SKOKHOLM

BIRD OBSERVATORY

YMDDIRIEDOLAETH
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WILDLIFE TRUST

South and West Wales
De a Gorllewin Cymru

Annual Report 2020

Wardens' Report

Introduction to the Skokholm Island Annual Report 2020

Following what felt like the longest run of rough and windy spring weather ever, we finally made it back to Skokholm on 16th March, this our latest ever return. As Karl and Phil took the Dale Princess from the relative shelter of South Haven and round into a rather choppy Broad Sound, we waved goodbye to Wendy, Richard, Dave and Lisa (who had helped us get all of our gear on and off the boat); we had no idea that these would be the last humans we would glimpse for some time. We thought we had just two weeks to get things ready for the Work Party and just a month to prepare for a visitor season which was projected to be our busiest yet. We didn't realise that a global pandemic was about to make 2020, our eighth year as Skokholm Wardens, the year in which the only human inhabitants on Dream Island would be, at least for the most part, the two of us.

Alone on Dream Island, or were we? The Ravens had already noted our arrival, announcing it to the rest of Skokholm's avian residents with a series of honks whenever they encountered us. The 178,000 Manx Shearwaters were beginning their nocturnal visits and soon the cliffs would be lined with thousands of Guillemots and Razorbills, whilst 8534 Puffins would be wheeling towards their first landfall of 2020. We are used to being on our own early in the season, but as March vanished without the spring Work Party, it began to dawn on us just how different things were going to be. With much uncertainty as to whether we would be welcoming guests or not, we ploughed into the cleaning and decorating, although without our team of brilliant volunteers the progress was slow. Even if no one got to appreciate the fruits of our labours, it was clearly important to keep on top of the building maintenance. As the spring whizzed by, we had to ditch the paint brushes and focus on the annual seabird work, setting up the productivity plots and counting the number of birds present. The Guillemot and Razorbill totals were the highest ever, with 5101 and 3517 adults on ledges respectively. Much of the monitoring, particularly the Manx Shearwater playback plots, took a very

long time with just the two of us, however we managed to complete nearly all of our annual tasks (the Storm Petrel playback transects being the only real gap in our coverage). When we weren't staring at Fulmars or searching for Razorbill chicks, we were scraping floors and oiling woodwork. The weather was sublime, with huge blue skies and long sun-drenched days giving our true self-isolation a surreal, dreamlike feel. Tuning into the news each morning made us fully appreciated just how fortunate we were; our 'Lockdown' allowed our magical Dream Island existence to continue, this in sharp contrast to the mainland realities of a global, life-changing pandemic.

With only two pairs of eyes scanning the bushes, ponds, crags, cliffs, sea and sky, we wondered daily just what was sneaking through, the species which would almost certainly be picked up by our keen-eyed guests and visiting ringers. Nevertheless we had a fantastic year, with the Island's wildlife as diverse and enchanting as ever. Without the typical structure of a Skokholm day, we found ourselves in an unusual situation: we had extra time on our hands in the evenings. We made the most of this by indulging in a few rare or novel experiences; we sat on the North Gully clifftop at dusk to watch the Razorbill and Guillemot jumplings take their leaps, we slept under the stars and Comet Neowise following busy Storm Petrel ringing sessions and spent many a long summers' evening seawatching from the cliffs below the Lighthouse, only heading indoors when the sun had set. During a year where time didn't matter, eating dinner at 2230hrs seemed entirely normal and allowed us to eke out every last drop of the Dream Island summer. Despite the significant reduction in the number of observers, the birding was extremely rewarding. The long awaited first Citrine Wagtail for Skokholm was a highlight amongst an excellent mix of Island rarities and scarcities. In terms of British rarity value, the second Upland Sandpiper for Skokholm was an exhilarating, albeit frustrating, find; the bird flushed at short range, disappearing below the cliffs in difficult weather conditions, not to be seen again. A DNA-confirmed female Western Subalpine Warbler became the 300th species to be logged here since 1947, whilst Whooper Swan, Goldeneye, Glaucous Gull, Great White Egret, Great Spotted Woodpecker, Cetti's Warbler, Greenish Warbler, Eastern Subalpine Warbler, Rose-coloured Starling and Little Bunting had all been recorded on ten or fewer occasions. Although more regular on Skokholm, two Pectoral Sandpiper, two Melodious Warbler and a Bluethroat were notable. The non-avian records also impressed, with just the second sighting of Lesser Emperor Dragonfly, the fifth record of Nathusius' Pipistrelle and ten additions to the moth list which included Lunar Hornet Moth and Emperor Moth.

Nevertheless a huge part of what makes our year so special is being able to share all of these highlights, the hundreds of thousands of seabirds, the storms, the cozy evening Logs, the wildlife dramas, the perfect days and the laughter with you, our guests and volunteers. This was missed tremendously during the 2020 season.

This report follows the same format as used in the previous seven years. It provides a full account of the 2020 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 logged during 2020 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 previous online reports, the Skokholm Island Annual Report 2020 has again been produced in a free to download, tree-saving, searchable PDF format. For any readers wishing to contribute to our work, a 'donate now' button is available on the source page.

COVID-19 and the Skokholm Island Closure

The year 2020 will be remembered as the one in which the human population stood still. A global pandemic was caused by the spread of an extremely infectious, and in many cases deadly, coronavirus named COVID-19. It was first reported in the UK on 29th January and by mid-March it was spreading rapidly, prompting a National Lockdown to be declared by Prime Minister Boris Johnson on 23rd March. People across the UK were told to stay at home, with only essential journeys permitted. The Wildlife Trust of South and West Wales thus had no choice but to close both Skokholm and Skomer, although fortunately the Skokholm staff were permitted to remain. The UK infection rate reduced during the summer months, but government restrictions and common sense dictated that multiple households could not share indoor facilities; such interactions are at the heart of a stay on Skokholm, thus there was no other option but to remain closed for the entire 2020 season. We were unable to welcome either Work Party Volunteers or Long-term Volunteers, with the only permitted visitors to the Island being an autumn team of three professional researchers from Oxford University and two members of the Skokholm Ringing Committee.

For most of the season, the Wardens were the only human inhabitants, a situation which meant that certain elements of the core seabird monitoring had to be prioritised. In normal times we are assisted by up to three Long-term Volunteers who take on different areas of the survey work during time sensitive periods, allowing several features to be monitored at the same time. Inevitably some changes had to be made; the duration of the daylight hours Puffin watches was shortened, the annual population monitoring of Storm Petrels was dropped and the Manx Shearwater playback plots were only surveyed using a .WAV recording of duetting birds (full details of these changes can be found in the species accounts). Along with the core seabird surveys, the daily census was also given priority, this resulting in good coverage of the Island in terms of monitoring both breeding and migrant birds; although fewer eyes in the field no doubt contributed to some of the lower totals listed in this report, the number of bird species recorded proved to be the second highest to date.

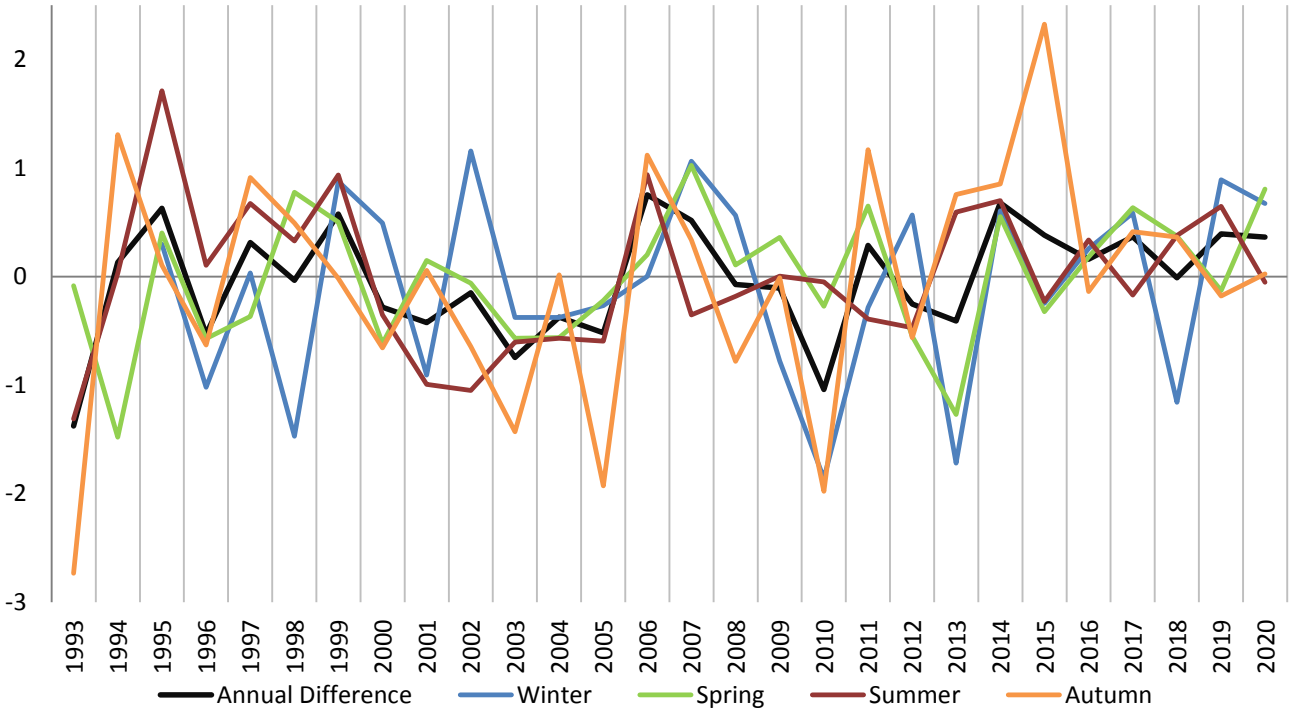
The 2020 Season and Weather Summary

The season ran from 16th March to 7th December. We welcomed Oxford University researchers from 16th August to 29th September and Skokholm Ringing Committee members from 7th September to 7th October. Including the arrival and departure dates, the Island was occupied for 267 days; although two days up on the 2013-2019 mean (265.3 ±sd 10.5), inclement March weather meant that this was 12 fewer days than recorded last year.

The following weather summary is compiled using observations noted in the daily log, meteorological

measurements taken by the weather station at the Coastguard Lookout on Wooltack Point (4km to our northnortheast, managed by Natural Resources Wales and referred to as 'the weather station' from this point onwards) and wave height and wind data retrieved from the Mid Channel Rock Lighthouse Beacon (nearly 8km to our westsouthwest and owned by Milford Haven Port Authority).

The extent to which the mean seasonal temperatures and the mean annual temperature differed from the long-term average during each year between 1993 and 2020.



Three named storms crossed the UK in quick succession during February; Storm Ciara (which arrived on the 9th), Storm Dennis (which arrived on the 15th) and Storm Jorge (which arrived on the 28th) brought with them extremely heavy rain, indeed exceptional rainfall totals were logged across much of the UK and in Wales this led to it being the wettest February on record (Met Office, 2021). The weather station recorded 286.7mm of rain during the month, this over five times that seen in January. The ground was still saturated upon our mid-March return to Skokholm, with ephemeral pools covering the Island. A moderate southerly breeze on 17th March had escalated to gale force by the evening, this accompanied by gusts of up to 46mph. There was a return to gentle northerlies until the 21st, when a southeasterly severe gale brought storm force gusts which peaked at 53mph at 1000hrs. The remainder of March was dry and settled, with the wind blowing from the easterly quarter on seven dates and from the north on three, this delivering warm sunny days but cooler night-time temperatures.

Despite an unsettled beginning and end, April was a glorious month. Precipitation was recorded on only eight dates, the majority falling as occasional light showers but with heavy rain on the 17th and heavy showers on the 30th; several downpours passed close to our north and east on the latter date. There were stronger winds on only four occasions; a near gale southeasterly blew between the 4th and 5th, a near gale northeaster blew on the morning of the 13th, a near gale easterly blew on the morning of the 18th and a southwesterly gale between the 29th and 30th brought violent storm force gusts of up to 68mph. The remaining days were calm, with generally warm diurnal temperatures and light winds from the northerly quarter for 88% of the period.

May was also a largely pleasant month, with daytime temperatures remaining on the warmer side of typical for the majority of dates. However a cold snap between the 11th and 14th produced patchy

ground frosts on the nearby mainland and a low of 4.3°C was registered on the latter date. Although a generally calm month, the 22nd saw a southwesterly gale increase to a severe gale with storm force gusts of up to 55mph, conditions which persisted overnight. This drove up a considerable swell, with 11 metre waves crashing into the North Coast auk colonies; there was a loss of eggs from some of the more exposed ledges. The wind dropped to a near gale the following day, however a nine metre swell lingered. Other than this event, the wind strength only exceeded a strong breeze on the 5th, 7th and between the 10th and 11th. As had been the case during April, May saw infrequent precipitation; light drizzle fell on just seven dates and both South and Winter Ponds were dry by the 10th. The last days of May were increasingly warm, particularly on the night of the 27th when an average temperature of 16.5°C was registered. In Wales as a whole it proved the sunniest May in a series beginning in 1929 and the second driest in a series beginning in 1862 (Met Office, 2021).

The dry conditions continued into early June; North Pond contained very little water by the 3rd and, despite several overcast days and light showers on the 5th, 6th, 7th and 10th, it was empty by the latter date. This is seemingly the earliest date in recent times by which North Pond has emptied, although heavy overnight rain on the 10th saw it holding some water again the following day. Heavy rainfall events were noted on six of the next 11 dates (although the majority fell overnight), with drizzle or showers logged on a further four and regular thunderclaps to our east on the evening of the 16th. The North Pond water level thus continued to increase until the 24th, after which it once more evaporated rapidly. Moderate southeasterlies on the 13th broke an almost uninterrupted run of winds from the north, winds which were at near gale force on the 3rd (with gusts of up to 54mph), at gale force on the 6th (with gusts of up to 63mph) and at near gale force on the 11th (with gusts of up to 46mph). Due to the northerly persuasion of the wind, the sea state around Skokholm was relatively calm. The wind came from the southwest on nine of the last 12 days of June, with a gale on the 20th (with gusts of 52mph) producing a sizable swell. The three days between the 23rd and 25th produced particularly warm diurnal temperatures, with 24.3°C on the latter date being the hottest temperature of the season.

