in the past six years.

2107 **Large Yellow Underwing** *Noctua pronuba* (Linnaeus, 1758)
One taken on 24th June was the first of the year and a further two were noted during the remainder of the month. There followed seven in July, nine in August, 45 in September and 17 in October, including one on the 25th which was the last of the year. An annual moth-days total of 81 was down on the 120 logged last year but up on the 53 of 2016.

2117 **Autumnal Rustic** *Eugnorisma glareosa* (Esper, 1788)
This attractive late autumn Noctuid was found for the first time on Skokholm in 1990 but, perhaps owing to its late flight season, has since been encountered in only eight years. A single trapped on 9th October was the only record this year, whilst there were three in 2017 and two in both 2016 and 2014. One in 2000 was the only other sighting this century.

2120 **Ingrailed Clay** *Diarsia mendica* (Fabricius, 1775)
A single taken from the light trap on 6th July was only the second since 1960 and made 2018 just the sixth year with a recorded sighting. Although this is a common moth of woodland and moorland, Skokholm records are most likely of wanderers from the mainland.

2123 **Small Square-spot** *Diarsia rubi* (Vieweg, 1790)
A total of 11 were logged between 6th June and 31st August, this the lowest tally of the last four years. Although this species rarely occurs in high numbers, there were 33 moth-days in 2017, 49 in 2016 and 20 in 2015.

2126 **Setaceous Hebrew Character** *Xestia c-nigrum* (Linnaeus, 1758)
It was another good season for this Nettle eater on Skokholm, with a total of 16 moth-days recorded. A lone first brood individual trapped on 30th May was the first of the year and a further two were taken on 5th June. The remaining records were of second generation moths encountered during September and October; catches did not exceed three and the last of the season was a single taken on 20th October. Although 23 were logged last year, there were only four in 2016, eight in 2015, ten in 2014 and one in 2013; prior to these there were sightings in a further 11 years.

2134 **Square-spot Rustic** *Xestia xanthographa* ([Denis & Schiffermüller], 1775)
A total of 22 taken from the light trap on 6th July were the first. Perhaps surprisingly two on 29th September were the only others logged. A 2018 total of 24 was close to the 26 of last year and up on the ten of both 2016 and 2015. This species has now been documented in five years since 2000.

2139 **Red Chestnut** *Cerastis rubricosa* ([Denis & Schiffermüller], 1775)
A lack of early spring trapping, which in March 2017 produced nine moth-days, will be responsible in part for a paucity of records this season. Indeed a late individual taken on 25th May was the only moth this year. Nevertheless 2018 becomes only the third year since 2000 with a Red Chestnut record, a lack of sightings which may also reflect low trapping effort during the early weeks of spring.

2147 **The Shears** *Hada plebeja* (Linnaeus, 1761)
Despite being widespread on the mainland, this is a surprisingly rare Skokholm species. One taken from the trap on 7th June was the only record of the year and just the seventh for Skokholm. One on 9th June 2016 is the only other recorded encounter since 1998.

2160 **Bright-line Brown-eye** *Lacanobia oleracea* (Linnaeus, 1758)
This common Skokholm breeder is a regular find in the moth trap throughout the visitor season, although numbers have fluctuated between years. This year there were 11 in May, 72 in June, 25 in July, nine in August and one in September. A cumulative total of 118 moth-days was down on the 183 of 2017 and the 206 of 2016 but up on the ten of 2015 and the 58 of 2014.

2163 **Broom Moth** *Melanchra pisi* (Linnaeus, 1758)
It was a second quiet year for records of this common resident. One on 8th May was the first of the season and the first of 54 May moth-days, whilst there were 114 in June and three in July. One on 6th July was the last adult of the season and large caterpillars were found on Bracken later in the month.

2166 **The Campion** *Hadena rivularis* (Fabricius, 1775)
It was a good season for encounters with this common Skokholm breeder, with a total of 169 moth-days logged (there were 90 in 2017, 256 in 2016 and 42 in 2015). The first two came to light on 20th

May, almost three weeks later than the first of 2017. This species subsequently appeared in the moth trap on 19 dates between late May and August, with the peak catch of 32 taken on 25th May and a single trapped on 11th August the last of the year.

2167 **Pod Lover** *Hadena perplexa capsophila* ([Denis & Schiffermüller], 1775)
The first record of this coastal subspecies of Tawny Shears came on 25th May, three weeks later than the first of last year; interestingly there was a similar delay in the emergence of The Campion. There were 34 moth-days logged this year, a total up on the 25 of 2017 and the 33 of 2015 but well down on the 174 of 2016 which included an impressive 40 taken in a single June night.

2169 **Barrett's Marbled Coronet** *Conisania andalusica* (Doubleday, 1864)
This Nationally Scarce coastal species, which in the British Isles is very much restricted to south Wales, southern Ireland and southwest England, is a rare find on Skokholm. One trapped on 6th June was the only sighting of the year and the first since a remarkable seven were logged over four 2016 dates. The only encounters prior to these came in 1996, 1995, 1992, 1960 and 1937.

2171 **Marbled Coronet** *Hadena confusa* (Hufnagel, 1766)
The first three of the year came to the light trap on 20th May, this the start of a reasonable season for this coastal Noctuid. A further 26 were taken in May, with highs of 11 on the 21st and 13 on the 25th. There were 14 trapped over six dates in June and a single on 6th July was the last of the year, taking the annual total to 44. There were 22 logged in 2017 and an impressive 196 in 2016, but just four in 2015 and five in 2014.

2173 **The Lychnis** *Hadena bicruris* (Hufnagel, 1766)
The Lychnis could potentially be overlooked amongst larger catches of The Campion, particularly when worn individuals of both species begin to appear later in the season (when The Campion may lose its pinkish hues and it becomes difficult to assess how the forewing stigmata are joined). Nevertheless a minimum of nine were taken over five nights between 21st May and 6th September. Nine were also logged last year, whilst there were two in 2016, four in 2015, two in 2014 and three in 2013; prior to these recent encounters there are records of The Lychnis in just four years.

2176 **Antler Moth** *Cerapteryx graminis* (Linnaeus, 1758)
Three trapped on 6th August and four taken two days later were the only records this year of what was historically a scarce species on Skokholm; prior to 2014 this grass eater had only been logged in ten years. The seven trapped this season matched 2017 as the best recent year total; there were three in 2016, one in 2015 and two in 2014.

2187 **Common Quaker** *Orthosia cerasi* (Fabricius, 1775)
Although this species is widely distributed in Britain, where it is commonly found in mature gardens and broadleaved woodland, a late singleton which came to the light trap on 4th July was just the second for Skokholm; the first was logged in 1992.

2195 **The Delicate** *Mythimna vitellina* (Hübner, 1808)
One attracted to the light trap on 17th October was the only record of the year. Historically this proved a rare species on Skokholm, with the only sightings coming in 1937, 1960 and 1992, however it has of late become a scarce but regular autumn immigrant, with records in five of the last six years and a high of five moth-days between 25th August and 26th September last year.

2198 **Smoky Wainscot** *Mythimna impura* (Hübner, 1808)
There were three singles trapped this season, with moths on the 10th and 18th August and on 27th September. This common mainland species, whose larvae feed on a range of grasses, remains a scarce visitor to the trap; there were seven in 2017, three in 2016 and five in both 2015 and 2014.

2202 **L-album Wainscot** *Mythimna l-album* (Linnaeus, 1767)
An extremely worn *Mythimna* was found resting on grass outside of the Central Block on 25th October. Very faint, barely discernible forewing markings were suggestive of the angled white central mark of this species. The specimen was retained and, following dissection by County Moth Recorder Robin Taylor, the moth was confirmed as a female L-album Wainscot, a first for Skokholm. This species is a recent colonist of Pembrokeshire, with the first County record not occurring until 2007. There have since been multiple reports, particularly from Skomer Island and the Dale and Marloes peninsulas.

2203 **White Speck** *Mythimna unipuncta* (Haworth, 1809)
A fresh individual was attracted to the lights of the Lighthouse kitchen on 31st October, making 2018 only the fourth year in which this immigrant species has been recorded on Skokholm. Prior to the single taken from the trap last September, the most recent records were in 2000 when a remarkable six were logged between 4th September and 6th October. The only other records of this species came in 1996.

2205 **Shoulder-striped Wainscot** *Leucania comma* (Linnaeus, 1761)
One trapped on 7th June was seemingly the first Island record since 1999 and should probably be considered as the first for Skokholm. There are eight entries for this species in the digitised log, all of which were noted between 1992 and 1999, however of the seven for which a date is provided, none fall within the expected flight season of May to July; the dated records are all listed for the period 21st August to 8th October and are probably incorrect.

2217 **Star-wort** *Cucullia asteris* ([Denis & Schiffermüller], 1775)
It proved a quiet year for records of this attractive, Nationally Scarce, coastal speciality, with singles on 30th June and 4th July being the only individuals trapped. Following the first record for the Island in 1999, there were no further observations until 2013, although it has been encountered regularly

since; there were 19 moth-days in 2017, 25 in 2016, two in 2015, six in 2014 and two in 2013. The increase in the number of records can be attributed to an expanding distribution of the larval foodplant, Goldenrod *Solidago virgaurea*.

2229 **Brindled Ochre** *Dasypolia templi* (Thunberg, 1792)
Following an absence of 58 years, a single was taken on 16th October and two more three days later; this becomes just the third year in which this species has been recorded on Skokholm. This is a moth of rocky coastal areas and moorland, with a mostly local distribution along the southwest coasts of Wales and England. The larvae feed within the stems of Common Hogweed, a plant which has of late become more abundant on the Island, especially within the Courtyard and on the western reaches of Home Meadow. A late flying season may well explain the dearth of records, although significant trapping effort during September and October in recent years has failed to produce a sighting.

2232 **Black Rustic** *Aporophyla nigra* (Haworth, 1809)
Two taken on 17th October was the only 2018 record of this stunning late autumn Noctuid, a species which is common on the mainland but scarce here; there were four in 2017 and three in 2016, with the most recent record prior to these coming in 1996. A late flight season, during a period when the weather is often unsuitable for trapping, is perhaps responsible for the lack of Skokholm records.

2241 **Red Sword-grass** *Xylena vetusta* (Hübner, 1813)
A stunning fresh individual, taken from a rather empty moth trap on 23rd October, was the first ever Island record. Although this species breeds in damp woodland, marshes and mountain moorland, it is also known to be capable of long-distance flights; that one was eventually found on Skokholm is thus not a surprise, but it is still a fantastic, remarkably cryptic addition to the Island list.