July was an unsettled month. Although precipitation fell on over half of dates (and eight oktas of cloud cover were logged on 11 partial days and nine full days), North Pond continued to evaporate; on the 15th it contained very little water and by the 24th it was empty, remaining so for the rest of the month. The dull conditions contributed to an average monthly temperature of just 14.4°C, this

1.3°C cooler than in July 2019 (the Welsh mean dropped 0.9°C below the long-term average (Met Office, 2021)). There was however a brief southerly incursion at the end of the month; the 20.6°C recorded on the 30th was the July peak and temperatures remained warm overnight, with a mean of 18.2°C logged. There were very few calm days (indeed the wind only dropped below a moderate breeze on six dates) and two notable windier periods; a seven metre swell was driven by a severe westsouthwesterly gale on the 5th (with gusts of up to 57mph) and rough seas resulted from a southerly gale on the 27th (with gusts of up to 53mph).

Precipitation was experienced on over two thirds of August dates, this a month which is typically unsettled; although it mostly fell as overnight showers, heavy rain was noted on nine dates (with overnight rain on the 25th bringing standing water to North Pond for the first time since July and to Winter and South Ponds for the first time since May). Mist descended on the 7th and 8th, thunder and lightning accompanied heavy morning downpours on the 10th and a spectacular electrical storm raged to our south on the night of the 12th (producing something in the region of one flash per second for at least 15 minutes). The weather turned hot during the second week, with the period between the 9th and 19th seeing a mean daily maximum of 19.5°C; an August peak of 23.4°C on the 13th was the second highest temperature of the year. Storm Ellen arrived to Skokholm in the form of a near gale southeasterly on the 19th, this escalating to a severe gale southerly by the evening; at 2100hrs the wind speed was averaging 48mph, with gusts reaching an impressive 80mph. Two days of turbulent weather followed; by 2300hrs on the 20th the wind was averaging 48mph (with gusts peaking at 72mph) and on the 21st the wind speed reached 47mph (with gusts peaking at 70mph). The resulting very rough sea conditions began to calm on the 24th, although this was short lived, with the arrival of Storm Francis on the 25th producing regular 13 metre (and occasional 16 metre) waves. These storms caused considerable salt damage to the vegetation, particularly to the trees growing around the Well. Ellen and Francis are regarded as two of the most notable UK August storms of the last 50 years (Met Office, 2021b). A gentle to fresh northwester on the 28th finally calmed the tempestuous sea, with the last two days of August being flat calm, sunny and warm.

September began unsettled, with westerlies logged on all but one date between the 3rd and 16th, rain on three of these days and a thick mist between the 8th and 9th and the 15th and 16th. The second half of the month was generally calm and dry, with some precipitation experienced on 50% of days

and the wind rarely exceeding a moderate breeze; the two exceptions were a gale force northwester late on the 24th, which produced gusts of up to 75mph and which continued into the 25th, and a southwesterly gale on the 30th which produced gusts of up to 58mph (both periods saw heavy rain). Diurnal temperatures were warmer than average on 53% of September days, with a ridge of high pressure edging in from the south on the 14th and 15th bringing highs of 22.3°C and 20.1°C.

It was the third dullest October in Wales since recording began in 1919 (Met Office, 2021). On Skokholm the wind blew from the westerly quarter on all but one date between the 1st and 13th, after which easterlies dominated for eight days. A northeasterly gale on the 2nd backed to the northwest on the 3rd and escalated to a storm by the 4th, bringing gusts of up to 85mph. Rough sea conditions subsided on the 7th, with a moderate westerly allowing for a boat to collect the remaining researchers. A period of strong southwesterly breezes or near gales followed, before the swing to easterlies and a severe southeasterly gale on the 20th which saw gusts of 63mph. The wind speed averaged just 11mph on the 21st and 13mph on the 22nd, however this respite was short lived; southwesterly gusts of up to 60mph battered Skokholm on the 24th. The remainder of the month was wild, with near gale and gale force winds a regular feature. Sea conditions were rough or very rough on 14 days in October and rain fell on 23 dates, this being heavy or torrential on 42% of dates and including exceptionally wet days on the 13th, 20th, 24th and 27th. Temperatures were typical for October, averaging 11.7°C and with a peak of 14.9°C on the 20th.

The wild conditions continued into November, with a severe southwesterly gale on the 1st producing gusts of up to 68mph, these increasing to 75mph the following day. The sea remained very rough until the 3rd, after which it was calmed by gentle northerlies. Five days of moderate easterlies followed, this giving way to a further brisk period dominated by winds from the south and west. Gusts peaked at 60mph on the 11th, 72mph on the 15th, 63mph on the 16th, 73mph on the 18th and 71mph on the 19th, indeed near gale or gale force conditions were logged on half of November dates. Showers or heavy rain fell on 22 days in November, with overcast conditions resulting in mild temperatures which averaged 10.6°C (a maximum of 15.0°C was logged on the 1st). Although December began with a light northwesterly and a calm sea, moderate to strong northwesterlies soon returned, bringing with them brief heavy showers, some rain and overnight gusts of 71mph on the 4th and 75mph on the 5th. A warm and sunny day was enjoyed on the 6th, with a gentle northerly veering to a northeasterly breeze. Choppy sea conditions, which had only escalated to moderate during the brief northerly blow, calmed considerably and remained so on the 7th when we departed the Island in a light northeasterly.

The Elbcarrier Container Loss

During rough weather on the night of 8th December 2019, cargo vessel Elbcarrier, en-route from Rotterdam to Dublin, lost 12 containers overboard at position 051°41’40”N, 005°50’90”W (roughly

20 miles to our west). Some of the contents of the lost containers washed up on several beaches around the Pembrokeshire coast, including those of Skomer Island, prompting the concern that rodents from the vessel may also have reached the shore; this very real biosecurity issue compelled the insurers of the Elbcarrier to fund rodent monitoring stations. On 22nd January, two WTSWW staff members visited the Island to deploy 11 rodent bait stations, each with between two and four cocoa wax blocks inside. Details of their locations are listed in the table below.

Bait Station	Location	Grid Reference	Bait Station	Location	Grid Reference
1	South Haven	SM7414505146	**7**	Quarry North	SM7286904738
2	Outside Eclipse	SM7387805135	**8**	Quarry South	SM7292404704
3	Obs Compost Bins	SM7385805177	**9**	Lighthouse Wall	SM7292604580
4	Howard's End	SM7340905325	**10**	Lighthouse Compost	SM7294804583
5	Wallsend	SM7316904914	**11**	Crab Bay Hide	SM7390004769
6	Warden's Rest	SM7291204839			

A second visit was made on 6th February to collect the wax chew blocks for analysis. It was evident that only members of the resident House Mouse population had visited the stations, although a decision was made to leave the structures in place for future monitoring.

Spring Migration Highlights

An adult **Whimbrel** encountered on three occasions between 16th March and 5th April had almost certainly overwintered. A **Red Kite** on 22nd March was the first in an unprecedented sequence of records; nine spring bird-days was two more than had been logged since recording began and included the first ever May sighting. A male **Firecrest** on the 25th and another single on the 31st were the first March birds since 2006. A **Coal Tit** seen briefly on the 28th was the first spring bird since 1992. Although this was the fourth consecutive year with a record, a **Hooded Crow** on 8th April was just the 24th spring bird-day. An **Osprey** on the 11th was the seventh to be noted in spring, whilst a *P. c. tristis* **Chiffchaff** on the same date became the second spring bird to be confirmed using mitochondrial DNA analysis. A male **Ruff** present between the 16th and 20th was the first April bird since 1995. A male **Marsh Harrier** on the 21st was perhaps the bird seen the following day; the all-time spring bird-days total now stands at 27. A **Curlew Sandpiper** found on 5th May remained for four further days; although the third bird in six years, this was the first spring sighting since 1990.

A female **Western Subalpine Warbler** trapped on 8th May was confirmed as the first for Skokholm using mitochondrial DNA analysis on a dropped feather. If accepted by the British Birds Rarities Committee, a male **Eastern Subalpine Warbler** present in Crab Bay the following afternoon will be the fourth for Skokholm (there have also been 13 previous 'Subalpine' Warblers not currently attributable to species). A blue-headed *M. f. flava* **Yellow Wagtail** on the same date was the 17th spring male for the Island, whilst a **Hobby** was the first of three spring birds and made this the 16th year with a record. A **Turtle Dove**, also on 9th May, along with another present between the 26th and 28th, took the post-2006 bird-days total to just 23. A stunning male *L. s. svecica* **Bluethroat** on 20th May was the 14th for Skokholm and the 22nd for Pembrokeshire. May finished with a **Sanderling** on the 30th, this the 40th Island record, and a **Pectoral Sandpiper** on the 31st which was the sixth to be seen in spring.

A **Knot** on the 7th was the second June record for Skokholm, with three together in 2018 the only other sighting in this month. A female **Rose-coloured Starling** present on the 21st was the fifth to grace our shores, all but one of which have been logged in June. A **Greenish Warbler** found in the Courtyard two days later was the eighth Island record and the second in two years. A **Little Egret** on the 24th was the first of four 2020 singles, this taking the total number of Island records to 32 (which includes daycounts of up to eight). If accepted as such by the British Birds Rarities Committee, the spring **Western Subalpine Warbler** will take the Skokholm list to 300 species.

The Breeding Season

There were again record counts of **Guillemot** and **Razorbill** on suitable breeding ledges, whilst the April **Puffin** count was the highest since 1953. It was a poor year for ducks, with a single brood of **Mallard** the only youngsters seen. A single pair of **Peregrine** failed for a third consecutive year. **Dunnock** bred for the first time since 2012. **Water Rail**, **Shag**, **Short-eared Owl**, **Chiffchaff**, **Reed Warbler** and **Whitethroat** did not breed.

A summary of the status of seabirds breeding on Skokholm in 2020. 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 (2019-2016 in parenthesis)	Productivity (2019-2016 in parenthesis)
Great Black-backed Gull	**Whole Island population:** not to drop below the 2015-2019 mean of 90	
Population / Productivity	**Productivity:** 3 in any 5 consecutive years with less than 1.10 chicks per breeding pair	
	83 nests (86, 93, 93, 93)	1.40 (1.43, 1.40, 1.54, 1.38)
Herring Gull	**Whole Island population:** not to drop below the 2015-2019 mean of 307	
Population / Productivity	**Productivity:** 3 in any 5 consecutive years with less than 0.70 chicks per breeding pair	
	301 nests (301, 320, 302, 322)	0.33 (0.69, 0.73, 0.70, 0.86)
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	
	880 aia (1028, 1069, 1123, 1397)	0.12 (0.27, 0.63, 0.38, 0.23)
Guillemot	**Whole Island population:** not to drop below the 2015-2019 mean of 4112	
Population / Not set	**Productivity:** not monitored on Skokholm	
	5101 aol (4654, 4316, 4038, 3949)	- (0.55-0.61 in 2013)
Razorbill	**Whole Island population:** not to drop below the 2015-2019 mean of 2491	
Population / Productivity	**Productivity:** 3 in any 5 consecutive years with less than 0.80 chicks per breeding pair	
	3517 aol (2755, 2585, 2491, 2242)	0.56 (0.63, 0.69, 0.40, 0.39)
Puffin	**Whole Island population:** not to drop below the 2015-2019 mean of 7473	
Population / Productivity	**Productivity:** 3 in any 5 consecutive years with less than 0.74 chicks per breeding pair	
	8534 adults (7447, 8762, 7800, 6692)	0.78 (0.76, 0.75, 0.80, 0.73)
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	
	No census (89, 83, 89, 76 transect responses)	0.45 (0.74, 0.55, 0.50, 0.58)
Fulmar	**Whole Island population:** not to drop below the 2015-2019 mean of 200	
Population / Productivity	**Productivity:** 3 in any 5 consecutive years with less than 0.50 chicks per breeding pair	
	207 aos (198, 217, 213, 194)	0.51 (0.62, 0.49, 0.45, 0.57)
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	
	730 active sites in 8000m^2 (655, 739, 584, 588)	0.68 (0.72, 0.70, 0.80, 0.68)

A summary of breeding birds on Skokholm in 2020. Productivity is the average number of fledglings produced by each breeding pair ('-' indicates insufficient data).

	Total (2019-2015 in parenthesis)	Productivity (2019-2015 in parenthesis)
Canada Goose	3 pairs (2, 4, 7, 7, 10)	0 (0, 0, 0, 0, 0)
Shelduck	0 pairs produced ducklings (3, 1, 2, 2, 1)	0 (0, 0, -, 0, 0)
Shoveler	0 pairs produced ducklings (0, 1, 1, 0, 1)	0 (0, 0, 0, 0, 0)
Mallard	1 pair produced ducklings (5, 6, 4, 3, 2)	0 (0, 0, 0, 0, 0)
Water Rail	0 territories (0, 1, 0, 0, 0)	0 (0, 0, 0, 0, 0)

Moorhen	3 pairs (3, 2, 3, 3, 3)	3.33 (2.00, 3.50, 2.67, 2.67, 2.33)
Oystercatcher	54 pairs (53, 52, 61, 54, 55)	0.70 (0.47, 1.62, 0.57, 0.82, 0.36)
Buzzard	1 pair (1, 1, 1, 1, 1)	2 (3, 1, 1, 1, 2)
Short-eared Owl	0 pairs (0, 0, 1, 0, 0)	0 (0, 0, 2+, 0, 0)
Peregrine	1 pair (1, 1, 2, 2, 1)	0 (0, 0, 0.5, 0.5, 0)
Chough	3 pairs (2, 2, 2, 2, 2)	2.00 (2.50, 1.00, 4.00, 2.50, 1.00)
Jackdaw	25 pairs (22, 22, 20, 20, 20)	- (-, -, -, -, -)
Crow	9 pairs (10, 10, 9, 9, 8)	1.33 (0.70, 0.60, 1.11, 1.78, 1.88)
Raven	2 pairs (2, 2, 2, 2, 2)	2.50 (2.50, 4.00, 4.00, 3.00, 4.50)
Skylark	14 territorial males (14, 19, 21, 16, 12)	- (-, -, -, -, -)
Swallow	5 pairs (5, 4, 4, 4, 6)	2.40 (3.20, 4.00, 3.25, 5.75, 2.50)
Chiffchaff	0 pairs (0, 2, 1, 0, 1)	0 (0, 0, 0, 0, 1)
Sedge Warbler	15 territorial males (15, 15, 13, 11, 7)	- (-, -, -, -, -)
Reed Warbler	0 territorial males (0, 0, 1, 1, 0)	0 (0, 0, 0, 3, 0)
Whitethroat	0 pairs (1, 0, 0, 0, 0)	0 (2, 0, 0, 0, 0)
Wren	72 territorial males (69, 63, 58, 60, 52)	- (-, -, -, -, -)
Blackbird	7 pairs (6, 6, 6, 7, 7)	3.57 (3.67, 3.33, 2.83, 2.29, 1.29)
Wheatear	23 pairs (23, 18, 25, 20, 16)	1.96 (3.70, 3.89, 2.12, 2.65, 4.00)
Dunnock	1 pair (0, 0, 0, 0, 0)	3 (0, 0, 0, 0, 0)
Pied Wagtail	7 pairs (5, 5, 5, 4, 3)	1.71 (5.20, 3.60, 3.60, 5.25, 4.33)
Meadow Pipit	38 territorial males (33, 40, 40, 50, 30)	- (-, -, -, -, -)
Rock Pipit	49 territorial males (49, 41, 61, 53, 44)	- (-, -, -, -, -)
Reed Bunting	5 pairs (3, 4, 7, 7, 7)	0.60 (0.67, 2.50, 1.86, 1.43, 2.00)

Autumn Migration Highlights

A **Wood Sandpiper** on the evening of the 20th was the sixth to be recorded in July and made this the seventh consecutive year with a sighting. A **Sooty Shearwater** on the 31st was the 24th July bird-day and the first of five logged this year. A juvenile **Wood Warbler** on 6th August was the first since one present on the same date in 2003. A first-winter **Citrine Wagtail** found during the afternoon of 27th August was a long overdue first for Skokholm and second for Pembrokeshire. An adult **Sabine's Gull** on the 30th made this the tenth year with a record. A juvenile **Osprey** on 1st September was the 18th Island record and a **Melodious Warbler** the following day was the first since one found on the same date in 2018. An impressive run of **Roseate Tern** sightings saw four on the 3rd, six on the 4th and one

on the 5th; there had been records in eight previous years since 1963 (although this species probably bred in the 19th century). A different **Melodious Warbler** was present between the 10th and 19th. A juvenile **Sanderling** on 12th September was the 41st record and 80th bird-day, whilst a juvenile **Pectoral Sandpiper** on the 15th was at least the 20th record and 89th bird-day. The 16th became only the 11th day with a **Mute Swan** sighting. Three **Red-breasted Merganser** on the 18th was the 18th Skokholm record and a **Lapland Bunting** on the same date was the first of seven 2020 bird-days. Two **Tufted Duck** heading west off South Haven on the 26th was just the 15th record but the fourth in four years. A **Stock Dove** on the same date was the first September sighting since 1985. Three **Balearic Shearwater** on the 28th were the only individuals to be seen this year. A **Little Bunting** the following day was the third for Skokholm and eighth for Pembrokeshire.

A vocal southbound **Dotterel** on 1st October was a 12th autumn record for the Island. A juvenile **Pomarine Skua** on the 3rd was the 38th to be seen here, whilst two Greenland **White-fronted Goose** on the 13th was the 24th record. The following day saw a first-winter **Little Gull**, this the first of seven autumn bird-days, and a first-winter **Blue Tit**, this just the second since 2011. A female **Great Spotted Woodpecker** on the 15th was the fifth for Skokholm and a **Great White Egret** at dusk on the same date was only the second. A **Cetti's Warbler** present between 17th October and 2nd November was the third for Skokholm and the first since 1987. A **Yellow-browed Warbler** on the 18th was the last of six autumn birds, this a new high (up on the five of 2016). A **Goldeneye** at North Pond on the morning of the 21st was a sixth Skokholm record and an adult **Whooper Swan** at the same site on the 23rd and 24th was an 11th. An **Upland Sandpiper** present between Twinlet and North Pond on the last day of the month was the fourth for Wales and second for Skokholm (following one photographed on 18th October 1960). A **Snow Bunting** on 4th November was the first of five bird-days and a **Mistle Thrush** on the 13th was the first since 2016. A first-winter **Glaucous Gull** in Broad Sound on the 18th was the first since 2004 and just the sixth individual to be seen here. Two pale-bellied **Brent Goose** headed east off the Lighthouse on the 19th; there had been four previous autumn records. The same **Glaucous Gull** roosted at North Pond the following day. A **Little Egret** on 1st December was the first to be seen in this month.

If accepted as such by the Welsh Birds Rarities Committee, the autumn **Citrine Wagtail** will take the Skokholm list to 301 species. If all of the 2020 British Birds Rarities Committee and Welsh Birds

Rarities Committee descriptions are found to be acceptable, the species list for the year will stand at 165; the only higher annual total is the 166 of 2017.

Skokholm Bird Observatory

Ringing Projects

Colour ringing birds allows us to recognise individuals without the need to retrap them; these projects typically generate more regular insights into survival and movements than those using only conventional metal rings. Skokholm Bird Observatory has focussed its attention on such worthwhile studies. The Great Black-backed Gull colour ringing project, established in 2014, continued for a seventh year; whilst the previous six years have seen us target both breeding adults and their fledglings, a COVID-19 dictated reduction in staff time meant that only fledglings were marked in 2020 (by the end of this year, 357 birds had been fitted with red darvic rings inscribed with unique white alpha-numeric codes). In 2015 we joined an Oystercatcher colour ringing project run by the Pembrokeshire Ringing Group and funded by the Crown Estate, although time constraints meant that no adults were captured on the nest for a second year. A 2017 project monitoring Herring Gull survival was paused, partly due to a lack of personnel but also to confirm that trapping adults away from the nest site is a more appropriate technique (see the Herring Gull species account for details).

Sadly, again due to COVID-19, the exciting long-term Wheatear project, designed and implemented by visiting ringer Ian Beggs since 2017, could not continue this year; the National Lockdown and subsequent restrictions prohibited Ian from visiting during the Wheatear breeding season. During the previous three years, 57 breeding adults and 165 of 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 with those made by Peter Conder between 1947 and 1952, work which was included 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. Whilst no darvic rings were fitted this year, efforts were made to read as many colour rings as possible; inevitably the core seabird monitoring took priority, this limiting the time available for staking out marked birds, however 37 adults were identified as having returned from their sub-Saharan wintering grounds. It is sincerely hoped that restrictions will have eased sufficiently by next spring to allow us to once more accommodate Ian and enable him to continue collecting this valuable data.

Visiting Ringers

During its first incarnation between 1933 and 1976, Skokholm Bird Observatory was famous as a site for visiting ringers to stay and contribute to ongoing research. It was a tradition which we were keen to continue; between 2013 and 2019 we welcomed a total of 298 visiting ringers who assisted with our monitoring work and provided additional coverage 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 Shearwater and Storm Petrel (these being species which most ringers rarely have the privilege of encountering on their own patch and which we are particularly interested in monitoring). Due to the COVID-19 imposed Island closure and national travel restrictions, we were unable to welcome ringers this year. Fortunately we were able to accommodate Skokholm Ringing Group Committee members Wendy James and Richard Dobbins from 7th September to 7th October; whilst the purpose of their visit was to assist with planning for a COVID-secure 2021 season, they were also able to partake in daily ringing and migration monitoring (support which was gratefully received).

Birds Ringed in 2020

A total of 4442 birds of 68 species were caught and processed or resighted this season; this was 38% down on last year and 35% down on the 2013-2019 mean (6818.00 ±sd 1440.02), unsurprisingly so given the lack of additional ringers. Seabirds comprised 39% of new birds ringed (the 2013-2019 mean is 52%, with a high of 60% in 2013 and a low of 44% in 2017) and Manx Shearwater accounted for 59% of these and 23% of the overall total (the 2013-2019 mean is 34%, with a high of 45% in 2013 and a low of 27% in 2015 and 2017). Seabirds made up 50% of the retrap total (birds caught or resighted which had previously been ringed on Skokholm) and Manx Shearwater accounted for 81% of seabird retraps and 41% of retraps overall (the 2013-2019 mean is 44%, with a high of 57% in 2014 and a low of 33% in 2013). A reduction in ringing effort inevitably resulted in a lower number of controls (birds caught or resighted which had been ringed elsewhere); although there were 17 fewer than in 2019, the proportion of the total number of birds processed made up of controls was higher (0.86%, this 27% up on a seven year mean of 0.68% ±sd 0.12). Seabirds contributed 68% of the total number of controls, whilst Storm Petrel were responsible for 62% of these and 42% overall.

The total number of New Birds, Retraps and Controls processed between 2012 and 2020, along with the number of different species handled.

	Total Birds Processed	New Birds (full grown)	New Birds (pullus)	Retraps	Controls	Species processed
2020	4442	2994	229	1181	38	68
2019	7170	4964	298	1853	55	58
2018	8417	6123	325	1905	64	71
2017	6030	4285	295	1411	39	69
2016	5979	4263	274	1394	48	58
2015	7245	5367	270	1563	45	67
2014	8439	5785	313	2303	38	59
2013	4446	3436	297	680	33	65
2012	697	648	2	46	1	25
Total	**52,865**	**37,865**	**2303**	**12,336**	**361**	**112**

There were ten passerines encountered wearing rings from elsewhere (ten in 2019, 14 in 2018, ten in 2017, 14 in 2016, ten in 2015, seven in 2014 and six in 2013). Given the lack of visiting ringers and the reduction in ringing effort, the diversity of species handled was exceptional; a total of 68 species was the third highest of the last eight years and four more than the seven year mean. **Great Skua**, **Chough**, **Cetti's Warbler**, **Wood Warbler**, **Western Subalpine Warbler** and **Little Bunting** took the total number of species ringed on Skokholm since 2012 to 112 (Great Skua, Cetti's Warbler, Western Subalpine Warbler and Little Bunting were also additions to the Skokholm ringing list).

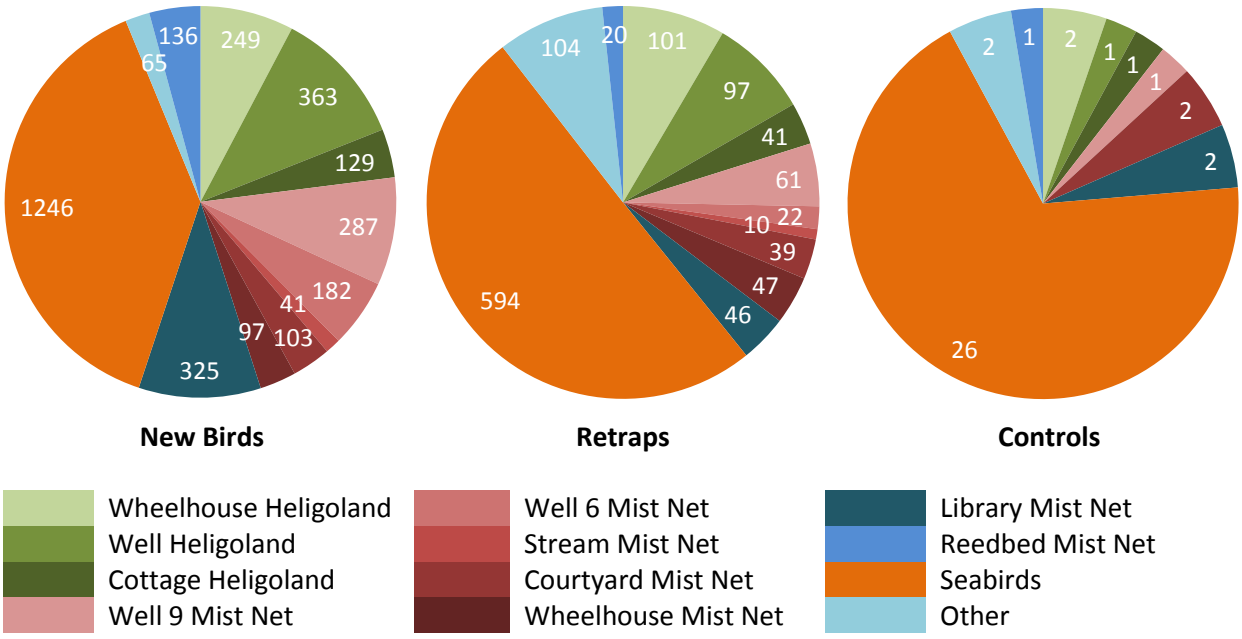
Details of each control, of the more interesting retraps and of where Skokholm ringed birds have been found, are given within the Systematic List of Birds, as is the total number of each species ringed between 1933 and 1976 and between 2011 and 2020.

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: the six

metre Well 6, the nine metre Well 9 (with a six metre extension), the nine metre Stream Net (a new site in 2015) and the nine metre Reedbed Net (a new site in autumn 2018). A sixth net, the six metre Ram Net, was situated just above the hydraulic ram in Billy's Dyke this autumn. Around the Farm there are a further four permanent nets: the six metre Courtyard Net, the nine metre Wheelhouse Net and the nine metre Library Net (the latter of which was extended with a nine metre net in the autumn of 2017). A six metre Pond Net was erected to the east of North Pond this autumn. The 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 Shearwater were trapped in study burrows, but also by hand along the Manx Shearwater Transect and the North Coast after dark. Adult Storm Petrel were mist netted in South Haven using a tape lure to attract the birds towards the net.

The number of new birds, retraps and controls trapped during 2020 and the proportion made up of seabirds, birds trapped in each Heligoland and birds from each permanent mist netting site.