2252 **Large Ranunculus** *Polymixis flavicincta* ([Denis & Schiffermüller], 1775)
One was taken from the trap on 29th September and a further two were attracted to light the following night. There were four last year and four in 2015, however none were found in 2016. Given that in Wales this is a species of coastal cliffs, it was unsurprising that autumn trapping in more littoral locations during 2014 produced a total of 21 moth-days.

2255 **Feathered Ranunculus** *Polymixis lichenea* (Hübner, 1813)
This is primarily a coastal species, which on Skokholm probably uses Thrift as a larval foodplant. Four trapped on 27th September were the first of the year. There followed a further two September catches, totalling 13 moths, and 41 moth-days logged over 11 dates between the 9th and 30th October. An annual total of 58 was similar to the 62 of 2017 and the 40 of 2016, but well up on the lone singles noted in both 2015 and 2014 (the latter in a year of particularly intense autumn effort).

2256 **The Satellite** *Eupsilia transversa* (Hufnagel, 1766)
A single trapped on 21st October was another addition to the Island list. What was perhaps the same individual was found on 25th October, resting on the easterly gable of the Central Block above the active light trap. This was almost certainly a drifter from the mainland; it is more commonly found in broadleaved woodland and mature gardens where its larvae feed on a range of deciduous trees as well as the caterpillars of other species.

2262 **The Brick** *Agrochola circellaris* (Hufnagel, 1766)
The first of the year was taken from the light trap on 20th October. A second individual was trapped on the 24th and there was one, which may have been the latter moth, present the following night.

There are just three entries for this species in the digitised database, with records in 1937, 1960 and 1996; this was thus only the fourth year in which this Wych-elm *Ulmus glabra* or Poplar *Populus* spp. eating species has been encountered here.

2270 **Lunar Underwing** *Omphaloscelis lunosa* (Haworth, 1809)
This relatively common species, which in Britain has a rather southerly distribution, is a regular find during autumn trapping sessions on Skokholm. It is highly variable in colour, with individuals ranging from yellow or grey to dark chestnut often found in the same catch. There were 43 moth-days logged between 27th September and 25th October, this the highest total of the past six years; there were 26 in 2017, 30 in 2016 and four in both 2015 and 2014.

2289 **Knot Grass** *Acronicta rumicis* (Linnaeus, 1758)
One trapped on 20th May was the first of the year. There were a further 18 in May, four in June, five in July, eight in August and one on 13th September which was the only record of the month and the last of the season. An annual total of 37 moth-days was close to the 39 of 2017 and up on the 16 of 2016 and 11 of 2015. The distinctively marked caterpillars, which feed on a range of herbaceous plants, were noted at several locations around the Island during July.

2305 **Small Angle Shades** *Euplexia lucipara* (Linnaeus, 1758)
The first record of a typically quiet year was of one trapped on 24th June. A further single was taken on 26th June, whilst in July there was one on the 11th and two the following night. A total of just five was down on the 11 of last year and the 24 of 2016, matched 2014 and was up on the four of 2013 and a blank 2015; given that the caterpillars feed on Bracken, this encounter rate is surprisingly low.

2306 **Angle Shades** *Phlogophora meticulosa* (Linnaeus, 1758)
An emergent adult inside the Wheelhouse Heligoland Trap on 9th May was the first of the year. There followed a further six in May, four in June (including two found mating along the Lighthouse Track), three in July, ten in August, 28 in September (21 of which were found between the 8th and 10th, moths located by torch light along the Lighthouse Track), ten in October and one in November.

2321 **Dark Arches** *Apamea monoglypha* (Hufnagel, 1766)
A total of 211 were taken from the light trap over 13 dates between 26th June and 13th September, with peak catches of 40 on the 6th and 47 on 11th August. This species is one of the most regularly encountered in the Skokholm moth trap; an impressive 351 were taken last year, including a mammoth catch of 159 on 25th July, whilst there were 211 in 2016, 257 in 2015 and 84 in 2014.

2322 **Light Arches** *Apamea lithoxylaea* ([Denis & Schiffermüller], 1775)
A total of eight were taken during three trapping sessions between the 6th and 12th July. Although this grass eater has occurred more frequently of late, it remains a scarce find on Skokholm; there were no encounters in 2017, but seven in 2016, four in 2015 and five in 2014, whilst prior to these the most recent record was in 1996. Sugaring is said to attract more individuals than a light trap.

2350 **Small Wainscot** *Chortodes pygmina* (Haworth, 1809)
There was just one 2018 record of this diminutive Noctuid, a moth which came to light on 10th August. This species has been recorded in low numbers in three of the last five years; given that the larvae feed in the stems of sedges *Carex* spp., plants which grow abundantly in the wetter areas of Skokholm, these records probably suggest that this is a low density breeding species.

2353 **Flounced Rustic** *Luperina testacea* ([Denis & Schiffermüller], 1775)
This late-summer moth, whose larvae feed underground in dry grassland, has seemingly become scarcer of late. The only individual encountered this season was taken from the trap on 6th September. There were just two trapped in 2017 but 13 in 2016 and 11 in 2015.

2361 **Rosy Rustic** *Hydraecia micacea* (Esper, 1789)
Although this common mainland moth is recorded almost annually, it has always proven to be scarce. A single trapped on 27th September was the only record this year, there were four in 2017, five in 2016 and one in 2014. Whilst the larvae feed on a range of plants, they have a preference for docks *Rumex* spp.; on Skokholm these are primarily distributed around seasonal ponds and on cliffs.

2373 **Webb's Wainscot** *Globia sparganii* (Esper, 1789)
One trapped on 6th August was the fifth for Skokholm following two moth-days logged in both 2016 and 2014. This scarce Wainscot is typically associated with large reedbeds and marshland where its larvae feed within the stems of water-plants, particularly Yellow Iris *Iris pseudacorus*. It has been suggested that this insect was accidently imported to Skomer Island via introduced irises; this may well have also been the case on Skokholm, although colonisation from Skomer is also plausible.

2375 **Large Wainscot** *Rhizedra lutosa* (Hübner, 1803)
One found resting on the outside of the moth trap on 21st October was just the third record for Skokholm following singles on 12th October 2016 and on 23rd July 2011. The larvae feed in the bases and stems of Common Reed *Phragmites australis*; it is thus possible that this mobile species could have established itself on the Island in recent years.

2385 **Small Mottled Willow** *Spodoptera exigua* (Hübner, 1808)
Three taken from the light trap on 17th October was the best ever single catch and equalled the best ever year total; a further single trapped on 21st October thus set a new Island record. Although

nationally this is a fairly regular immigrant from the Continent, it was not recorded on Skokholm until 2015 when two singles were trapped. It has been recorded in each subsequent year, albeit in low numbers; there was one in 2016 and three in 2017.

2340 **Middle-barred Minor** *Oligia fasciuncula* (Haworth, 1809)
A single trapped on 6th June was just the fourth Island record of this diminutive macro. There are entries in the database for 1937 and 1960, whilst one on 28th June 2016 is the most recent. This is a common UK species which favours riverbanks and damp woodlands; it is thus likely that all of the Skokholm records are of wanderers from the mainland.

2400 **Scarce Bordered Straw** *Helicoverpa armigera* (Hübner, 1808)
Singles taken from the trap on the 16th and 17th October were the first to be logged since two in 2016. The only other record of this unusual autumnal immigrant was made on 15th September 1996.

2403 **Bordered Straw** *Heliothis peltigera* ([Denis & Schiffermüller], 1775)
This attractive immigrant made it onto the Island list for just a seventh year, although one trapped on 6th September was the only record. The digitised records reveal sightings in 1910, 1912, 1937 and 1992, whilst an impressive seven were logged in 2015 and a further single was added in 2017.

2434 **Burnished Brass** *Diachrysia chrysitis* (Linnaeus, 1758)
A stunning individual taken from the trap on 6th September was the only record of the year. The larvae feed on a variety of herbaceous vegetation, although they have a preference for Common Nettle; although Burnished Brass is encountered only irregularly, it is thus possible that it is more common on Skokholm than the records would suggest. There were two last season, one in 2016, none in 2015 and 15 in 2014 (when 11 were trapped in a single night in North Haven).

2441 **Silver Y** *Autographa gamma* (Linnaeus, 1758)
This was seemingly the most numerous migrant moth on Skokholm this year. Singles at Twinlet and East Bog on 27th May were the first of the season, over three weeks later than the first of 2017. A further 96 were logged during the remainder of the month, all of which were found during the day. There followed diurnal totals of 299 in June (ten in 2017), 684 in July (14 in 2017), 224 in August (33 in 2017), 113 in September (17 in 2017) and three in October (four in 2017). One on 12th July was the first to be taken from the light trap. A further 52 were trapped during the year, with a single on 21st October the last. An annual total of 1474 moth-days was, by some margin, the highest of the last six years; there were 99 in 2017, 458 in 2016, 627 in 2015, 142 in 2014 and 542 in 2013.

2450 **The Spectacle** *Abrostola tripartita* (Hufnagel, 1766)
It was a good year on Skokholm for records of this fantastically bespectacled moth. The first was taken from the trap on 21st May and a further 14 were logged during the remainder of the month. Five were trapped in June, six in July and six in August included one on the 18th which was the last of the year. A total of 32 moth-days was the highest on recent record; there were 21 logged last year, 18 in 2016, two in 2015, 11 in 2014 and a single in 2013.

2469 **The Herald** *Scoliopteryx libatrix* (Linnaeus, 1758)
This stunning moth is a rare find on Skokholm, with one taken from the trap on 4th July being only the fifth Island record. A single was trapped on 25th September 2017, one appeared in the Lighthouse kitchen on 22nd March 2014 and further singles were noted in 1992 and 1990.

Aggregates and species groups

2343x **Common Rustic agg.** *Mesapamea secalis* agg. (Esper, 1788)
It was a quieter season for records of *Mesapamea* with only 49 taken from the trap, all but three of which were in August. Although most catches were low, there were highs of 16 and 20 logged on the 6th and 14th respectively. A peak 2017 catch of 62 took the annual moth-days total to 185.

2381x **The Uncertain/Rustic** *Hoplodrina* agg. (Brahm, 1791)
Records of both The Rustic *H. blanda* and The Uncertain *H. alsines* were again lumped. The first of the year came on 11th July when 138 were found in the light trap. There were two further July catches, with 82 on the 12th and 48 on the 26th. Four catches in August tallied 46 and took the year total to 314; the total was up on the 191 of 2017 and just over four times the 76 recorded in 2016.

Butterflies

A bitterly cold early spring was in sharp contrast to the mild conditions experienced in 2017. This was probably responsible for the later appearances of **Large White** (29 days later than in 2017), **Small White** (50 days later), **Small Copper** (20 days later) and **Small Tortoiseshell** (24 days later). Despite this, the calm, warm and sunny conditions prevalent during much of the summer resulted in what was, by recent standards, a fantastic year for the majority of Skokholm's butterflies. It was the

best year of the last six for counts of **Large White**, **Green-veined White**, **Painted Lady**, **Small Tortoiseshell** and **Meadow Brown**, whilst it was the best year of the last five for **Small White**. It was the fourth best year to date for counts of **Small Copper**. Some welcome diversity was provided by the appearance of the Island scarcities **Clouded Yellow**, **Comma**, **Dark Green Fritillary**, **Gatekeeper** and **Ringlet**. **Meadow Brown** was again the most abundant butterfly on the Island, with a phenomenal showing resulting in the best daycount and year total on record. Given these good news stories, it was perhaps something of a surprise that it was the second worst year of the last six for sightings of **Peacock**, the total falling 70% short of the 2013-2018 mean, and that **Red Admiral** counts dropped to 35% below the six year average. The historic butterfly data, now digitised and readily accessible, at times paints a rather depressing picture, one which reflects the dire declines seen in both the abundance and distribution of many of Great Britain's common species; having a digital record makes it easier to put current observations into this context.

Skokholm butterfly sightings were again noted in the daily Log and an account of each species recorded is listed systematically below. The Maximum Daily Count refers to the highest number of individuals seen on any one day in a particular month and Butterfly-days are the cumulative number of butterflies seen in a defined period of time. The totals for the period 2013 to 2018 are listed in each table to allow for a comparison to be made. For each of the regularly occurring species, the earliest and latest records from the last six years, the highest and lowest annual totals and the 2013-2018 mean are now listed below the species title.

Clouded Yellow *Colias croceus* (Geoffroy, 1785)
One watched near the Lighthouse on 9th June was the first of the year. There were no further records until one was found busily nectaring along Home Meadow on 5th October. A third and final sighting was of one at the Farm two days later, this the end of another below average year for encounters with this Continental gem. As an immigrant from southern Europe and North Africa numbers reaching the UK vary each year, with recent Skokholm highs being the ten logged in 2013 and the 12 of 2014. These latest highs are however dwarfed by that of 1947 when an impressive 246 butterfly-days were recorded between June and October, 170 of which came in August including a peak daycount of 42 on the 21st. The same year saw an estimated 36,000 butterflies appear on UK shores, making 1947 one of the most famous 'Clouded Yellow Years' on record (UKButterflies, 2019).

Large White *Pieris brassicae* (Linnaeus, 1758)
High 384 in 2018 **Low** 73 in 2015 **2013-2018 mean** 206.3 ±sd 108.4
Earliest 23rd April 2017 **Latest** 29th September 2018

One on 22nd May was almost a month later than the first of 2017, but was the beginning of what was by recent standards an excellent season for sightings of Large White. The following two months were typically quiet; the six butterfly-days logged in May was close to the six year average (7.2 ±sd 10.0), as was the six tallied in June (4.2 ±sd 4.2). July was the most productive month of the year and included an obvious arrival on the 3rd; a minimum of 14 were observed arriving over the sea to the north coast, whilst a constant passage of insects across the Island (including 34 passed one location in 30 minutes) resulted in a minimum daytotal of 84. The 3rd July daycount was the biggest of the year and the highest since 9th August 1983 when 100 were logged. There followed single-figure counts on the majority of July dates, taking the monthly butterfly-days total to 219; this was a 128% increase on that of 2017 and the third highest July tally on record behind the 229 of 1989 and the 630 of 1949. August and September also produced a good number of sightings, with the combined total being the highest of the last six years and the monthly totals being up on those of 2017 by 160% and 643% respectively. Two on 29th September were the last of the season and took the year total to 384 butterfly-days, the highest of the last six years and a tally 127% up on 2017 and 86% up on the 2013-2018 mean (206.3 ±sd 108.4). This mirrored the national trend which showed a 104% increase on 2017 (Butterfly Conservation, 2019).

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Maximum Daily Count	0	0	2	4	84	9	25	0	0
2017	0	1	4	5	20	5	4	0	0
2016	0	0	2	1	18	5	9	0	0
2015	0	0	2	1	1	9	7	0	0
2014	0	0	0	1	25	3	34	0	0
2013	0	0	1	0	14	14	2	0	0
2018 Butterfly-days Total	0	0	6	6	219	49	104	0	0
2017	0	1	27	12	96	19	14	0	0
2016	0	0	6	2	97	34	14	0	0
2015	0	0	3	1	6	43	22	0	0
2014	0	0	0	2	64	9	105	0	0
2013	0	0	1	2	145	119	10	0	0

Small White *Pieris rapae* (Linnaeus, 1758)
High 309 in 2013 **Low** 11 in 2017 **2013-2018 mean** 113.2 ±sd 108.6
Earliest 4th May 2017 **Latest** 13th October 2016

The first of the season was on 23rd June, an arrival seven weeks later than the exceptionally early first of 2017. There were no further sightings during the month, unsurprisingly so given that there have only been June singles in two of the last six years. Following four on the 3rd, there were observations on 14 further July dates which took the butterfly-days total to 44, the best showing in this month since 2013 and a total 113% up on the 2013-2018 mean (20.7 ±sd 27.3). There were three mating pairs at East Bog on the 21st and eight the following day was the July maximum. Sightings on 19 August dates included a daytotal, made up of insects found at widespread locations, of 15 on the 5th which was the highest of the year and the second highest daycount since 2013. An August total of 70 butterfly-days was 66 up on last year and the highest August total since 2003 when 129 were logged. September counts peaked at nine on the 5th, whilst a single on the 28th was the last of the year. An annual total of 150 butterfly-days was a 1264% increase on the poor 2017 tally, a total 33% up on the six year average and a welcome improvement in the fortunes of a species which also experienced a 161% increase nationally (Butterfly Conservation, 2019).

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Maximum Daily Count	0	0	0	1	8	15	9	0	0
2017	0	0	1	0	1	2	1	0	0
2016	0	0	0	0	2	4	16	3	0
2015	0	0	0	1	0	3	2	7	0
2014	0	0	0	0	2	5	14	0	0
2013	0	0	0	0	14	8	40	1	0
2018 Butterfly-days Total	0	0	0	1	44	70	35	0	0
2017	0	0	1	0	1	4	5	0	0
2016	0	0	0	0	11	27	49	8	0
2015	0	0	0	1	0	8	3	12	0
2014	0	0	0	0	3	30	57	0	0
2013	0	0	0	0	65	49	194	1	0

Green-veined White *Pieris napi* (Linnaeus, 1758)
High 187 in 2018 **Low** 35 in 2015 **2013-2018 mean** 91.5 ±sd 65.2
Earliest 21st April 2014 **Latest** 1st October 2015

It was a much better season for Green-veined White on Skokholm, ending a three year run of poor totals. One at the Well on 4th May was the first, a butterfly one day earlier than the first of 2017, whilst observations on five further dates took the butterfly-days total to nine, the best May tally since 2014. Following a two year absence, a total of 15 June butterfly-days was a significant improvement and the highest total in this month since 1989. Numbers peaked in July and August, with monthly totals of 74 and 88 being 363% and 1367% up on last year respectively. August also produced the highest daycount of the year, with the majority of the 15 found on the 22nd being at East Bog. A single on 4th September was the last of 187 butterfly-days to be logged in 2018; the total was the best of the last six years, 356% up on the 41 of 2017 and 104% up on the six year average.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Maximum Daily Count	0	0	3	5	10	15	1	0	0
2017	0	0	2	0	4	3	6	0	0
2016	0	0	1	0	7	7	2	0	0
2015	0	0	2	2	1	6	2	1	0
2014	0	1	3	1	20	5	14	0	0
2013	0	0	1	5	24	5	1	0	0
2018 Butterfly-days Total	0	0	9	15	74	88	1	0	0
2017	0	0	2	0	16	6	17	0	0
2016	0	0	3	0	18	24	4	0	0
2015	0	0	2	4	4	16	8	1	0
2014	0	2	11	1	82	25	37	0	0
2013	0	0	3	7	53	15	1	0	0

Small Copper *Lycaena phlaeas* (Linnaeus, 1761)
High 5775 in 2013 **Low** 1124 in 2016 **2013-2018 mean** 2428.2 ±sd 1726.1
Earliest 19th April 2015 **Latest** 30th October 2018

Bitter late winter conditions are likely to have affected the overwinter survival of Small Copper larvae on the Island; this was reflected in a relatively poor showing of first generation adults, with counts in sharp contrast to the bountiful early spring of last season. Singles along South Haven Stream and in Crab Bay on 12th May were almost three weeks later than the first of 2017 and 23 days later than the first of 2015, the latter the earliest record of late. Daycounts during May and June were below the recent average, with peaks of 16 logged on both 29th May and 2nd June which

were, respectively, 78% and 70% lower than those of 2017. A fresh adult noted on 2nd July was the first evidence of a second brood emergence and daycounts rose sharply from the 15th, peaking at 161 on the 25th; the high, which included 31 feeding together around a small patch of South Coast mayweed, was the highest July daycount of the last five years. A July total of 767 butterfly-days was 113% up on that of 2017. An increase in the number of second generation adults on the wing led to an August high of 226 on the 5th, this the highest daycount of the last five years.