The Heligoland traps produced 741 new birds, 37% of the new non-seabird total; an average of 1062 new birds were taken from Heligolands in each year between 2013 and 2019 (with a high of 1426 in 2014 and a low of 813 in 2013), which accounted for between 29% (in 2018) and 70% (in 2013) of the new non-seabird total (averaging 47%). There were 239 retraps, this down on a 2013-2019 mean of 372 (there was a high of 501 in 2018 and a low of 242 in 2013) and four controls, this close to a 2013-2019 mean of 4.6 (there was a high of seven in 2016 and 2018 and a low of one in 2015). The Well, for an eighth consecutive season, proved the most productive of the three Heligolands for new birds, providing 49% of the total (it provided a high of 57% in 2013, a low of 42% in 2017 and 2019 and a 2013-2019 mean of 48%). The Cottage Heligoland once again caught the fewest, contributing 17% of the new birds total (it provided a high of 27% in 2019, a low of 11% in 2014 and a 2013-2019 mean of 17%). The proportion of birds caught in each trap is unsurprisingly rather 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. **Willow Warbler** was again the most commonly encountered species, with 206 new birds from the three traps (there were 270 in 2019 and 288 in 2018). **Blackcap** was the second most regularly trapped, with 145 new birds (there were 134 in 2019 and 114 in 2018) and **Chiffchaff** the third, with 85 new birds (there were 200 in 2019 and 188 in 2018). Whilst these have been the three most common species in the traps since 2013, the order of abundance has changed, with this year seeing Blackcap outnumber Chiffchaff for the first time.

Highlights from the Well Heligoland included two **Moorhen**, a **Blue Tit**, a **Yellow-browed Warbler**, three **Reed Warbler**, five **Redwing**, six **Spotted Flycatcher**, a **Bluethroat**, a **Pied Flycatcher**, a **Redstart**, three **Stonechat**, a **Wheatear**, a **Greenfinch** and a **Lesser Redpoll**. Highlights from the Wheelhouse Heligoland included a **Collared Dove**, a **Yellow-browed Warbler**, a **Lesser Whitethroat**, a **Firecrest**, four **Redwing**, six **Spotted Flycatcher**, five **Pied Flycatcher**, two **Black Redstart**, two **Redstart**, four **Stonechat** and a **Siskin**. Although it catches fewer individuals, the Cottage Heligoland again provided some exciting birds; these included a **Cuckoo**, a **Yellow-browed Warbler**, a **Greenish Warbler**, four **Spotted Flycatcher**, a **Black Redstart**, three **Redstart** and four **Wheatear**.

This year we began to record the amount of effort put into pushing the Heligoland traps. A visit to a single trap was logged as one 'push', with a full circuit of the traps equating to three pushes. A total of 4173 Heligoland trap pushes was recorded this season.

The number of Heligoland trap pushes recorded during each month of 2020, the total number of new and retrap birds taken during those pushes and the average number trapped per push.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Pushes	165	638	519	397	319	460	685	505	424	61
New Birds	25	224	82	55	64	57	92	88	47	7
Retrap Birds	15	27	19	17	16	15	55	49	22	8
Avg. No. of Birds per Push	0.24	0.39	0.19	0.18	0.25	0.16	0.21	0.27	0.16	0.25

The permanent mist nets produced 1194 new birds (the 2013-2019 mean is 1255, with a high of 1925 in 2018 and a low of 556 in 2013), 266 retraps (the 2013-2019 mean is 344, with a high of 489 in 2018 and a low of 155 in 2013) and six controls (the 2013-2019 mean is 5.1, with a high of seven in 2015, 2016 and 2018 and a low of two in 2014). As has been the case for the past five years, the nets around the Well provided the majority of birds, with the Well 9 and Well 6 nets catching 39% of new birds (these three nets produced 33% of new birds in 2019, 47% in 2018 and 49% in 2017). However it was once again the Library Net which proved the single most productive site, catching 27% of new birds (thus contributing the same proportion of the overall total as in 2019). The least fruitful was the Stream Net, catching just 3% (the Courtyard Net caught the fewest new birds in 2019 (6%), whilst in 2018 it was the Wheelhouse Net with 9%); the poor Stream Net total was perhaps due in part to its more exposed location (there were frequent easterly winds during both the spring and

autumn migration periods, this net only being sheltered from the west), whilst exposure causes the netting to bleach more quickly (rendering it more obvious when open). **Willow Warbler** was the most commonly trapped species in the Well nets, with 162 new birds, whilst **Swallow** and **Chiffchaff** were the second and third most abundant with 154 and 63 respectively (the Swallows were, in the most part, tape lured). **Meadow Pipit** was again the most commonly trapped species around the Farm, with 152 new birds, this also in part due to the use of a tape lure during the autumn. **Willow Warbler** and **Swallow** were the second and third most frequently encountered, with 111 and 58 respectively (the latter also encouraged with a tape). Highlights from the Well mist nets included a **Sand Martin**, a **House Martin**, a **Cetti's Warbler**, a **Wood Warbler**, a **Yellow-browed Warbler**, a **Reed Warbler**, a **Garden Warbler**, a **Western Subalpine Warbler**, a **Firecrest**, a **Fieldfare**, eight **Spotted Flycatcher**, three **Pied Flycatcher**, five **Stonechat** and a **Grey Wagtail**. Around the Farm the mist nets produced a **Chough**, a **Melodious Warbler**, a **Grasshopper Warbler**, two **Garden Warbler**, four **Pied Flycatcher**, six **Stonechat**, a **Whinchat**, a **Wheatear**, three **Lesser Redpoll** and a **Siskin**.

The Pond Net and Ram Net were erected in late autumn and are thus not included in the above analysis (they are attributed to the 'Other' category in the charts above). The Pond Net contributed just ten new birds to the total, with a **Little Bunting** being the obvious highlight. Also in the 'Other' category are birds taken using baited traps, such as walk-in and spring traps. A walk-in trap on North Pond produced a **Lapland Bunting**, whilst a baited spring trap on North Plain caught a **Great Skua**.

Arrival and Departure Dates

The first arrival and latest departure dates of 2020 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. This year saw three records of a species outside of its period of previous occurrence, this four fewer than last year and the same number as in 2018. This year they were of an **Arctic Skua** on 15th November (the previous latest record was logged on 26th October in 1967), a **Yellow-browed Warbler** on 18th September (five days earlier than one in 2015) and a lingering adult **Willow Warbler** last seen on 10th November (one trapped on 31st October 1954 held the record up until this year). The following species were recorded close to their Skokholm limits: a **Barnacle Goose** on 15th October (earliest on 8th October 1987), two **White-fronted Goose** on 13th October (earliest on 12th October 1971), a **Swift** on 22nd April (earliest on 15th April 1991), an **Osprey** on 11th April (earliest on 2nd April 2012), four **Sand Martin** on 17th March (earliest on 8th March 2000), two **House Martin** on 22nd October (latest on 29th October 1975), a lingering **Chiffchaff** on 6th December (latest on 14th December 2000, although birds may well be going unrecorded during

the winter months), a **Sedge Warbler** on 11th April (earliest on 6th April in 1961 and 2005), lone **Reed Warbler** on 25th April (earliest on 17th April 2015) and 21st October (latest on 30th October 1997), a **Blackcap** on 19th March (earliest on 9th March 1997), three **Redwing** on 28th September (earliest on 20th September 2001) and three **White Wagtail** on 20th March (earliest on 11th March 1997).

2019 Rarity Decisions

A second-summer **Laughing Gull** present on both the 10th and 26th June was accepted by the British Birds Rarities Committee as the first for Skokholm (photographs taken on each date showed the pattern of black in the retained primary coverts to be identical). A juvenile **Red-eyed Vireo** found in the Courtyard, late on the afternoon of 12th October, was accepted as the second for Skokholm and third for Pembrokeshire. A first-winter drake **Ring-necked Duck** at North Pond on 20th November was accepted by the Welsh Birds Rarities Committee as the first male and second individual for Skokholm; it went on to winter in Pembrokeshire. A mobile **Stone-curlew** present on 16th June was also accepted, this the fifth to be seen on Skokholm and the seventh to be seen in Pembrokeshire. The second **American Golden Plover** for Skokholm, seen on each date between the 25th and 28th May, was also accepted as such. Three **Night-heron**, two adults and a juvenile, harassed by gulls on the afternoon of 30th May, were accepted as the first for the Island. A rather elusive juvenile **Red-backed Shrike**, present on the 6th and 7th September, becomes just the fourth 21st century record (it would appear that one in October 2004 was not submitted). A **Short-toed Lark**, found on Western Plain on 22nd June, remained until the 27th (although it was only seen on the first two and last two days of its stay). A **Greenish Warbler** in the Cottage Garden on 31st May becomes the seventh accepted record. Different first-winter **Red-breasted Flycatcher** trapped on the 14th and 22nd October were also accepted as such, taking the Skokholm total to 31 different individuals (ten of which have been logged since 2012). A juvenile **Common Rosefinch** seen intermittently between 23rd September and 1st October was accepted as the 26th for Skokholm. There were thus 155 species in 2019, a tally which equalled that of 1968 and 1991 as the fifth highest to date.

The acceptance of **Laughing Gull** and **Night-heron** by the relevant rarities committees, along with a **Great Egret** on 5th July, takes the Skokholm list to 299 species. The November 2018 description of the first **Pallid Swift** for Skokholm was short-listed by the British Birds Rarities Committee for The Carl Zeiss Award 2020 (given in recognition of 'exceptional rarity submissions').

Research Projects

The Skokholm House Mouse Study

In 2019 a team from Oxford University, led by Dr Sarah Knowles, re-established a longitudinal study of the Skokholm House Mouse, building on the intensive works carried out by R J Berry in the 1960s and 1970s (see the Introduction of the Annual Report 2019 for further information). COVID-19 restrictions prevented any research visits this spring, but PhD student Eveliina Hanski was able to return to Skokholm in August to continue collecting data. She was joined by field assistants Billy Dykes and Olivia Pargeter, both previous Skokholm Long-term Volunteers. What follows is a short summary of their visit, as provided by Eveliina:

The year 2020 was challenging for the House Mouse gut microbiome team, with the spring and early summer field trips having to be cancelled due to COVID-19. The biggest downside of this cancellation was that overwinter survival data was lost; one of our research questions focusses on what might help some mice to survive the winter, while most others die (mice have a short lifespan, even the ones that survive the winter will die during the spring or early summer). We did however manage to collect a substantial amount of data during our August trip. Over the course of six weeks, a total of 109 new individuals were trapped and tagged, with all of the faeces deposited in the traps being stored for analysis. The total number of captured mice was much lower than taken during the same period in 2019; it is unclear why 2020 was a comparatively quiet mouse year, but perhaps the lack of visitors had an impact. Importantly, many very young individuals were sampled, this allowing us to study the gut microbiome in early life. Additionally 19 base stations were installed across our two trapping sites, these being capable of detecting any tagged mice nearby (the data stored through the winter will provide information on movements and survival).

Lockdown Projects

A National Lockdown, along with various COVID-19 related restrictions imposed during the year, prevented mainland life from continuing as normal for most people. It provided Skokholm Bird Observatory Committee members Wendy James and Richard Dobbins with a unique opportunity, some spare time with which to investigate the historical Skokholm data. Wendy, together with her husband Dyfed, spent over 60 hours digitising paper versions of the Skokholm Annual Reports. Each page of every report, from 1936 to 2007, was scanned before photographic software was used to straighten the image, clean the page and sharpen the text. The pages were then resized and each

report was collated and converted into a PDF. As a result of this remarkable effort, we now have a quickly searchable collection of all of the Skokholm Reports (the only missing years are 2004 and 2012 as reports were not produced). These are particularly useful when viewed in conjunction with the digitised Birdlog, the text providing additional detail on the records along with an account of research projects and breeding bird surveys. Meanwhile Richard Dobbins used the newly digitised Annual Reports to collate the ringing totals included for each year between 1927 and 1976. This was the first such review since Thompson (2007) and flagged up some discrepancies. We were incredibly pleased to see these two excellent projects completed in such a thorough manner; the results are already proving invaluable in the writing of the latest Annual Report.

Bird Observatory Fundraising and Donations

The Ticks Jar is a Bird Observatory tradition which we brought here in 2013; birders and ringers are encouraged to make a small donation if they see or ring a new species during their stay. Between 2013 and 2019 a fantastic £2121.94 was raised, however a lack of guests meant that the jar remained empty this year. Over the years, takings from the Ticks Jar have funded a wide range of items, from scientific equipment to interior furnishings and artwork. The proceeds from 2019 were set aside to allow Maria Lewis of Puffit-up Upholstery to rejuvenate a tired old armchair, however, in light of the current circumstances, Maria has kindly decided to donate her work to Skokholm. We cannot thank Maria enough, along with Stu who transported this generous gift to Pembrokeshire. Skokholm regular (and Spring 2019 Long-term Volunteer) Jenni Hood, began crafting bird ornaments from recycled materials during Lockdown, the sale of which raised £180 for the Island; this will be spent on recycled plastic sheeting to replace the delaminating plywood sections of the old moth trap, along with additional bulbs and holding pots. Skokholm Bird Observatory Merchandise has been extremely popular over the years, with all of the profits helping to fund the objectives of the Observatory; some of this money was used to sponsor the Storm Petrel section in the new edition of Birds of Wales (which seemed fitting as Skokholm hosts the largest colony in Wales of these remarkable seabirds). Reassuringly, we now have a defibrillator in the Library, this donated in memory of Roger Pickford.

Acknowledgements and Thanks

It was a year like no other, with major changes, disruptions or worse impacting the lives of almost everyone. However, despite these difficulties, the amount of support for both ourselves and the Island was again remarkable. We would first like to thank Wendy James and Richard Dobbins who, when restrictions were eased, volunteered on the Island between September and October. Not only did they provide much appreciated assistance with our autumn ringing and migration monitoring, but their backgrounds in medicine and logistics were instrumental in helping us with planning for a COVID-secure 2021 season. When they could not be on the Island, both were dedicating their Lockdown time to Skokholm digitisation projects. The Bird Observatory is extremely lucky to have such dedicated, knowledgeable and enthusiastic support.