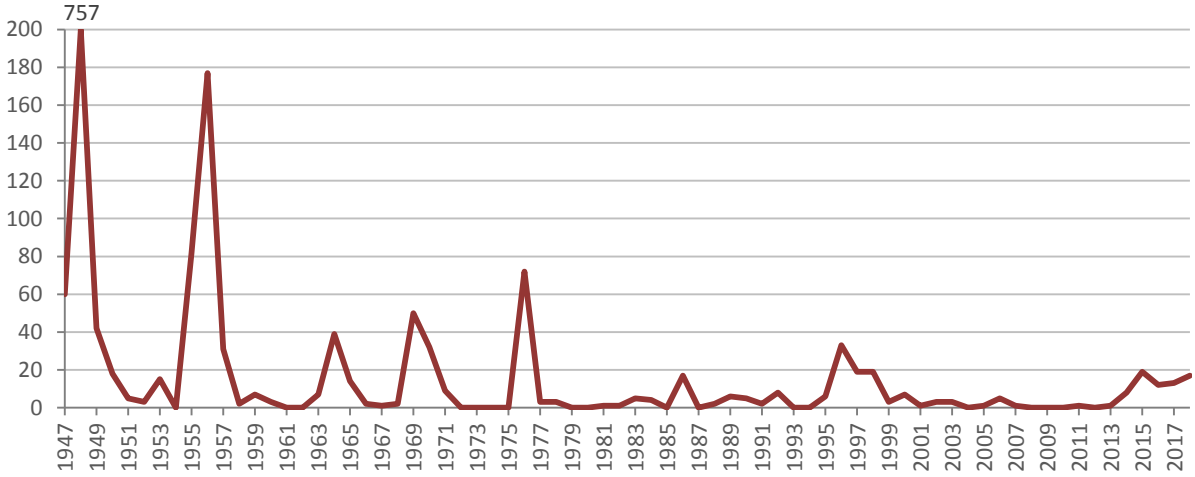
Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Maximum Daily Count	0	0	16	16	161	226	96	53	0
2017	0	1	74	57	42	47	19	11	0
2016	0	0	8	6	60	30	39	38	0
2015	0	12	47	18	18	98	15	10	0
2014	0	0	6	5	35	16	166	9	0
2013	0	0	20	26	232	300	100	80	0
2018 Butterfly-days Total	0	0	93	92	767	941	665	198	0
2017	0	5	419	205	360	400	154	33	0
2016	0	0	48	31	289	295	360	101	0
2015	0	22	401	176	166	822	103	47	0
2014	0	0	45	13	250	94	1155	44	0
2013	0	0	95	245	814	3302	969	350	0

A third generation emergence was evident from 19th August, taking the total for the month to 941 butterfly-days, the highest August tally since 2013. September was also productive, with worn second brood and fresh third brood insects contributing to a peak daycount of 96 on the 24th and a monthly total which was 332% up on last year. October sightings can be scant, but this year 198 butterfly-days were logged over 21 dates. Insects were showing very obvious signs of wear towards the end of the month and four on the 30th were the last of 2018. Thus, despite a slow start, the annual butterfly-days total of 2756 was 75% up on last season, 13.5% up on the 2013-2018 mean and the fourth best tally to date. Nevertheless the 2018 total is still somewhat dwarfed by that of 2013; regular three-figure counts between July and September took the 2013 total to an unprecedented 5775 butterfly-days, the highest year total logged since records began.

Common Blue *Polyommatus icarus* (Rottemburg, 1775)
One on the Neck on 27th May was the first of the year, six days earlier than the first of 2017 and the only record of the month. There were none seen in either June or July, with a male watched flying along Little Bay Wall on 3rd August the next observation. The following day saw six males and two females on the wing, this the best daycount since ten were logged on three dates in August 1976. Four males and two females on the 5th were spread between Home Meadow, the South Coast and

the Lighthouse. A lone male at Crab Bay on 10th August was the last sighting of the year, taking the monthly total to 16 butterfly-days; this was the best tally in any month since the 20 of August 1996. However the annual total of 17 was rather similar to of late; there were 13 in 2017, 12 in 2016, 19 in 2015, eight in 2014 and one in 2013. An increase in the extent of Greater Birds-foot-trefoil *Lotus corniculatus* in recent years may have provided an opportunity for this species to again establish itself on the Island; that adults were observed on the wing during both flight periods further supports this theory. Although this species has been logged more regularly during the past five years than it was between 1999 and 2013, the digitised records show that it previously occurred in much larger numbers than we are familiar with today; there were 177 butterfly-days noted in 1956 and an Island record 757 butterfly-days in 1948.

The total number of Common Blue butterfly-days logged in each year between 1947 and 2018. Note that the 1948 peak of 757 is not accurately represented on this chart.



Painted Lady *Vanessa cardui* (Linnaeus, 1758)
High 1171 in 2018 **Low** 184 in 2013 **2013-2018 mean** 573.5 ±sd 365.5
Earliest 13th April 2015 **Latest** 22nd November 2014

It was the best year of the last six for records of this migrant species on Skokholm, the first seven of which were logged on 22nd April and on the exact same date as the first of 2017. There were no further encounters during the remainder of the month, unsurprisingly so given that April butterflies are so scarce; there have only been April sightings logged in 16 years since 1947, including three of

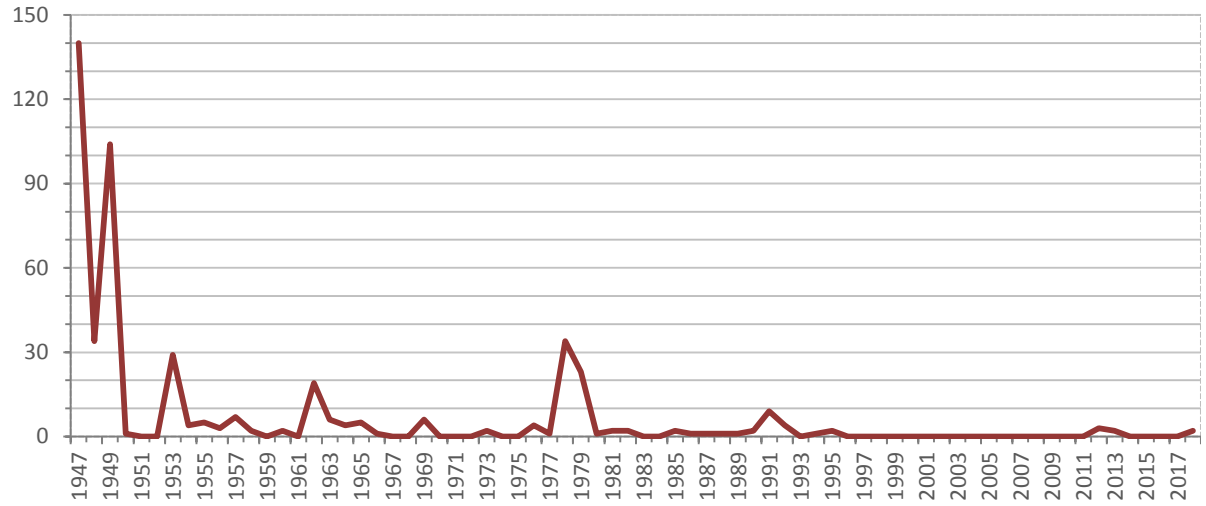
the last four. No large early influxes were noted this year; May proved a relatively quiet month with low single-figure counts logged regularly during the latter half. Sightings on 25 June dates peaked at 28 on the 6th and took the monthly total to 184 butterfly-days, a figure 229% up on last year and 47% up on the 2013-2018 June mean (125.2 ±sd 106.0). Although there were regular July observations, it was not until August that counts rose significantly; an impressive 615 butterfly-days were logged during August, the highest total of any month during the last six years and including 92 on the 31st which was the highest daycount since September 2003. Records on 26 September dates, ten of which were in double-figures, included a peak of 48 on the 2nd; this was also the most productive September since 2003. October records were few by comparison and two on the 16th were the last of the year. An annual total of 1171 butterfly-days was 113% up on last year, 158% up on the 2013-2018 mean and the fifth best year to date on Skokholm; the biggest year total was logged in 2003 when a staggering 3228 butterfly-days were tallied, 2182 of which were in August including 600 on the 26th which is the highest count of any day.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Maximum Daily Count	0	7	7	28	8	92	48	2	0
2017	0	5	8	13	16	18	26	12	0
2016	0	0	3	51	3	20	27	3	0
2015	0	5	4	29	11	19	13	6	0
2014	0	0	1	4	5	8	8	2	4
2013	0	0	0	5	4	9	7	5	0
2018 Butterfly-days Total	0	7	21	184	75	615	257	12	0
2017	0	5	46	56	65	209	146	22	0
2016	0	0	11	247	10	190	166	6	0
2015	0	13	27	227	125	154	127	32	0
2014	0	0	3	20	41	69	61	2	6
2013	0	0	0	17	31	93	30	13	0

Comma *Polygonia c-album* (Linnaeus, 1758)
One in Billy's Dyke on 1st July and another found inside the Wheelhouse two days later were the only records of this distinctive butterfly and the first since a single at the Well on 14th September 2016. This species is surprisingly rare on the Island, with sightings logged in just ten previous years. It was first encountered in 1950, when an Island record of six were seen, however the maximum number found in any subsequent year has not exceeded two.

Dark Green Fritillary *Argynnis aglaja* (Linnaeus, 1758)
This remains one of the most widespread fritillary species in the British Isles, however its range has contracted considerably since the 1970s. The Skokholm records have followed the national pattern, with sightings of this butterfly now proving unusual. One basking in the sun above North Haven on 29th June and another nectaring on thistles at the top of Home Meadow on 5th July were thus good finds. These were the first sightings since 2013, when two butterfly-days were also logged. Given that this species breeds on neighbouring Skomer Island and that its larval foodplant, Common Dog-violet *Viola riviniana*, is common on Skokholm, a dearth of recent records is perhaps surprising.

The total number of Dark Green Fritillary butterfly-days logged each year between 1947 and 2018.



Gatekeeper *Pyronia tithonus* (Linnaeus, 1771)
One outside of the Cottage on 20th July, one near the Wheelhouse Heligoland on 22nd July and one at the Lighthouse Hide on 12th September were the first records since two were logged in June 2015. The Gatekeeper remains a scarce Skokholm butterfly, one which has only been encountered in three of the last six years. There are also records in 25 pre-2013 years, although counts have always been low; their presence is probably always the result of favourable weather conditions allowing insects to drift from the mainland. The highest daycount is the six logged on 26th August 1947.

Small Tortoiseshell *Aglais urticae* (Linnaeus, 1758)
High 562 in 2018 **Low** 60 in 2016 **2013-2018 mean** 333.3 ±sd 218.0
Earliest 9th March 2014 **Latest** 14th November 2018

Following two very poor years, a 2018 annual total which was 69% up on the 2013-2018 mean was a welcome improvement for this species. Two on 22nd April were the first of the year, 24 days later than the first of 2017 and over six weeks later than an early appearance in 2014. There was just one other April sighting. May daycounts remained low, although nine butterfly-days logged over seven dates was the best May total of the last six years and the highest since 11 were recorded in 1997. Numbers began to creep up during the last five days of June, presumably following the emergence of the first 2018 brood; a peak June daycount of 11 on the 27th included two insects arriving over the sea and 27 butterfly-days logged over the following three days took the monthly total to 40, a huge increase on the meagre three of 2017. Observations on 24 July dates and 25 August dates produced monthly totals up 1425% and 635% on those of last year. Mating was observed on 22nd July and during both months the discarded wings of eaten insects were found, this testimony to their relative abundance. August sightings included 11 double-figure counts and a peak of 40 on the 21st which was the highest daycount in any month since 2014. A total of 87 were seen in the first 13 days of September, however the number of encounters then dropped considerably, with just five logged over four dates during the remainder of the month. There was just one October single and one

disturbed in Officer's Mess on 14th November was the last of the year. An annual total of 562 butterfly-days was 640% up on 2017, the best of the last six years and the highest since 2002.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Maximum Daily Count	0	2	3	11	14	40	15	1	1
2017	1	0	0	2	2	5	3	1	0
2016	0	1	2	1	1	5	4	0	0
2015	4	3	1	15	22	11	15	1	1
2014	2	1	1	12	8	68	5	0	0
2013	1	1	1	2	21	14	9	1	0
2018 Butterfly-days Total	0	3	9	40	122	294	92	1	1
2017	2	0	0	3	8	40	22	1	0
2016	0	2	4	2	2	30	18	0	0
2015	1	9	1	68	166	63	124	3	1
2014	9	3	1	68	75	327	32	0	0
2013	1	3	3	4	171	67	93	6	0

Red Admiral *Vanessa atalanta* (Linnaeus, 1758)
High 3598 in 2014 **Low** 890 in 2015 **2013-2018 mean** 1523.5 ±sd 1043.2
Earliest 10th March 2014 **Latest** 9th November 2013

Three on 22nd April were the first of the year, ten days earlier than the first of 2017 but over six weeks later than the early sighting of 2014. There were no other April records and, with daycounts not exceeding six, just 25 butterfly-days recorded the following month, a total 72% down on 2017. Sightings on 22 June dates included two watched as they arrived over the sea on the 27th and 13 on the 28th which was the monthly maxima; the peak daycount was 38% down on the 2013-2018 mean (20.7 ±sd 14.9), however a June total of 100 nearly matched the six year average (97.0 ±sd 54.1). There were butterflies on all but one July date, with a high of 19 on the 29th taking the butterfly-days total to 223, the second highest of the last six years. An influx of newly emerged adults during August led to peak daycounts of 33 on both the 13th and 14th, these the highest of the year, and produced a butterfly-days total of 371, the highest monthly tally of the season. A large proportion of August counts came from the Buddleia outside of the Cottage, a shrub which is clearly a valuable nectar source for Skokholm insects. During the past five years September has proven the month in which Red Admiral numbers peak, however this was not the case in 2018; sightings of up to 21 butterflies on all but one September date led to a butterfly-days total of 240, this the lowest of the

last six years and a tally 68% down on the six year average (757.0 ±sd 958.3). The 2013-2018 September mean is however somewhat increased by the 2705 counted in 2014, a remarkable total which was the highest in this month by some margin (the second highest total is the 831 of 1990). Four on 29th October were the last of the year and took the annual butterfly-days total to 994, a tally 23% down on last year and 35% down on the 2013-2018 mean.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Maximum Daily Count	0	3	6	13	19	33	21	4	0
2017	0	0	14	21	24	29	44	5	1
2016	0	1	23	7	37	56	204	70	0
2015	0	5	0	41	12	22	120	26	3
2014	4	1	1	36	20	45	409	42	0
2013	0	1	7	6	12	50	40	15	3
2018 Butterfly-days Total	0	3	25	100	223	371	240	32	0
2017	0	0	43	145	236	369	457	37	1
2016	0	1	56	44	163	406	473	336	0
2015	0	9	0	127	104	188	318	134	10
2014	6	1	3	147	178	415	2705	143	0
2013	0	1	23	19	111	293	349	92	6

Peacock *Inachis io* (Linnaeus, 1758)
High 387 in 2015 **Low** 36 in 2013 **2013-2018 mean** 152.0 ±sd 135.6
Earliest 10th March 2015 **Latest** 7th November 2015

One at the Well on 13th March was 25 days earlier than the first of 2017, just three days later than the earliest of the last six years and the first butterfly of any species this year. However this early individual was not a harbinger of a good year; just 38 butterfly-days were logged during the entire season, this the second poorest total of the last six years and 70% down on the 2013-2018 mean. Singles on 24th March and 22nd May were the only butterflies until one on 16th June, the latter the first of four June singles; a June total of four was perhaps surprisingly the highest of the last six years. July is typically one of the best two months for Skokholm sightings, however it proved an exceeding quiet period this year; daycounts of up to four took the July butterfly-days total to 14, a tally 79% down on the six year average (67.2 ±sd 52.9). A rather underwhelming six around the South Haven Gantry on 20th August was the highest daycount of 2018, whilst low single-figure counts on nine further dates took the monthly tally to 17; the August butterfly-days total was 68% down on the 2013-2018 mean (52.7 ±sd 53.1) and the lowest peak month of the last six years. A single at the Well on 26th August was the last of the year, a butterfly over ten weeks earlier than one in 2015 which was the latest of the last six years.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Maximum Daily Count	1	0	1	1	4	6	0	0	0
2017	0	1	1	0	12	5	4	2	0
2016	1	3	2	0	40	11	2	1	0
2015	2	22	3	1	16	13	3	1	3
2014	1	1	1	1	7	4	1	1	0
2013	0	0	1	0	2	4	1	1	0
2018 Butterfly-days Total	2	0	1	4	14	17	0	0	0
2017	0	3	2	0	95	25	20	3	0
2016	2	20	3	0	112	79	6	1	0
2015	2	79	5	1	130	148	23	3	3
2014	1	5	3	1	49	18	2	1	0
2013	0	0	1	0	3	29	1	1	0

Ringlet *Aphantopus hyperantus* (Linnaeus, 1758)
An extremely worn individual, found inside the Wheelhouse Kitchen on 9th July, was the only record of the year and the first since the three butterfly-days logged during July and August 2015. The digitised Log includes records in just 18 previous years and a high of six on 1st September 1956.

Meadow Brown *Maniola jurtina* (Linnaeus, 1758)
High 15288 in 2018 **Low** 2212 in 2013 **2013-2018 mean** 6000.8 ±sd 4699.8
Earliest 9th June 2016 **Latest** 18th September 2015

It was a phenomenal year for this underrated herald of summer, with the annual butterfly-days total setting a new Skokholm record. One at the Well on 13th June was the first to be logged and three days earlier than the first of 2017, although it was not until the 20th that sightings became regular and not until the 23rd that sizable counts were noted. A daycount of 265 on the 28th, the highest of the last six Junes, was followed by two further three-figure daycounts which took the monthly total to 833 butterfly-days, a tally 302% up on 2017 and 219% up on the six year average (261.0 ±sd 296.5). The highest daycount of the year was logged on 8th July, the total an impressive 1368 butterflies which included 594 between the Lighthouse and the Well, 54 along the North Coast, 200 on Isthmian Heath and the Neck, 80 at the Farm and 210 between the Farm and North Pond.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Maximum Daily Count	0	0	0	265	1368	106	0	0	0
2017	0	0	0	60	381	80	1	0	0
2016	0	0	0	22	516	120	2	0	0
2015	0	0	0	80	220	140	10	0	0
2014	0	0	0	100	181	59	2	0	0
2013	0	0	0	0	171	40	3	0	0
2018 Butterfly-days Total	0	0	0	833	13986	469	0	0	0
2017	0	0	0	207	5179	461	1	0	0
2016	0	0	0	86	3510	687	3	0	0
2015	0	0	0	159	3265	1102	34	0	0
2014	0	0	0	281	3115	412	3	0	0
2013	0	0	0	0	1753	455	4	0	0

Three-figure tallies were recorded on a further 27 July dates, 11 of which were counts in excess of 500 insects; unsurprisingly a monthly total of 13,986 butterfly-days was the highest of any month in the history of recording, a total 170% up on what was a good 2017. Numbers began to wane in

August, with counts dropping considerably after the 11th and becoming more irregular from the 17th when only a few very worn insects remained on the wing. An extremely tatty single at the Well on 30th August was the last of the season and brought to an end a remarkable year; a 2018 total of 15,288 butterfly-days was 155% up on the 2013-2018 mean and the highest to date.

Amphibians

Common Frog *Rana temporaria*
Despite regular March and April searches of North and South Ponds, their surrounding pools and the ditches which drain the Bog, no spawn was found this year. Whilst the freezing weather associated with the 'Beast form the East' may go some way to explaining this absence, this was also the second consecutive year with no evidence of breeding. Seven spawn clumps were located in 2014, there were 24 in 2015 and just four in 2016 were the last to be found. The only adult frog observed this year was near North Pond Hide on the night of 28th July; there were three adults encountered in 2017 and one in each year between 2013 and 2016, although the 2015 record was of a dead animal. A very low number of sightings, coupled with an apparent lack of spawn for two years, suggests that frogs are struggling on Skokholm. The digitised records, although incomplete, show that numbers have also plummeted in the past; whereas counts of up to 111 frogs have been logged historically, only three were found in 1979. Adults can survive for up to 12 years; there is thus the potential for numbers to again increase if environmental conditions allow.