Thank you to Gareth and John Reynolds, along with the Dale Sailing crews, who continued to visit the Island during a difficult and busy time, delivering supplies of food and equipment and once more allowing materials to be stored in their yard at Neyland. Dave Astins and Lisa Morgan very kindly shopped for, or took delivery of, our monthly grocery orders. We would also like to thank Dave and West Coast Birdwatching for allowing us to assist with Gannet colour ring resighting fieldwork on Grassholm Island; it was a privilege to be a part of several very exciting and memorable trips.

We must thank our colleagues at the Wildlife Trust of South and West Wales who take care of many behind-the-scenes tasks, jobs complicated massively by a global pandemic. In particular, we would like to acknowledge the support received from Mike Alexander, chair of the WTSWW Trustees,

whose regular phone calls and genuine interest in proceedings were greatly appreciated. We must also mention our appreciation of Chief Executive Sarah Kessel and our newly appointed Line Manager Lisa Morgan, who successfully acquired several grants to cover our running costs during a very difficult year. We would like to say a huge thank you to everyone who donated to the Skokholm COVID-19 Appeal, your generosity and support during difficult times has been gratefully received.

We must thank the staff at Natural Resources Wales for their advice and consents, the Bird Observatories Council who continue to support and publicise Skokholm Bird Observatory as part of the UK Bird Observatory network and the Islands Conservation Advisory Committee (ICAC) and Seabird Subgroup who continue to provide support and advice on relevant issues. Thank you to Professor Martin Collinson and his team at the University of Aberdeen for carrying out DNA analysis on feather samples obtained from migrant birds, including the first Western Subalpine Warbler for Skokholm. Pembrokeshire Moth Recorder Robin Taylor and 2014 Long-term Volunteer Billy Dykes again provided expert moth identification.

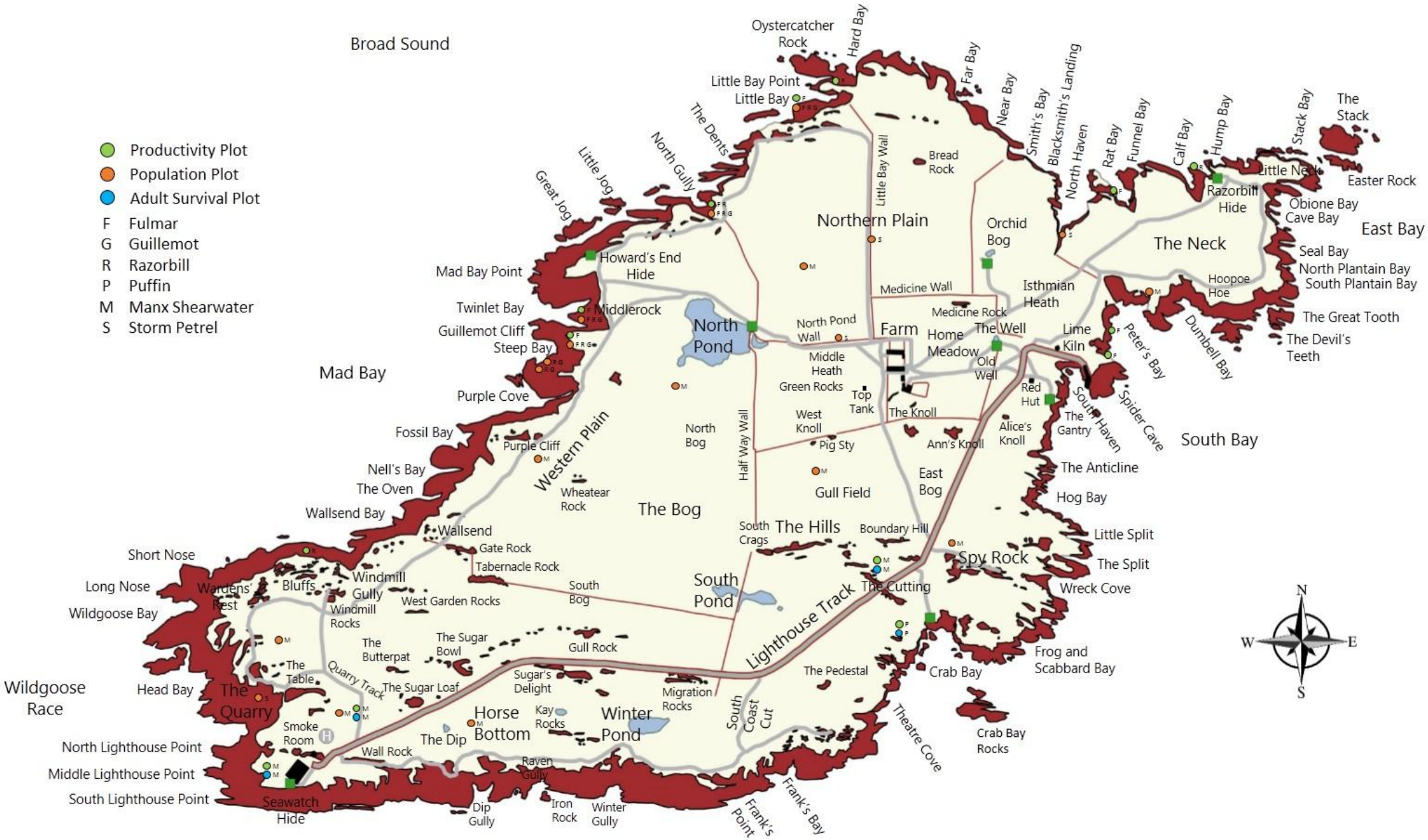
Much of the work carried out at the Observatory relies on researchers, birders and ringers, from all over western Europe, northwest Africa and the east coast of South America, who observe and submit sightings of Skokholm ringed birds; we are hugely appreciative. Thank you to all who spotted Great Black-backed Gull W:004 on the television programme 'Cornwall with Simon Reeve' and to the Beagle Media production team who managed to sharpen the footage in order to read the combination. We would specifically like to mention Jean-Yves Monnat, for the detailed information provided on the life histories of four French colour-marked Kittiwake found roosting on Skokholm (details of these can be found in the Systematic List of Birds).

Our heartfelt thanks go to Megan Gee, Alexandra Fink, Lizzie Larner, Katherine Hampton and Julia Haynes, five fantastic people who were lined up to be Skokholm Long-term Volunteers during the 2020 season. Sadly, due to COVID-19, we were unable to welcome them to the Island, something which was hugely frustrating and disappointing for all involved.

Although they could not get out this year, The Friends of Skokholm and Skomer continued to provide a huge amount of off-Island support. Work Party Chef Shirley Matthews produced a fantastic recipe book, 'Thyme & Tide', to raise funds for the Friends, monies which will be used to assist with Island projects. Steve and Anna Sutcliffe were once again amazing, supporting both ourselves and our visiting researchers in so many ways.

Although it remains to be seen how extensively we will all be allowed to travel and interact, we are working hard to find a way to welcome both regular and new guests, researchers and volunteers in 2021. Your support during 2020 was invaluable.

Richard and Giselle


Productivity Plot
Population Plot
Adult Survival Plot
F Fulmar
G Guillemot
R Razorbill
P Puffin
M Manx Shearwater
S Storm Petrel
Broad Sound
Oystercatcher Rock
Hard Bay
Little Bay Point
Little Bay
Far Bay
Near Bay
Smith's Bay
Blacksmith's Landing
North Haven
Rat Bay
Funnel Bay
Calf Bay
Hump Bay
Stack Bay
The Stack
Easter Rock
Little Neck
Razorbill Hide
Obione Bay
Cave Bay
East Bay
Seal Bay
North Plantain Bay
South Plantain Bay
The Great Tooth
The Devil's Teeth
The Dent's
North Gully
Little Jog
Great Jog
Little Bay Wall
Bread Rock
Northern Plain
Orchid Bog
The Neck
Howard's End Hide
Mad Bay Point
Twinlet Bay
Middlerock
Guillemot Cliff
Steep Bay
Mad Bay
Purple Cove
Fossil Bay
Nell's Bay
The Oven
Wallsend Bay
Short Nose
Long Nose
Wildgoose Bay
Wardens' Rest
Bluffs
Windmill Gully
Windmill Rocks
Wallsend
Gate Rock
Tabernacle Rock
West Garden Rocks
South Bog
North Pond
Medicine Wall
Isthmian Heath
Medicine Rock
North Pond Wall
Farm
Home Meadow
The Well
Old Well
Lime Kiln
Hoopoe Hoe
Peter's Bay
Dumbell Bay
Middle Heath
Green Rocks
Top Tank
The Knoll
West Knoll
Red Hut
South Haven
The Gantry
Spider Cave
South Bay
Alice's Knoll
Ann's Knoll
Pig Sty
Purple Cliff
Western Plain
North Bog
Half Way Wall
Wheatear Rock
The Bog
Gull Field
East Bog
The Anticline
Hog Bay
South Crags
The Hills
Boundary Hill
Little Split
Spy Rock
The Split
Wreck Cove
The Cutting
South Pond
Lighthouse Track
Frog and Scabbard Bay
Crab Bay
The Pedestal
Crab Bay Rocks
Theatre Cove
Frank's Bay
Frank's Point
Iron Rock
Winter Gully
Dip Gully
Raven Gully
Seawatch Hide
North Lighthouse Point
Middle Lighthouse Point
South Lighthouse Point
Wall Rock
Smoke Room
The Dip
Horse Bottom
Kay Rocks
Winter Pond
South Coast Cut
Migration Rocks
Sugar's Delight
The Sugar Loaf
Quarry Track
The Quarry
Head Bay
Wildgoose Race
The Table
The Butterpat
The Sugar Bowl
Gull Rock
N
W
E
S

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) but includes updates published in BOURC reports up to and including November 2020.

The Systematic List of Birds

Brent Goose *Branta bernicla* **Gwydd Ddu**
Rare only 11 spring and four autumn post-War records, although three long-stayers in spring
Earliest 9th September 2003 (19th November 2020) **Latest** 20th June 2015

Two pale-bellied *B. b. hrota*, which skirted east around the Lighthouse during the late afternoon of 19th November, were just the fifth autumn record for Skokholm (RDB, GE). Lockley mentions Brent Goose passing in the winter and notes a flock of 16 on 10th April 1936, however no Brents were recorded between 1937 and 1983 and only 16 records totalling 35 individuals have now been logged since (including 19 in the last six years); ten of the records have come in April. Given that the vast majority of Pembrokeshire Brent Goose sightings assigned to race each year have been *B. b. hrota*, the pale-bellied Greenland breeding subspecies, it is perhaps surprising that of the 12 Skokholm records where race has been determined, all but five have belonged to the dark-bellied nominate form of Arctic Russia. Lockley's April skein remains the largest on record, with ten *B. b. hrota* on 5th April last year being the only other double-figure count.

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

A rare January visit found just eight birds on the 22nd. The majority of spring sightings were again of those which would attempt to breed on Skokholm, indeed only ten March, April or May daycounts exceeded the six breeders. There were highs of 11 on 19th April, nine on the 19th and 26th March and of eight on three dates, these primarily counts of roosting birds which soon departed for the mainland; the peak spring daycount was the lowest since 2000 when a maximum of nine was logged. Three nesting pairs was one up on last year but otherwise the lowest total since at least 2003 and probably since 2000; this species colonised in 1999 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 at Green Heath on a very late 16th April; the first eggs between 2017 and 2019 were discovered on either the 24th or 26th March, whilst the 2015-2019 first egg mean is 28th March. A pair to the North of Orchid Bog was incubating five eggs on 26th April and

a pair near South Pond were found with three eggs four days later. Unusually, following the loss of their first clutches, none of the three pairs produced further eggs; this led to an unprecedentedly early departure from the Island, with two on 28th May the last spring record and no June sighting for the first time since 1997. Canada Goose productivity remains very poor, with a single fledgling in 2012 and no fledglings at all in the last eight years (by contrast there were 38 fledglings in 2006 and a minimum of 40 in 2007).

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

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
8	6	-	36	41	23	16	18	11	10	7	7	4	2	3

The only August sightings were of two which flew east along the north coast of the Neck on the 9th and of ten which roosted at North Plain on the night of the 27th; although the August bird-days total was the highest of the last three years, it was otherwise the lowest since at least 2009 and massively down on totals of 257 in 2012 and 606 in 2010. A small number of birds visited during September, with counts of up to three on eight dates between the 12th and 23rd and roosting groups of up to 13 on five subsequent dates taking the bird-days total to 50; although up on the eight of last year and the 34 of 2017, the tally was otherwise the lowest since at least 2009 and dwarfed by peaks of 809 in 2015, 1856 in 2012 and 865 in 2007. A late, typically post-sunset arrival to the North Pond roost and a very early departure inevitably lead to undercounting, however birds were still logged on 15 October dates, with highs of 38 on the 5th, 42 on the 15th and 45 on the 27th taking the bird-days total to 292; there have been higher daycounts in six previous Octobers, with peaks of 168 in 2015 and 149 in 2012, and higher bird-days totals in just four Octobers, with highs of 860 in 2015, 673 in 2012 and 743 in 2007. Records on ten November dates included groups of between 52 and 56 roosting at North Pond on five nights; the peak daycount was down on four of the last seven Novembers, including the 62 of last year and a high of 205 in 2016, whilst a bird-days total of 315 was down on three of the last seven, including highs of 767 in 2016 and 1133 in 2015. A minimum of two after dark on the 2nd was the first December record for Skokholm.

Barnacle Goose *Branta leucopsis* **Gwydd Wyran**
Rare Eight spring records of up to five birds and 14 autumn records of up to ten birds
Earliest 8th October 1987 (15th October 2020) **Latest** 2nd June 2018

A single joined the Canada Goose flock at dusk on 15th October; whereas recent years have seen the sporadic return of what are presumed to be the same individuals on different evenings, this was the only sighting in 2020. As with the majority, if not all, of the previous Skokholm birds, a feral origin would seem likely; there have now been annual sightings and at least seven records since 2015, this an increase in occurrence which mirrors the expanding feral population in Britain (the 2007-11 Atlas estimated 900 naturalised pairs and documented an 88% increase in the number of occupied 10km squares since the 1988-1991 Atlas (Balmer *et al*., 2008)). October continues to be the most likely month in which to encounter this species on the Island, with 11 sightings coming during this period.