Mammals

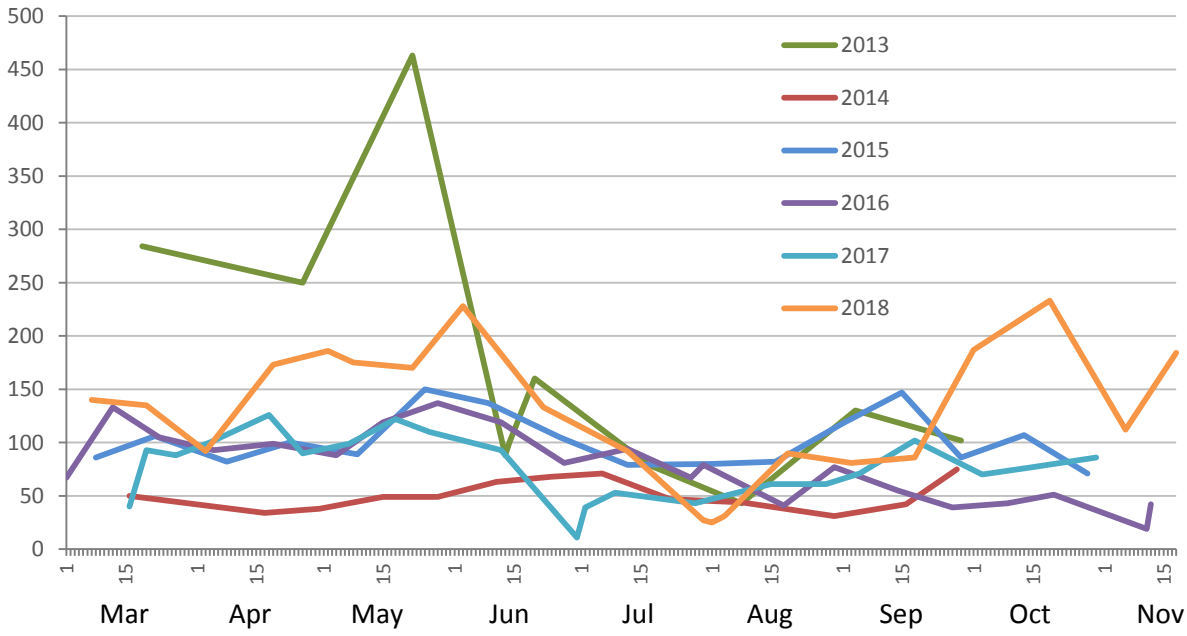
European Rabbit *Oryctolagus cuniculus*
Rabbits within a 7ha plot were first monitored from a fixed point on the Knoll in the mid-1990s when an outbreak of Rabbit Viral Haemorrhagic Disease (RVHD) caused a significant decline in the Skokholm population. Monitoring of the same area has occurred ever since, although with varying degrees of regularity. Following the massive decline in numbers noted in 2013, a crash due at least in part to an outbreak of a new strain of RVHD (Westcott and Choudhury, 2015), a decision was made to increase the number of counts per month from one to two, this in order to gain more information on how numbers were changing during the year.

Diseased animals were again to be found at sites across the entire Island during the course of the 2018 season, although the first signs of a continued presence were not logged until 16th June when eight dead youngsters were located. A further seven dead and three sick animals were noted over seven dates during the remainder of the month. There were 13 dead animals located during July, at

least seven of which were juveniles, and an additional seven were found showing signs of illness, at least four of which were known to later die. There were five dead and two sick animals logged in August, one dead and seven sick in September, one sick in October and one dead in November. The total number of sick or dead animals encountered this year was 3.5% down on 2017; whilst there were 55% fewer sick Rabbits reported, there was a 169% increase in the number found with no apparent cause of death.

During the previous four years animals have shown symptoms commonly associated with Myxomatosis, symptoms such as matted coats, a general lack of coordination, swollen faces with fur loss, audible breathing difficulties and watery red eyes. This year saw reports of breathing difficulties, seizures, audible distress and partial or complete paralysis. Death typically came within 24 hours of any external signs, indeed many dead animals appeared in good condition; this rapid demise is more indicative of a continued RVHD presence. It is plausible however that both diseases exist in the Skokholm Rabbit population; although it was once suggested that the absence of the European Rabbit Flea *Spilopsyllus cuniculi* would prevent the spread of Myxomatosis on Skokholm (Thompson, 2007), the disease can be transmitted via several other arthropod vectors.

The total number of Rabbits logged during evening counts of the North Plain study area between 2013 and 2018.



Rabbits were censused in two adjacent North Plain plots on 20 evenings between 7th March and 18th November, with the count commencing 90 minutes before sunset when animals are typically more active (as stipulated by Thompson, 2007). The counts discussed below are the total number of animals recorded across both plots.

The first survey of the year on 7th March recorded 140 animals, the highest March count since the population crash of 2013 and a total 63% up on the last survey of 2017. The first two kits of the year were noted on 19th April. Numbers rose steadily during April and May, with both months seeing the highest counts since 2013. The 228 counted on 3rd June was likewise the highest tally in this month for six years, however numbers then plummeted once more. There were 92 Rabbits present on 13th July and just 27 on the 30th. The crash was confirmed during the following week, with August counts of 25 on the 1st and 31 on the 4th being some of the lowest summer tallies on record; this low coincided with the peak in counts of diseased and dead animals. Numbers subsequently increased, with 90 recorded on 19th August, 187 on 1st October and 233 on 19th October which was the highest

count of the season and the highest autumn count of the last six years. The last survey of the year, on 18th November, produced a total of 184 animals; this was 114% up on the last count of 2017, 338% up on the last count of 2016 and perhaps indicative of a population with increased immunity.

Bats

For a fifth consecutive year bats were surveyed using an SM2, an automated detector which is left in situ to record echo-locating bats which pass within its range. The use of such a device has allowed us to gather regular and systematic data, vastly improving our knowledge of the species which visit Skokholm. To maintain consistency with the previous four years, the device was located at the Well, housed in the Well Hide with the microphone facing due east. The detector was deployed on 12th April and remained in place until 3rd November, however, due to dull weather restricting our battery charging capabilities, it was not in use during the last two weeks of September.

Since systematic bat recording began in 2014, the detector has been triggered by Nathusius', Soprano and Common Pipistrelles, Leisler's Bat, Noctule, Serotine and Greater Horseshoe. A *Myotis* species which could not be identified to species level was also recorded. This season Noctule and Leisler's Bat were the only two species to be logged; both are large and long-winged, bats capable of commuting to and from the mainland with ease. Smaller bats such as the Pipistrelles and *Myotis* species were again absent and very much remain Skokholm rarities. In the following text a 'pass' refers to each occasion that the detector was triggered into recording.

Noctule *Nyctalus noctula*
Noctule was the most frequently recorded bat species on Skokholm for a fifth consecutive year. The first three passes were logged on 21st April, 11 days earlier than the first of last year. There followed 30 in May (one in 2017), 13 in July (eight in 2017), 236 in August (91 in 2017) and 13 in September (31 in 2017). The 2018 total of 295 passes was up on the 131 of 2017 but down on the 396 of 2016 and the 621 of 2014. Prior to the launch of passive bat monitoring on the Island in 2014, the only documented Noctule was a single in 1968. In the years between 2014 and 2016 peak activity at the Well occurred during September and October, the same period in which animals from northeast European populations migrate southwest (UNEP, 2015). That the Noctules logged over the Island could be long-distance migrants is an exciting idea, however no solid evidence exists at present to suggest that this is the case; the autumnal increase in numbers may just reflect the dispersal of juvenile and adult bats from the nearby mainland. Recordings made during the last two years have shown Noctule activity peaking in August, an arrival more indicative of dispersal from nearby.

Leisler's Bat *Nyctalus leisleri*
There were five recordings of Leisler's Bat this season. Following the first, which was logged at 0119hrs on 21st May, passes were made at 2252hrs on 5th August, at 0427hrs on 11th August and at 2229hrs and 2305hrs on 12th August. It is tempting to think that the animal which triggered the detector on the morning of the 11th could have roosted somewhere on the Island before being recorded again the following day. This becomes only the fourth year in which this species has been identified on Skokholm; there were two passes in both 2017 and 2016 and three in 2014. Interestingly the previous records have all occurred in August or September; this was thus the first season in which a spring pass has been logged. Although a sizeable population exists in Ireland, Leisler's Bat is unusual in Pembrokeshire and it remains by far the rarer of the two *Nyctalus* species recorded on Skokholm.

Noctule/Leisler's Bat
A total of 38 passes were recorded (12 in May, 23 in August and three in September) where it could not be determined if the call had been made by a Noctule or a Leisler's Bat. In 2017 there were ten such passes.

Seals

Atlantic Grey Seal *Halichoerus grypus*
Grey Seals are present in the waters around Skokholm throughout the year. The rocks in South Haven and Crab Bay are the two main low tide haul-outs and it is here where the majority of non-breeding adults congregate. Both locations are part of the daily census route and are visible to overnight guests from the path network; a high proportion of the monthly totals are thus made up of counts from these areas, although visits do not always coincide with low tide. Daycounts are regularly supplemented by small numbers seen elsewhere around the Island, primarily off the Neck.

The pattern of attendance this year was typical of recent seasons; counts were at their lowest in March and peaked during July when a cumulative 806 animals were logged, this the highest monthly total of the last six years. Indeed the number of animals seen around Skokholm is continuing to steadily rise; there were 3638 seal-days logged this year, a total 53% up on the 2013 tally and 27% up on the 2013-2017 mean (2865.8 ±sd 411.05). This trend matches that observed at other Pembrokeshire sites (Lock *Pers*. *comm*.).

The total number of Grey Seals logged during each recording month between 2013 and 2018, along with the maximum daycount recorded during each month.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Monthly Total	34	105	505	662	806	767	464	245	50
2017	15	290	336	629	747	697	386	217	28
2016	25	254	507	514	724	503	428	151	14
2015	21	114	414	511	682	513	458	233	36
2014	10	85	284	486	658	458	357	132	31
2013	22	51	278	382	454	511	422	252	9
2018 Maximum Daily Count	9	20	31	49	49	41	38	22	9
2017	2	22	29	42	60	32	32	18	11
2016	5	28	28	39	47	41	56	16	2
2015	7	16	36	38	45	35	43	17	6
2014	2	11	30	39	46	32	28	10	5
2013	3	6	25	28	32	33	36	25	5

Owing to a shortage of suitable pupping beaches, areas which are plentiful around the nearby mainland and on Skomer Island to our north, pups are recorded in only very small numbers each autumn. The relatively sheltered and somewhat sandy coves of North Haven and Peter's Bay are seemingly the most frequently used and successful pupping beaches on the Island. Other bays, mostly around the Neck, are infrequently utilised and animals born in such exposed locations typically have less chance of survival. There are also a small number of caves around Skokholm where young may be born without being recorded.

The first pup of the year was found opposite the Stack on 18th August, although it was missing by the following morning. A second pup was observed at Peter's Bay on 22nd September but, again, there were no further sightings. A third, found in North Haven on the 24th, was logged on most dates during the remainder of the month and was watched through its October moult. A fourth pup was in Peter's Bay on 2nd October, a fifth and sixth appeared in North Haven on the 7th and 11th and a seventh was on Rat Island Point on 10th October. A violent storm, which hit between the 12th and 13th October, produced peak wave heights of 11 metres as registered by the remote weather station positioned on the Mid Channel Rock Beacon off St. Ann's Head. Conditions quickly ameliorated, but by the 14th it was clear that the Peter's Bay pup and one of the North Haven pups were missing and that the Rat Bay youngster was dead. Six moulters appeared in North Haven on the same date, an increase similar to that observed following Storm Ophelia in 2017; these are presumably animals

displaced from other Pembrokeshire sites. An eighth new pup was in Peter's Bay on the 22nd and a ninth and tenth were found in North Haven on the 5th and 7th November. A total of ten Skokholm born pups in an autumn is exceptional and the best tally of the last six years; there were two found in both 2017 and 2016, five in 2015, two in 2014 and three in 2013.

On 11th November a yearling with orange flipper-tag number 80256 was observed resting in North Haven. This was an animal which had been taken in from Tenby by the RSPCA as an underweight orphan in August 2017 and released back into the wild at Combe Martin, Devon on 12th December. This is the second rehabilitated animal to have been seen from Skokholm in the last two years.

Cetaceans

Harbour Porpoise *Phocoena phocoena*

Largely owing to their infrequent and rather discreet surfacings, sightings of this diminutive cetacean are largely dependent on the suitability of sea conditions for viewing; although observations would suggest that fewer animals are present early and late in the season, it is possible that Porpoise are harder to see during these periods and that they are present around the Island throughout the year. The first of 2018, watched from the Lighthouse on 20th March, was the only animal to be seen that month; this was the first of 71 encounters logged during the season, a figure identical to that of 2017. However, despite records on the same number of dates, maximum counts and monthly totals were almost all down on last year, with June being the only month in which a sizable increase was observed; a porpoise-days total of 54 was the highest of the last six Junes.

The maximum 2018 daycount only just scraped into double-figures, with 11 logged on 13th August (when there were pods of seven off the Lighthouse and four off the Neck) and on 22nd September

(when there were two pods of four and one of three); these were the lowest peak daycounts of the last six years and less than half the recent maximum of 23 logged last September. A 2018 porpoise-days total of 200 was the lowest since the 162 of 2013. The only calf to be seen was amongst a pod of five off the Lighthouse on 24th June.

The total number of Harbour Porpoise logged during each recording month between 2013 and 2018, along with the maximum daycount made each month and the number of days during each month on which there was a record.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Monthly Total	1	14	17	54	27	43	38	5	1
2017	0	47	31	14	57	49	51	3	0
2016	2	21	41	13	42	55	40	8	0
2015	4	21	21	11	23	82	58	26	1
2014	16	39	35	46	86	66	91	12	0
2013	13	4	42	30	17	23	29	3	1
2018 Maximum Daycount	1	4	4	8	5	11	11	5	1
2017	0	10	14	7	11	13	23	2	0
2016	2	10	11	6	10	13	8	8	0
2015	3	5	5	3	8	16	20	15	1
2014	4	9	8	7	10	10	15	3	0
2013	3	3	6	9	5	13	7	2	1
2018 No. of Days Recorded	1	4	9	12	14	14	11	5	1
2017	0	12	8	5	21	14	9	2	0
2016	1	8	15	4	10	13	14	1	0
2015	2	8	10	6	10	21	13	5	1
2014	7	12	12	15	21	17	20	8	0
2013	5	2	15	13	8	6	10	2	1

Risso's Dolphin *Grampus griseus*

Sightings of this species around Skokholm have previously proven somewhat erratic, with records in just 30 years between 1958 and 2017 and no sightings at all in the 14 years between 1999 and 2012. However Risso's Dolphins are seemingly becoming more regular, with this the sixth consecutive year in which they have made an appearance close to the Island. Four off the Lighthouse on 31st May were the first of the year and what were perhaps the same four animals were sighted in Broad Sound on 9th June. The final 2018 observation came on 1st July when three headed southeast off the Lighthouse. Sightings on three dates matched 2016 but was one down on last year.

Short-beaked Common Dolphin *Delphinus delphis*

Pods of 12 and two off the Lighthouse on 22nd June were the first of 2018 and ten weeks later than the first of 2017; this becomes only the third year of the last six, and the first of the last four, in which no sightings were made in April or May. A July dolphin-days total of 25 was 78% down on the same month last year and the lowest July tally since the 21 of 2013; there were July sightings on fewer dates than during the previous four years and the peak daycount was down on each of the last five years. The frequency of sightings and the size of the pods encountered invariably increase during August and September, and so it proved to be. August was the more productive of the two months this year, with a cumulative 309 dolphin-days recorded over 18 dates; this was the second highest August tally of the last six years and the peak of 45 logged on the 5th, which consisted of a close pod of 35 animals and a distant pod of ten, matched that of August 2017. Sightings on 20 September dates took the dolphin-days total to 161 which was 57% down on a September 2017 total boosted by a single pod of at least 120 animals. There were records on four October dates totalling 16 dolphins, this the best October showing to date; there had only been October sightings in two of the previous five years. A minimum of two in Broad Sound on 18th October were the last of

the year and took the 2018 total to 534 animals logged over 50 dates; the total was 29% down on the 756 of last year (when records were made on four fewer dates) and 6% down on the 2013-2017 mean (566.6 ±sd 209.67).

Two calves amongst a pod of 20 animals in Broad Sound on 17th August were the first of the year; what was believed to be the same pod, containing the same number of young, was observed off the Lighthouse later that day. The only other calves noted during 2018 were a single on the 19th and two on 22nd August and one on 5th September; this was a rather poor showing compared with 2017 when a minimum of 29 young were logged between April and September.

The total number of Short-beaked Common Dolphin logged during each recording month between 2013 and 2018, along with the maximum daycount made each month and the number of days during each month on which there was a record.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2018 Monthly Total	0	0	0	23	25	309	161	16	0
2017	0	19	0	25	111	222	379	0	0
2016	0	10	3	40	91	114	122	0	0
2015	0	10	3	6	156	407	192	0	0
2014	0	0	0	3	101	134	359	6	0
2013	0	0	0	10	21	113	161	15	0
2018 Maximum Daycount	0	0	0	14	10	45	21	8	0
2017	0	19	0	25	24	45	120	0	0
2016	0	6	3	32	20	42	40	0	0
2015	0	10	3	6	80	86	13	0	0
2014	0	0	0	2	29	30	50+	6	0
2013	0	0	0	10	16	26	50+	6	0
2018 No. of Days Recorded	0	0	0	3	5	18	20	4	0
2017	0	1	0	1	10	19	15	0	0
2016	0	4	1	3	7	7	11	0	0
2015	0	1	1	1	8	24	35	0	0
2014	0	0	0	2	11	16	15	1	0
2013	0	0	0	1	2	12	13	3	0

Fish

Basking Shark *Cetorhinus maximus*

One watched cruising west past the Lighthouse at 1830hrs on 24th June (KW, RDB) and two reported from a pleasure vessel two miles to the south of the Island on 7th July (ST) were the first records

since 2016 when a single fish was close in off the Lighthouse on 7th August. The only other record in the last six years was of a single on 11th August 2015 and the most recent prior to that was on 7th May 2007. Encounters with this species in the waters around Skokholm are clearly rare, although there have been good years; the digitised logs reveal the only other sightings to be of singles in 1997 and 1996, 13 in 1976, one in 1975, four in 1973, eight in 1970, five in 1969 and singles in 1967 and 1964. This season thus becomes only the 13th year with a documented Basking Shark record.

Common Ocean Sunfish *Mola mola*
Records of this strange pelagic fish from the waters around Skokholm are seemingly rare and unpredictable. There were no sightings from the Island itself this season, however one was seen from the Irish Ferry as it travelled from Pembroke Dock to Rosslare on 28th June, the Sunfish's position being approximately one mile to the south of Skokholm Lighthouse (DA). There were four records in 2017, seven in 2016 and two in 2015, though there were none seen in either 2014 or 2013. Sunfish were also logged in ten years between 1992 and 2012.

European Eel *Anguilla anguilla*
A large individual at Orchid Bog on 6th April was the first of the year. There were however no further records until August when their distinctive tracks were found in the mud of Orchid Bog on the 6th and five were seen under torchlight during a nocturnal visit to the same site on the 7th. Orchid Bog and the Well were checked regularly after dark during the remainder of the month and fish were noted on 12 dates between the 16th and 31st, the peak count being logged on the 17th when six were at Orchid Bog and one was at the Well. An intact but dead individual measuring approximately 40cm in length was found under the Stream Net on the 21st; it was unclear whether this was a mature silver eel attempting to depart for the Sargasso Sea or whether it had just been moving between water bodies. In September there were sightings of between one and five large eels on 21 dates, all of which came from Orchid Bog. Although the majority of August and September sightings were probably of the same small number of individuals, a cumulative total of 91 eel-days is an excellent tally; there were 15 logged in 2017, singles in 2016, 2015 and 2014 and three in 2013. Although it is likely that the increase in records reflects an increase in observer effort, it is notable that peak counts are seemingly also on the rise. Habitat management aimed at increasing the longevity of seasonal water bodies at North Pond, Orchid Bog and the Well may be helping this IUCN Red-listed fish to reach maturity.

Lockley reported elvers wriggling up the cliffs at freshwater outfalls around the Island and mature adults have been noted in several ponds historically (Thompson, 2007). The digitised Log suggests that this species previously occurred, or at least was recorded, in larger numbers; high counts include 74 logged in 1954 and an impressive 190 in 1955. Sadly the European Eel has undergone catastrophic declines due to a range of threats faced at multiple stages of its life history. Over the last century recruitment has fluctuated, but in the last 45 years it has declined by 90-95%, whilst the number of mature silver eels departing for the Sargasso Sea has declined by 50-60% in the same period; unsurprisingly this species is now Critically Endangered (SEG, 2018). The huge drop in recruitment is due in part to the food trade; despite it now being illegal to sell European caught eels outside of Europe, it is still legal within the EU and each year approximately 15 to 17 tonnes of youngsters are caught as they enter rivers before being sent to aquaculture farms to grow on before sale. Furthermore there is illegal international trading; around 20 tonnes of young eels were illegally transported to Asia between 2015 and 2016 (SEG, 2018).

Plants

Since 2015 Fiona Gomersall from the Shropshire Wildlife Trust has been making annual visits to Skokholm, volunteering her time and expertise to re-establish vegetation survey work. There is a long history of vegetation monitoring on Skokholm, with current studies being focused around the

fixed-point quadrat monitoring programme established by W.E. Gynn in 1981 and 1982. However, during the period leading up to and throughout the Island closure and renovation, many of the marker posts fell into disrepair, with rot, missing numbers and loss all proving to be an issue. Fiona thus began by relocating and repairing old markers (see Annual Report 2015); by the end of 2017 all but 17 of the original 100 permanent quadrat sites had been located, with old posts replaced, numbered metal tags attached (thus removing the need for regular painting) and all sites being GPS mapped. The rationale behind the 2018 visit was to use a grid system to survey a subset of quadrats, this the same technique as used prior to 2015 and which would thus allow a direct comparison to be made with the older data. The following report, produced by F. Gomersall, summarises her findings.