White-fronted Goose *Anser albifrons* **Gwydd Dalcenwyn**
Rare Winter Visitor 23 previous records of between one and 40 birds
Earliest 12th October 1971 (13th October 2020) **Latest** 26th June 1992

Two, which arrived from the northeast, briefly grounded near North Pond and then departed back towards the northeast on the morning of 13th October, were the first since eight on 29th October 2017 (GE, RDB). Head and tail patterning showed both birds to be Greenland breeding *A. a. flavirostris*, the race typically encountered on Skokholm; there are only three Island records attributed to the nominate race, with a single between 28th April and 1st May 1990, two on 9th

November 2002 and a single on 18th May 2014. There have been just three spring records additional to those listed above, all of singles bar the 16 logged on 14th March and 12th April 2010. Of the 18 additional autumn sightings, 12 have now occurred in October, including an Island record of 40 on the 23rd in 1994.

Mute Swan *Cygnus olor* **Alarch Dof**
Vagrant three records between 1966 and 1993 and seven sightings of up to four in 2014 and 2015

A juvenile on the evening of 16th September, which flew northwest through the eastern reaches of Broad Sound before briefly coming to rest on the sea, was the first since an adult which visited North Pond in October 2015 (OP, BD). The first Island records were of an immature bird at North Pond on 18th May 1966, an adult on 14th October 1981 and of five north on 5th May 1993. A westbound first-winter on 28th September and a southbound adult on 12th October 2014 were perhaps part of the herd of four which flew north over the Farm and through Broad Sound on the 13th, whilst it is also plausible that one of these adults accounted for sightings of singles at North Pond on the 10th and 22nd March, 23rd April and 4th October 2015. The recent increase in sightings mirrors what has been observed on the mainland; the Pembrokeshire breeding population more than doubled between the 1984-88 and 2003-07 surveys, during which time birds began breeding in more estuarine locations (Rees *et al*., 2008). In recent years breeding has been noted in the area of the Gann Pill near Dale (just over 7km to our east), and in 2020 a pair bred on an irrigation pond close to that site (Astins, *pers*. *comm*.).

Whooper Swan *Cygnus cygnus* **Alarch y Gogledd**
Vagrant ten previous records, three of which occurred in spring

An adult, which arrived to North Pond on the afternoon of 23rd October and which was still present at 0830hrs the following morning, was almost certainly the same bird seen briefly on the Gann at 1115hrs on the 24th (RDB, GE). This was seemingly just the second time that a bird had spent the night on Skokholm following a group of three which lingered between the 17th and 19th May 1981. The majority of previous sightings have occurred in October, with two on the 25th in 1967, three on the 22nd and 29th in 1980, eight on the 5th in 1981, five on the 24th in 1987 and 18 on the 29th in 1988. The only other Skokholm records are of 47 west on 19th February 1956, six on 1st November 1981, a single on 13th November 1992 and of three on 12th May 1995; the former herd were originally identified as this species, later considered in a British Birds paper to be part of an eruption of Bewick's Swans and subsequently confirmed as Whooper Swans by the finder (leading to a correction in British Birds and the removal of the smaller species from Betts' 1992 Skokholm list).

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

Two birds arrived to Winter Pond on 18th March, two days after the return of staff. There followed daily sightings to 3rd June, usually of seven birds or less but with April highs of 11 on the 19th, ten on the 22nd, nine on the 14th and eight on three dates; the peak daycount was the highest since 12 were logged in June 2017 and the highest in April since the 14 of 2016. No more than four adults were seen on each date from 17th May and no chicks were seen for the first time since 2009 and for just the second time since breeding was first confirmed in 2006. Although it is tempting to suggest that a COVID-19 triggered reduction in observers may account for the lack of chick records, in reality they are invariably seen by Island staff. It may be that chicks were lost to the gulls prior to family parties reaching the ponds, although it may also have been the case that the ponds were not an attractive place to linger this year; North Pond was virtually empty on an exceptionally early 3rd June, this one day later than the 2013-2019 mean first chick observation date. This was a typically disappointing breeding season; although it is possible that the adults which swam their young towards St Ann's Head in 2016 managed to protect them through to fledging, only in 2011 did young definitely fledge from Skokholm. Four adults returned on 7th June, three went over the following day and up to two were logged on a further nine dates to the 25th.

A group of nine flying west off the Lighthouse at 0800hrs on 28th August was unusual; there have only been four previous August or September records, with one on the 19th and 11 on 29th August 1957, five juveniles south on 19th August 1958 and a lone juvenile on 12th September 1992. The only other record this year was of a male at North Pond on 2nd December; there was thus no November sighting for the first time since 2012 (a single on 11th November 2013 was only the ninth post-July record, however there were up to three present on nine dates in November 2014, up to six on nine dates in November 2015, three singles during October and November 2016, up to two on three dates during October and November 2017 and lone singles in the Novembers of 2018 and 2019).

Shoveler *Spatula clypeata* **Hwyaden Lydanbig**
Rare Breeder and Uncommon Visitor bred in 1988, 1993-1996, 1999, 2015, 2017 and 2018

The only breeding season records were of a pair at North Pond on the morning of 21st April and of a female at Orchid Bog on 20th June; this was a disappointing showing given that breeding had been confirmed in three years between 2015 and 2018 and strongly suspected last year. There were no further sightings until 8th November when a male and two females arrived to North Pond. A female was at the same site on the afternoon of the 15th and seven (four males and three females) were there on 27th November; the latter was the highest daycount since up to nine were seen in April

2017 and otherwise the highest since 18 were logged on 9th March 2013 (the only daycounts up on the 2013 peak were in November 1997 when 22 were present, April 1978 when up to 36 were present and in March 1969 when up to 28 were present). Although there have only been sightings in 11 previous Novembers, this has included six of the last seven.

Wigeon *Mareca penelope* **Chwiwell**
Uncommon Winter Visitor
Earliest 22nd August 1986 (3rd October 2020) **Latest** 29th May 2017 and 2018 (20th March 2020)
1936-1976: 1 trapped

The only spring sightings were of between three and five birds present at either North or South Pond on each date between the 17th and 20th March; a late return of staff meant that a spring bird-days total of 16 was well down on recent tallies of up to 127, however the only higher 21st century spring totals logged from 17th March are the 17 of 2018, the 29 of 2017 and the 19 of 2011. Three northeast through Broad Sound on 3rd October were the latest autumn arrival since 24 were logged on the 4th in 2016. A male over on the 4th, 12 through Broad Sound on the 11th and a pair on the 30th took the October bird-days total to 18; the peak count matched that of last year as the eighth highest to be recorded in October (down on highs of 30 in 1960 and 27 in 1993), whilst the total was the ninth highest (down on highs of 79 in 1960 and 41 in 2016). November sightings all came from North Pond where there was one on the 2nd, four on the 14th, six on the 17th, two on the 23rd and between five and 14 on each date between the 25th and 27th; the peak count matched that of 2016 as the sixth highest to date (down on highs of 34 in 1997 and 90 in 1991), whilst a bird-days total of 38 was only down on November tallies of 62 in 2016, 68 in 1997 and 137 in 1991.

Mallard *Anas platyrhynchos* **Hwyaden Wyllt**
Scarce Breeder and Fairly Common Visitor
1936-1976: 10 trapped, 2018: 1 trapped

Rare winter visits found 16 on 22nd January and 14 on 6th February; the former count was up on the January peak noted in 11 previous years and only down on highs of 30 logged in 1932 and 1935, whilst the latter was up on 22 previous years, matched the 2002 peak and was only down on counts of between 15 and 30 logged in 1932, 1939 and 1940. There were daily sightings between the return of staff on 16th March and 21st June, with highs of eight on 18th March and 23rd April and of seven on the 12th and 20th April, but otherwise with daycounts of no more than six and of no more than four from 21st May. The maximum spring daycount was down on the 12 of last year and was the lowest since 2012 (when numbers also peaked at eight), however a minimum of ten birds were present at some point during the period (with seven males logged on the 12th and 23rd April and three females logged on 27th March and 20th May). Females were seen at Orchid Bog and South Pond, and occasionally flushed from the vicinity of the Well, however a ringed duck which accompanied five young at North Pond on 20th May was the only bird known to have bred; the ducklings were not seen again, with the same female (presumably the bird ringed in 2018) alone at North Pond from 1st June. Although the 2013-2019 mean first chick date is 12th May (with the earliest on 17th April 2017 and the latest on 27th June 2014), it is possible that low water levels made it less likely that chicks would be seen; North Pond was virtually empty from 3rd June, meaning that families were more likely to stay in cover or attempt to depart the Island. Nevertheless it proved the poorest year since 2014 (when a single brood was also logged), the total being well down on the five known broods of 2019 and the record six of 2018. 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).

Encounters became more sporadic from 23rd June, with counts of up to three logged on six further June dates totalling 12 bird-days, counts of up to five on 13 July dates totalling 25 bird-days (the

2013-2019 bird-days mean is 54.7) and counts of up to two on eight August dates totalling ten bird-days (the 2013-2019 mean is 6.7). Five of the six September records were again nocturnal, with counts of up to ten taking the bird-days total to a rather average 22; this species, as with the other ducks in autumn, regularly exhibits a post-dusk arrival and pre-dawn departure from roost sites (which makes an accurate assessment of numbers challenging). Records on 14 October dates, including peak daycounts of just eight on the 8th and 21st, tallied 51 bird-days; both the peak count and the total were down on the last two years and respective 2013-2019 means of 23.6 and 69.7. Numbers increased in November, with records on 11 dates and highs of 26 on the 4th, 21 on the 5th and 17 on the 8th which took the bird-days total to 108; both the peak daycount and the total were again down on the last two years and 2013-2019 means of 34.7 and 133.4 (this despite the fact that observers have not been present throughout November in all of these years). Up to seven were present on four December dates prior to the departure of staff on the 7th.

Pintail *Anas acuta* **Hwyaden Lostfain**
Scarce suspected of breeding in 1993 and 1995 but only six records since 1996 (all in 2014 and 2018)

A female on 11th October, photographed with 12 Wigeon as they flew west then east through Broad Sound, was the only sighting this year and just the fifth October record for Skokholm (GE). 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 three 2014 records and another gap of three years before three 2018 records. 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 and possibly bred in 1936
1936-1976: 16 trapped, 2014-2018: 3 trapped

Winter visits saw daycounts of 22 on 22nd January, a tally only down on January highs of 30 in 1998 and 170 in 1968, and 26 on 6th February, a total down on eight previous February highs including peaks of 80 in 1969 and an impressive 500 in 1940. Following the return of staff on the 16th, there were sightings on seven March dates tallying 51 bird-days, including a high of 14 on the 18th (when there were also two sets of wings at North Pond); the mean 2013-2019 bird-days total during the same period is 72.3 (with highs of 135 in 2018 and 134 in 2017 but lows of 13 in 2016 and two in 2014) whilst the mean 2013-2019 peak count is 10.6 (with a high of 19 in 2013). There was no April record for the first time since 2014 (and for only the fifth time since 1988), and no May record for the fourth time since 2010 (although there have only been sightings in 21 previous Mays). A camera trap positioned at Orchid Bog recorded three birds at 0400hrs on 22nd August, these four days earlier than a bird found there at 2330hrs in 2019 but 11 days later than one dazzled there in 2018. Diurnal records of up to six on four dates from the 27th took the August bird-days total to 15; this was the 13th highest August tally to date, albeit well down on peaks of 173 in 2012 and 247 in 1988. Sightings on 15 September dates included highs of 12 west at sea on the 1st and 26 at North Pond on the 3rd, along with records of singles with groups of Common Scoter on two dates and three sat on the sea off the Lighthouse on the 18th; the peak was only down on September highs of 31 in 2000, 30 in 1975 and 40 in 1973, whilst a bird-days total of 71 was only down on the 84 of 2014, the 72 of 2000 and the 101 of 1973. Bar groups of five, at North Pond on the 3rd and sat on the sea off South Haven on the 28th, sightings on ten October dates were all of three or less; both the peak count and a bird-days total of 26 were down on respective 2013-2019 October means of 27.3 and 37.9. Counts in November also proved to be below average, with up to 14 on ten dates taking the bird-days total to 55; the record November totals were logged in 2018 when a daycount of 110 took the monthly tally to 547. December counts of two on the 4th and eight on the 6th were the last of the year.

Tufted Duck *Aythya fuligula* **Hwyaden Gopog**
Rare only 14 previous records, but logged in each month between May and November

Two on 26th September, which flew west off South Haven at 0828hrs, made 2020 the fourth consecutive year with a sighting following a group of six on 20th November last year (in the company of a drake Ring-necked Duck), two on 7th November 2018 and a pair on 4th June 2017 (RD). The only other Skokholm records concern a drake between the 23rd and 26th June 2004, 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 the Pembrokeshire mainland, 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 can 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.

Goldeneye *Bucephala clangula* **Hwyaden Lygad Aur**
Vagrant five previous records

A female present on North Pond for at least 30 minutes from 1130hrs on 21st October (but not during the morning census or later that afternoon), was the first since 30th September 2015 when a group of four female-types went east through Broad Sound (GE, RDB). The only other Skokholm records are of a 'brown head' at North Pond on 30th October 2002, a party of five through Broad Sound on 21st October 1991, one on 9th April 1986 and a duck lingering offshore between the 26th and 29th October 1980.