Annual Quadrat Comparison 1988-2018

The purpose of the 2018 quadrat survey was to inspect the 19 annual quadrats in more detail (using a grid system) and to make comparisons with the data collected at ten-year intervals over the last four decades. The plan was also to see if the data collected using the 1x1 metre grid system varied significantly from the data collected using the larger 2x2 metre quadrats (which were used for the surveys conducted between 2015 and 2017).

The 19 2x2 metre quadrats monitored annually 2015-2018 (from a total of 83 marked quadrats).

Although all species in all quadrats are recorded during each survey, only seven are selected for comparison here, these generally the more abundant species.

Common Bent *Agrostis capillaris*
There has been a gradual increase in North Plain Quadrat 38 where this species has more than doubled. However a gradual decrease, culminating in absence, was noted in another quadrat here (one positioned further to the west). The *Agrostis* was constant in another quadrat, indeed overall it

would appear that this species has remained stable on North Plain. It also remained constant in Gull Field. The *Agrostis* on the Neck remained at a very low level until it became dominant during the last decade. On the Sugar Loaf it occupied a very low percentage area during the 1980s, but increased to 50% cover in subsequent years. The most significant changes and clearer trends are in Quadrats 17, 24, 26, 28, 34 (significant decreases) and Quadrats 38, 58, 96 (significant increases). **When the data is averaged out over all 19 quadrats**, **there appears to be little change in the extent of this species**.

Red Fescue *Festuca rubra*
In some North Plain quadrats, the area covered by this species increased from just 1% in the 1980s to over 60%. A similar increase was noted on the Neck, where at one site it rose from 4% to over 50%, and at Little Bay where the area covered by this grass doubled. There has been a clear increase over the four decades in Quadrats 31, 32, 38 and 39 and a substantial increase in Quadrats 34, 40, 56 and 96. **Overall this species appears to have doubled in its extent since 1987**.

Yorkshire Fog *Holcus lanatus*
Some quadrats show a gradual increase in this species over time, indeed on North Plain a two to six-fold increase has occurred in some quadrats. This increase appeared to be far more dramatic during the full 2016 and 2017 surveys, however, when an average is taken of all quadrats, **there appears to have been very little overall change during the last four decades**.

Thrift *Armeria maritima*
There has been a dramatic decrease in the extent of this species on North Plain, as evidenced by all quadrats sampled. The largest decline has been in Quadrat 39, where 94% cover was noted in the mid-1980s and only 15% was found this year. There has, however, been a slight increase over time on the Sugar Loaf. The most significant changes are seen in Quadrats 25, 38, 39 and 40. **Over time there appears to have been a six-fold decline in Thrift on Skokholm**.

Bracken *Pteridium aquilinum*
A dramatic increase of up to 90% was observed near the Pedestal, along with an associated increase in the extent of Common Sorrel *Rumex acetosa*; there has at the same time been a decrease in the

amount of Sea Campion *Silene maritima*. Clear increases are seen in Quadrats 17 and 28. **Not many of the annual quadrats contain Bracken**, **but where they do there is seemingly a doubling of Bracken cover every decade**.

Sorrel spp. *Rumex spp*.
On Tabernacle Rock the percentage of sorrel during the 1980s was very low, but this season it made up 84% of cover; this increase is associated with an increase in Bracken *P. aquilinum*. Sorrel has also increased on the Neck, from a 2-3% cover in the 1980s to almost 50% in 2018. A gradual increase has also occurred in Gull Field, with a quadrupling of the cover by 2018, however here the increase is not associated with Bracken. Increases are perhaps also due to the nutrients from bird droppings leading to eutrophication. Very clear trends are evident in Quadrats 19, 25, 26, 28, 40, 56 and 69. **Overall there is a very clear trend**, **with a six-fold increase across the Island since the mid-1980s**.

Sea Campion *Silene maritima*
This species appears to have decreased significantly near the Pedestal, from 72% cover in the 1980s to only 2% this year. In the 1980s there was 80-90% cover on the Neck, however this had halved by 2018 when this species had virtually disappeared from Quadrat 58. Conversely there was an increase to the southwest of Wheatear Rock, from 1% in the mid-1980s to 62% in 2018; up until the 1990s this species increased quite dramatically in other quadrats around Wheatear Rock, although the *Silene* has since declined. There are clear downwards trends in Quadrats 19, 56, 58 and 87, but there has been an increase in 26. **Overall there has been a mean decline of almost 50%**.

Mosses and Lichens
In Gull Field there has been an increase from 4% to 17% cover, perhaps owing to an increase in the amount of 'poached' ground. There are otherwise no clear trends and the percentages involved are low, however the data does suggest **a gradual increase**, **with a doubling in cover over four decades**.

Dead Turf/Dead Thrift
A fifth to a quarter of some North Plain quadrats were covered by dead Thrift this year; the same area has seen a small increase in Sea Campion cover, however the main cause is perhaps the burrowing of Rabbits which may have undermined the roots of the Thrift. This survey suggests that **there has been little change in the proportion of cover made up of dead vegetation**.

Bare Ground
An increase in bare ground was noted in areas such as the Pedestal, however a decrease was seen in other areas such as at Wardens Rest. Although the percentages involved are very small, **there has been a halving in the amount of bare ground overall**.

The 2016/2017 survey of the 83 extant quadrats showed that a significant decline had occurred in the U1 *Festuca ovina, Agrostis capillaris, Rumex acetosella* acid grassland over a 20 year period. However the 2018 survey of the 19 annual quadrats showed little change in Common Bent *A. capillaris* when averaged out over four decades; this grass is one of the main indicator species of the U1 grassland, a species which has increased in some areas but declined in others. The 2016/2017 survey suggested that there had been an increase in Yorkshire Fog, but the 2018 survey suggested little change. In addition the 2016/2017 survey showed an increase over time in Danish Scurvy Grass, Common Chickweed, Scarlet Pimpernel, Marsh Pennywort, Sea Storksbill, Common Dog-Violet, sorrel spp. and Sea Campion. Interestingly the 2018 survey was in agreement with that of 2016/2017 regarding the increase in sorrel, however the 2018 survey suggested a decline in Sea Campion rather than the increase shown by the wider 2016/2017 survey.

It would be difficult to confidently conclude as to when the biggest changes occurred in the 19 quadrats studied this year. The sample monitored is probably too small and the survey effort may

well have differed over the decades, although the data collected suggests that the biggest changes in vegetation occurred between the 1980s and 1990s (the period after which goats were removed from the Island) and then again between 2008 and 2018 (during which time RVHD decimated the Rabbit population). There was however variation between species, with Thrift appearing to decrease most during the first decade and Red Fescue increasing most during the last decade. The sorrel spp. also increased mostly during the latter decade, although the increase was at times gradual. Sea Campion has in the main declined, whilst Common Bent increased in some areas and declined in others (with the biggest changes occurring during the first decade of the survey).

The grid system, using a smaller quadrat, was useful for comparing like with like and was important for this survey. An attempt was made to compare the data collected using the 2x2 metre quadrats during the three years from 2015 to 2017 with that collected this year using the 1x1 metre grid. However, due to the smaller grid sampling just one quarter of the quadrat and the vegetation being inhomogeneous throughout, a meaningful comparison could not be made.

Rosebay Willowherb *Chamaenerion angustifolium*
The appearance of two patches of Rosebay Willowherb in an area of the Bog adjacent to South Pond, patches which contained 21 flowering spikes in July 2017, was met with concern by the Islands Conservation Advisory Committee. This was the first Skokholm record of this species, plants which had presumably grown from wind-blown seed, however its dense woody stalks had the potential to impair the movements of our breeding Manx Shearwaters should it spread. The decision to pull up any further growth of what could prove an invasive species did not need to be acted upon as, despite several thorough searches to the southwest of South Pond, no plants could be found this year. Perhaps Rabbit numbers in 2017 were low enough in this area to allow the plants to develop.

Small Adder's Tongue Fern *Opheoglossum azoricum*
During a survey of Quadrat 25 in early May, several *Opheoglossum* Spp. were found near the southwest post at N 051^0 41.861, W 005^0 16.917. These appeared to be Small Adder's Tongue Fern, but correspondence with Islands Conservation Advisory Committee member Stephen Evans advised further inspection of the plants. Whilst it had been suspected that this species may exist on Skokholm, Skomer and on a mainland site at Plumstone, no one had yet shown that the plants present were anything other than dwarf Adder's Tongue Fern *O. vulgatum*.

The two species *O. azoricum* and *O. vulgatum* often grow together. They are separated via an inspection of the fronds, which are usually paired in *O. azoricum* and single in *O. vulgatum*, and via

study of a fertile spike, which has less than 14 pairs of sporangia in *O. azoricum* and more than 14 in *O. vulgatum*. The Skokholm site was revisited on 13th June when five plants were located (although all five had been slightly grazed, presumably by Rabbits). One of the plants was removed for identification by visiting botanist Josh Kalms, an inspection which revealed paired fronds. A further examination of the site located five additional plants at N 051^0 41.858, W 005^0 16.918, one of which had a fertile spike which held nine pairs of sporangia. Identification was subsequently confirmed by British plant specialist Dr Fred Rumsey at the Natural History Museum. This excellent find is the first confirmed Pembrokeshire record of this Vulnerable Welsh Red-list Fern.

Observers, Photographers and Literature Cited in the Text

Observers cited in the text. Many other people provided records at the evening log, far more than can be listed here. We are hugely grateful to everybody who contributed during the 2018 season.

DA	Dave Astins	ME	Mark Edgeller	RG	Robert Greenhalf
GE	Giselle Eagle	MEL	Mark Eldridge	RL	Rhodri Llewellyn
HD	Howard Driver	MW	Mike Wallen	ST	Sash Tusa
IB	Ian Beggs	PP	Peter Partington	SV	Stephen Vickers
KF	Kirsty Franklin	RD	Richard Dobbins	SWO	Steve Woolfenden
KW	Katherine Westerberg	RDB	Richard Brown	WJ	Wendy James

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The Skokholm Annual Report 2018 was written and produced by Richard Brown and Giselle Eagle


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