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

A group of 20 west off the Lighthouse on 15th May were 14 days later than the first of last year. No doubt due at least in part to a COVID-19 dictated reduction in observers, there was no June record for the first time since 2010 and July sightings were limited to seven on the 26th and 21 on the 28th; a July bird-days total of 28 was the lowest since 2010, down on a 2013-2019 mean of 320.4 and highs of 621 in 2014, 601 in 1995 and 520 in 1994. Counts on five August dates from the 19th were all of six or less, the bird-days total of 16 being the lowest of the last ten Augusts and down on a 2013-2019

mean of 229.7 (although this mean was raised substantially by the 2017 total of 1044 which included record August daycounts of 128, 247 and 392). Sightings on 15 dates, including highs of 129 on the 15th, 70 on the 17th and 73 on the 19th, took the September bird-days total to 360; there have been four higher September daycounts (the 144, 215, 257 and 271 all logged in 1992) and only two higher September tallies (with 409 in 2017 and 1411 in 1992). Counts on nine October dates were, bar the 90 logged on the 2nd, all of 12 or less and included four birds sat on the sea off the Lighthouse on the 3rd and a drake flying very close in under Howard's End on the 15th; an October bird-days total of 134 was only down on the 587 of 1991, the 161 of 1992 and the 142 of 1993, these three years also providing the only higher October daycounts (with five counts of between 103 and 197). The only observations during a typically quiet November were of five on the 4th and 15 on the 23rd, whilst 23 on 6th December were 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-breasted Merganser *Mergus serrator* **Hwyaden Frongoch**
Rare 17 records in 12 previous years, including nine in September or October and totalling 25 birds

Three brown-headed birds flying southeast off the Lighthouse on the morning of 18th September were the first since 2017 when what was perhaps a lingering individual was seen from the Neck on the 16th and 21st September (GE, RDB). The only other Skokholm records are of three on 21st September 2001, singles on 13th May 1995, 21st July 1994, 26th September and 22nd June 1993, 4th October 1992 and 21st October 1991, two on 28th September and 30th June 1991, one on 24th May 1985, two on 28th October 1980, a single on 30th October and three on 9th August 1977, one on 12th September 1973, two on 3rd November 1968 and one on 19th February 1968 which was the first.

Swift *Apus apus* **Gwennol Ddu**
Fairly Common Migrant common in some years and most regular in late spring
Earliest 15th April 1991 (22nd April 2020) **Latest** 28th October 1976 (16th August 2020)
1936-1976: 12 trapped

One north over Home Meadow on 22nd April was the earliest since one on the 21st in 2016; there have been 16 earlier bird-days, all logged in ten years and with April singles on the 15th in 1991, the 16th in 1961 and the 17th in 1970 being the earliest. One on the 25th was the only other April sighting; there have been higher bird-days totals in 21 previous Aprils, including a high of 126 in 1960. Records on seven May dates were all of singles bar four on the 4th and three on the 12th; a May bird-days total of 12 was the lowest since 2011, down on a 2013-2019 mean of 56.0 and highs of 247 in 1989, 222 in 1959 and 282 in 1948 (the latter of which remains the highest total of any month).

Sightings of up to four birds on eight dates to the 19th, followed by seven on the 23rd, 18 on the 24th and 25 on the 25th, took the June bird-days total to 64, whilst a dead adult was found along the South Coast Path on the 4th; the June total was the lowest since 2016 and down on a 2013-2019 mean of 78.9 (although this mean is inflated by a 2019 total of 175, a June tally only bettered by the 224 of 1969). The July total was down on the 2013-2019 mean of 48.7 and the lowest since 2010, with up to seven birds on four dates between the 7th and 14th producing a bird-days total of just 15. August was typically quiet, with three on the 13th and four on the 16th the only birds logged; August totals peaked at 105 in 1967 and 157 in 1997, however they are typically much lower, with recent lows of two in 2013 and 2018 and a 2013-2019 mean of 8.4. The last of the year was three days earlier than the 2013-2019 mean, indeed there have been 361 later bird-days including 117 in September (with a single on the 4th in 2005 the most recent) and four in October (logged in four years between 1960 and 1976).

Cuckoo *Cuculus canorus* **Cog**
Scarce Migrant has bred, most recently suspected of having done so in 2006
Earliest 6th April 1960 (25th April 2020) **Latest** 8th September 1956 (19th July 2020)
1 trapped
1936-1976: 82 trapped, 2015-2018: 5 trapped

The only spring record was of a female which frequented the area between Boundary Hill and Crab Bay on 25th April; there have been 33 earlier bird-days, with 28 of these logged on the 18th or later and one on the 22nd in 2015 the most recent. A single spring bird-day matched 2017 as the lowest tally since 2010, although spring counts are seldom high; the peak spring bird-days totals are the 16 of 1951, the 17 of 1973 and 1976 and the 19 of 1957, with the most recent double-figure tally being the 13 of 1977 and the 2013-2019 mean being 3.6 (with a high in this period of eight in 2018). Two juveniles were present on 14th July, including a bird with distinctive white neck sides which was later trapped and ringed, whilst a third juvenile at the Well on the 19th was the last of the year. Although there have been autumn highs of 34 in 1937 and 37 in 1966, the bird-days total is typically much lower; a total of 14 bird-days in 2019 is the only double-figure autumn tally since the 12 of 1987, the 2013-2019 autumn mean is 3.3 and there were no records at all in 15 years this century.

Feral Pigeon *Columba livia domestica* **Colomen Ddôf**
Vagrant status clouded by the regular passage of racing pigeons

The vast majority of pet pigeons are marked with a closed ring squeezed over the foot of a growing squab. Racing pigeons marked in such a way regularly rest on Skokholm's buildings and cliffs, these

grounded birds often failing to find the energy to continue with their journeys. Larger cohesive flocks which regularly pass over are almost certainly also racing pigeons. Although the systematic recording of such pets has been sporadic, a typical annual total is over 100 and up to 250 have been logged in a single day. Approximately 3000 pairs of Feral Pigeon were thought to nest in Pembrokeshire in 1988 (Donovan and Rees, 1994), a figure which may have increased to somewhere in the region of 5000 pairs by 2007 (Rees *et al*., 2008); nevertheless good views are required to confirm that a pigeon is not a wayward pet. The only previous Skokholm records attributable to genuinely wild birds are singles on 17th June 1958 and 14th April 1959, two which lingered around the cliffs between 27th April and 6th May 1980, a further single on 1st July 1994 and most recently one on the 15th and 16th September 2017. A flighty pigeon seen near the Hump and then over Little Bay Point this year was not wearing rings and is here treated as the seventh bird to be seen on Skokholm (GE, RDB).

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 heading northeast over the Neck at 1130hrs on 26th September was the only record this year and the first September bird since up to four were seen in 1985. An April single in 2019 and singles on three October dates in 2018, two October dates in 2016, one March and one November date in 2015 and on one March date in 2012 are the only other records since sightings of up to two 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

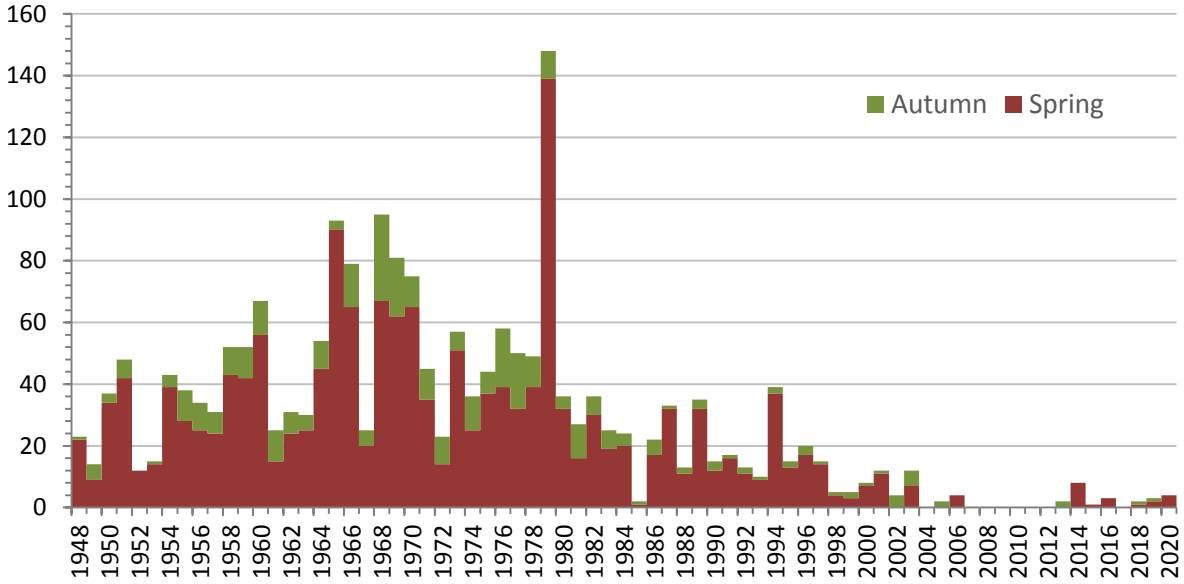
Sightings on eight March dates from the 16th were all of singles bar the five logged on the 17th; the peak daycount was the highest since six were present on 24th March 2013 (Skokholm daycounts have never been big, with peaks of 11 in May 1989 and August 1987, 12 in April 1978 and 18 in May 1960). A March bird-days total of 12 was the highest in any month since the 13 of March 2013 and the third highest monthly tally since 2008 (prior to when totals were considerably higher, peaking at 86 in April 1995, 106 in May 1995 and 88 in April 1996). Five of the singles logged in March were in South Haven, as was a bird on 2nd April, however any hopes that the sea cave nest site last used in 2007 might be proving attractive were ill placed; further singles at the Lighthouse on the 4th and at Wardens' Rest on the 10th were the only other April sightings, taking the monthly bird-days total to three (a tally typical of the non-breeding era). Surprisingly there was no May record for the first time since 2004; an average of 8.4 birds has been logged in each May between 2005 and 2019, with peak

daycounts during this period of three in four years and a bird-days high of 29 in 2006. June observations were more typical of late, with one on the 16th and two together on the 26th the only records; the latter was just the second June occurrence of multiple birds in 12 years. There were no July Woodpigeon for the third time in ten years, whilst one at the Farm and then the Cutting on 7th August was only the fourth to be seen in this month since 2010. The August bird was the last of the year, taking the 2020 bird-days total to 19; the tally was the lowest since the 16 of 2017 and well down on the 37 logged in both 2019 and 2018 (which was the highest since the 49 of 2008).

Turtle Dove *Streptopelia turtur* **Turtur**
Scarce Migrant previously Uncommon
Earliest 1st April 1949 (9th May 2020) **Latest** 18th October 1995 (28th May 2020)
1936-1976: 36 trapped

The first of the year frequented the area between Isthmian Heath and Medicine Wall on 9th May (GE); although there have been 198 earlier bird-days, including 47 in April, this was the earliest since one on 4th May 2016 and otherwise the earliest since two on 22nd April 2003. The only other record was of one which lingered around the Farm and Well between the 26th and 28th May (RDB).

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



There were no autumn birds for the first time in three years and for the 13th time since 2000. The 2020 sightings take the post-2006 bird-days total to just 23 and the 21st century total to 65;

alarmingly there were 407 bird-days recorded in the last two decades of the previous century. 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).

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, 2013-2019: 7 trapped, 2 retrapped

There was no March record for the fifth time in eight years, with one in Crab Bay on 6th April being ten days later than the first of last year. Further singles on the 13th and 29th took the April bird-days total to a rather typical three; there have been between one and four bird-days in each of the last eight Aprils, tallies well down on highs of 28 in 1974 and 35 in 1976. Numbers again increased in May, with records on 15 dates including singing males on seven dates and highs of three on the 7th and four on the 9th; although historically daycounts of up to 13 have produced May bird-days totals of up to 60 (1977), the peak 2020 May daycount was the second highest since 2008 and a bird-days total of 22 was up on a 21st century May mean of 12.5 (the high during that period was the 27 logged in 2000 and 2018). Singles on six dates and two together on the 13th produced a June total up on the five of last year but down on a 21st century June bird-days mean of 9.2. A single was present on the 7th and 8th during what was a typically quiet July, whilst one in South Haven on the 31st was the only August sighting and the last of the year; although there have been 114 previous August bird-days, only 16 of these were this century. The most recent of 96 September bird-days was logged in 2017, the most recent of 12 October bird-days in 2003 and the only November bird-day in 1993. Birds were again regularly harassed by Meadow Pipits, an unnecessary display of awareness which routinely befalls visiting Collared Doves.

Water Rail *Rallus aquaticus* **Rhegen y Dŵr**
Uncommon Winter Visitor and Irregular Rare Breeder confirmed in 1929, 1931 and 2012
1936-1976: 19 trapped, 2013-2019: 27 trapped, 6 retrapped

Following successful breeding in 2012 and counts of up to two birds on 94 dates during a 2013 breeding season without a confirmed attempt, 2014 saw only two spring singles logged (probably due to the severe preceding winter). The following three springs saw up to three birds noted in a day, but there were no sightings between 21st April and the autumn influx. Between 2017 and 2019 birds were logged later into the spring, indeed there was a territorial male in May and a June single noted in 2018, however there was no suggestion of breeding during this period. This year saw singles logged on six March dates, with records from near the Top Tank on the 16th, 25th and 26th and from

near the Well on the 17th, 22nd and 24th; although the bird-days total matched the ninth highest March tally, it was the lowest since 2014 and was down on a 2013-2019 mean of 13.1 (there were highs during this period of 31 in 2018 and 18 in 2013). A bird was again calling from near the Top Tank on four dates between the 2nd and 7th April, whilst records on three dates between the 14th and 17th all came from the Well; an April bird-days total of seven equalled the seventh highest tally in this month, but was down on a 2013-2019 mean of 10.6 and highs of 14 in 2015 and 31 in 2013. One at the Well on the 10th made this just the 13th May with a record, whilst one calling from between the Well and Orchid Bog on the 30th was just the second June bird-day of the last seven years; despite these records there was again no indication of a breeding attempt (monthly totals are invariably in double-figures during breeding years, this reflecting their vocal breeding behaviour).

The first of the autumn was at the Well on the evening of 28th August; although there have only been August records in 34 previous years, this was the latest autumn arrival since 2011 (a lone August bird-day was down on a 2013-2019 mean of 18.9 and all-time highs of 27 in 2016 and 34 in 2018). Early September was similarly quiet, with a single in Well Stream on the 9th the only record prior to daily counts which started on the 13th. There followed singles to the 18th and two or three on each subsequent September date bar four on the 27th and five on the 29th; the peak count was down on a 2013-2019 September mean of 7.0 and highs of nine in 2014 and 2018, whilst a bird-days total of 40 was less than half the 2013-2019 mean of 81.7 and was well down on highs of 120 in 2018 and 137 in 2014. The only September records away from the vicinity of the Well came from South Haven, East Bog, Gull Field and South Pond. Birds were noted on all but four October dates, with highs of six on the 11th and 21st and five on the 30th taking the bird-days total to 63; although up on anything logged prior to 2013, the bird-days total was the lowest of the last eight years (down on a 2013-2019 mean of 175.3 and a high of 281 in 2015), whilst the peak daycount equalled that of 2017 as the lowest since 2012. Occupied sites additional to those previously noted were Hog Bay, the Hills, the Bog, North Pond, the Knoll, the Top Tank, the Courtyard and Orchid Bog. Despite a staff presence throughout the month, there were 11 November dates without an observation and highs of just four on the 26th and two on nine dates; the peak daycount was down on a 2013-2019 mean of 9.7 (during which time there was a high of 15 in 2015 and a low of six in 2017), whilst a bird-days total of 31 was also the lowest of the last eight years, down on a 2013-2019 mean of 82.6 (this despite the fact that staff have in all but one instance left during November). Up to five were noted on three December dates prior to the departure of staff on the 7th. The only site occupied during November and December additional to those previously mentioned was Isthmian Heath.

Moorhen *Gallinula chloropus* **Iâr Ddŵr**
Scarce Breeder did not breed in 1937, 1939 to 1953, 1955 to 1966, 1974 and 1976 to 1995
3 trapped, 1 retrapped
1936-1976: 10 trapped, 2013-2018: 23 trapped, 7 retrapped

An unringed bird seen on the small pond to the north of the Wheelhouse on seven dates between the 17th and 24th March was perhaps the bird present at the Well on the 25th and 29th; 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. One at Orchid Bog on the 7th was the first April record, whilst sightings became more regular at the Well from the 9th, the first was noted at South Pond on the 12th and the first North Pond bird was logged on the 17th. A single was seen at South Pond on eight further dates to 19th May, however there was no indication that a pair were present (as was the case last year when there were no May sightings at this site for the first time since 2013). Although pairs were at the Well, North Pond and Orchid Bog, daycounts peaked at four in April (matching each of the previous three years and the 2013-2019 mean) and at four in May (which matched that of 2018 as the second highest May maximum of the last eight years). A dead adult at North Pond on 8th June was inverted in the same manner as a Great Black-backed Gull eaten Manx Shearwater (a Great Black-backed Gull was seen to take a Moorhen in 2014, as was probably the case in this instance).

Although it was believed that two adults at the Well on 14th May were close to rustling vegetation indicative of chicks, it was not until the 18th that two tiny young were seen; these were eight days earlier than the 2013-2019 first chick mean (albeit 25 days later than the first of 2015 which were the earliest during this period). The two chicks were seen regularly during June and two fledglings were logged during late July and early August (one of which had reached the Courtyard Wall by 28th July). Two mid-sized second brood chicks were first encountered at the Well on 1st August, both of which had reached fledging size by the 28th. At least one chick was calling at North Pond on 30th May, however there were no further records; this was perhaps linked to the death of the adult at some point prior to 8th June. A pair still occupied the area to the south of the pond during the summer (the South Pond individual perhaps having relocated) and they escorted two fledging-sized youngsters from 30th August. A pair at Orchid Bog accompanied two small chicks on 29th July and three were confirmed on 9th August. Two first brood fledglings were to be found at this site from 19th August, youngsters which were different to those at the Well and the two second brood fledglings recorded from 4th September. The three pairs thus fledged a minimum of ten, with the resulting productivity figure of 3.33 fledglings per pair being up on the 2.00 of last year and the 2013-2019 mean (2.17 ±se 0.29); the only higher productivity figure during this period was the 3.50 of 2018 (when only two pairs nested). Sightings on 19 September dates included a maximum daycount of six (the highest to be recorded in this month since the eight of 2007) and an adult retrapped in the Well Heligoland on the 14th which had been ringed as an adult at the same site on 7th March 2018. Counts of up to three on 11 dates took the October bird-days total to 15, with the only sightings after the 16th being of a juvenile which lingered around the Wheelhouse Pond; the bird-days total was down on four of the last eight years and highs of 45 in 2016 and 53 in 2003. The only other 2020 sightings were of what was probably the same juvenile north of the Wheelhouse on the 2nd and 4th November and on 6th December, this lack of records again suggesting that at least some birds depart for the winter.

Oystercatcher *Haematopus ostralegus* **Pioden y Môr**
Fairly Common Breeder and Common Visitor previously an Uncommon Breeder
6 pulli trapped, 45 resightings
1936-1976: 1882 trapped, 2014-2019: 69 trapped (including 47 pulli), 50 resightings

Despite a late return of staff and lows of 56 on the 19th, 18 on the 22nd and 53 on the 23rd, six three-figure March daycounts was one up on the number recorded in both 2019 and 2018; there were maximum counts of 126 on the 17th and 123 on the 25th, the peak being the fifth highest March daycount this century (but well down on post-War March highs of 148 in 2019, 150 in 1990, 155 and 152 in 1988 and 160 in 1951). The largest roosts again formed in the vicinity of the Anticline, with highs of 122 on the 16th and 91 on the 17th; the former was the largest Anticline spring roost this century, matching the 122 counted on 10th March 2013.

Birds were again quick to vacate coastal roosts and move onto the plateau, indeed there were only three Anticline roosts of more than 50 during April (with a high of 61 on the 6th); a North Pond roost established during the same period contained more than 30 birds on 11 dates (peaking at 53 on the 8th and 46 on the 29th), whilst the majority were on territory from the 16th. One of the three nests found with eggs on 3rd May contained a full clutch, this 11 days later than the first single egg found last year. A whole Island census during May revealed 54 territorial pairs; this was seven fewer than in the record 2017 season but one more than last year, 30.4% more than the 2002-2019 mean (41.41 ±sd 11.31) and, equal with that of 2016, the third highest 21st century total. Colour ringing suggests that the population is maintained in part by a high adult return rate; of nine breeding birds colour ringed during the 2017 season, nine returned in 2018, whilst 11 of 11 2018 birds returned in 2019. Of 12 birds bearing colour rings during the 2019 breeding season, ten (83.3%) were seen this year (including the bird found overwintering in Côtes-d'Armor, France during December 2017). This apparent drop in survival may have been a genuine one; there were ten dead adults found on the Island between 16th March and 14th July, this an atypically high total which included a bird ringed on Skokholm as a chick in 2017, a bird ringed at the Gann as an adult in 2015 and at least one taken by a Peregrine. North Pond roosts were unusually large for a third consecutive breeding season; there were peak May counts of 37 on the 4th, 47 on the 5th and 36 on the 27th (the May 2019 high was 55 and that of 2018 36) and peaks in June of 44 on the 3rd, 58 on the 27th and 46 on the 28th (the June 2019 high was 61 and that of 2018 58).

As in the previous seven seasons, nests were selected for productivity monitoring during early May (20 in total). Of these, ten successful pairs managed to fledge 14 young, with six pairs fledging a singleton and pairs at Middle Heath, North Plain East, Table Rocks and to the south of the Neck fledging two apiece. Although up on the 0.47 fledglings per pair observed last year, a 2020 productivity figure of 0.70 was 23.1% down on the 2013-2019 mean (0.91 ±se 0.19) and down on recent highs of 1.62 in 2018 and 1.55 in 2014. As is often the case, only Great Black-backed Gulls were seen to take young. The first youngster seen in flight was to the east of North Pond on 23rd June, this the latest first fledgling of the last five years, three days later than the first of last year and one day later than the first of 2018. North Pond roost counts increased during July, with highs of 53 on the 5th, 64 on the 9th and 55 on the 12th; the peak was seven down on that recorded in both 2019 and 2018. Although birds were becoming more mobile (for example the Middle Heath pair moved both their fledglings to the Neck on 6th July, only to return the following day), it was not until late July that birds were obviously departing the Island. The maximum August daycount was of 61 on the 5th (the 2013-2019 mean is 56.1), although no more than 20 were logged after the 10th and there were 12 single-figure August daycounts from the 13th. September proved typically quiet, with up to 22 present on all but one date and 11 single-figure daycounts; the peak was down on a 2013-2019 mean of 27.7, whilst a bird-days total of 322 was the second lowest of the last eight years and down on a 2013-2019 mean of 410.6. Sightings on 26 October dates, including highs of 23 on the 17th and 20 on the 30th, tallied 277 bird-days; the peak count almost matched a 2013-2019 mean of 22.4 but the monthly total was down on a mean of 315.1 logged during the same period. Daily records between 1st November and 7th December included six counts of 22 and highs in November of 25 on the 9th and 28 on the 21st; the 2013-2019 November high averaged 26.4 with a peak of 35 in 2015.

Ringing recovery FH81528
Originally ringed as an adult, THE GANN, PEMBROKESHIRE 6th February 2015
Recovered as an adult, SKOKHOLM 17th May 2020
Finding condition Dead for more than a week
Distance travelled 9km at 258 degrees (WSW)
Days since ringed 1927

Ringing recovery Left leg: Orange above FS19729, Right leg: Orange darvic with black 84
Originally ringed as a chick, SKOKHOLM 20th June 2018

Previously recovered as a first-winter, THE GANN, PEMBROKESHIRE 26th November 2018
Previously Recovered as an adult, TEIGN ESTUARY, DEVON 3rd and 15th November 2019
Recovered as an adult, TEIGN ESTUARY, DEVON 8th December 2019 and 28th January 2020
Recovered as an adult, DAWLISH WARREN, EXE ESTUARY, DEVON 23rd March 2020
Finding condition Colour ring read in field
Distance travelled 177km at 134 degrees (SE)
Days since ringed 536, 587 and 642

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

One at North Pond on 4th April and a moulting adult near there on 24th June were the first spring or early summer sightings since 2018; there have now been records of up to five birds on 23 dates during this period since 2004, a sobering statistic for a species which produced chicks on Skokholm as recently as 2000. The first of the autumn arrived on 5th October, 15 days earlier than the first of last year but 15 days later than the first of 2018. Daily sightings between the 13th and 16th, all of singles bar two together on the 14th, took the October bird-days total to six; although October daycounts of up to 540 (in 1958) have contributed to bird-days totals of up to 1690 (in 1975), a total of six equalled the fourth highest this century. November saw singles on the 5th and 7th, two on the 8th and a further single on the 28th and 29th; November daycounts peaked at 400 in 1927 and 1931, with the bird-days total reaching 2007 in 1939, however a daycount of eight in 2011 and a monthly total of 12 in 2016 are the highest to be logged since 2001.

Grey Plover *Pluvialis squatarola* **Cwtiad Llwyd**
Scarce records in 55 years since 1929, with only five singles 2004-2012 and 12 singles 2013-2015

Two west over North Plain at 0730hrs on 23rd September was the first sighting since July 2018 and only the third record of multiple birds since September 1996 (RD). The sole October record was of a vocal flyover on the 15th, whilst a juvenile present at North Pond each day between the 22nd and 26th November was at Oystercatcher Rock on each morning between the 27th and 29th and was probably the bird back at North Pond on 2nd December. A 2020 bird-days tally of 12 was the second highest to date (only down on the 14 of 1993 which included a record Skokholm daycount of six), and a total of four individuals was the highest since 2016 when at least five were logged.

Golden Plover *Pluvialis apricaria* **Cwtiad Aur**
Uncommon but only 35 bird-days between 2006 and 2013
1936-1976: 1 trapped, 2018: 1 trapped

Although cold weather can increase the number of spring sightings, as in 2018 when the 'Beast from the East' produced March daycounts of up to 130 and a record monthly total of 234 (along with the emaciated corpses of 22 birds), counts are typically much lower. There was no March record this year (for the eighth time in ten years), however April sightings of up to three on four dates between the 14th and 21st tallied eight bird-days; the total was the third highest this century, indeed there have only been nine higher April tallies since 1927. A lone summer-plumaged bird on the 15th was a rather typical May observation; there have been May sightings in 50 previous years (including seven of the last eight), but the bird-days total has only reached double-figures on six occasions. An adult flying through fog on 8th August was the first of the autumn, three were at North Plain on the 13th, nine were logged the following day and up to two on four further dates to the 19th took the monthly bird-days total to 19; although a daycount of nine was also logged in August 1967, the only higher count was the flock of 25 seen in 2015, whilst the only August tallies up on that of this year are the 26 of 2015 and the 21 of 1967. September counts were also above average, with a metal ringed adult frequenting North Plain on the 5th and 6th, an adult on the 16th, 17 on the 17th (with flocks of four and 12 along with a further single heading south) and a last single over on the 18th; although down on the 26 of last year, there have only been higher daycounts in five Septembers, whilst a bird-days total of 21 was down on 14 previous years (including three of the last six and a high of 65 in September 1950). The only October sightings were of one on the 7th, two on the 21st, another single over on the 22nd and six together westwards on the 30th; a daycount of 28 in 1988 and a monthly total of 56 in 1966 are the October maximums. A lone flyover on the 5th was unsurprisingly the only November sighting; there have now been records in 21 Novembers totalling 61 bird-days.

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

One at North Pond on the 24th and 25th took the post-2000 March bird-days total to eight and the all-time March total to 58 (which includes the first ten in 1955). Records on 12 April dates from the 7th, including highs of three on the 13th and two on the 15th and 19th, tallied 16 bird-days; although the peak count was down on two of the last six years, the total was the fourth highest to date (down on an April high of 21 in 1966). There were sightings on 11 May dates to the 25th, with highs of five on the 8th and ten on the 12th taking the total to 32; whilst the bird-days total was only fractionally up on a 2013-2019 mean of 29.7 (owing in part to the May record of 52 logged in 2014), the peak count was the fourth highest to be made in this month (down on a high of 14 in 2014). There was no June sighting for the first time since 2012. A spring bird-days total of 50 was the fourth highest yet recorded, a tally only down on the 53 of last year, the 62 of 2014 and the 59 of 1978.

The total number of Ringed Plover bird-days logged each month (2019 to 2017 in parenthesis), along with the maximum monthly daycount (2019 to 2017 in parenthesis) and the date(s) on which the 2020 peak was recorded.

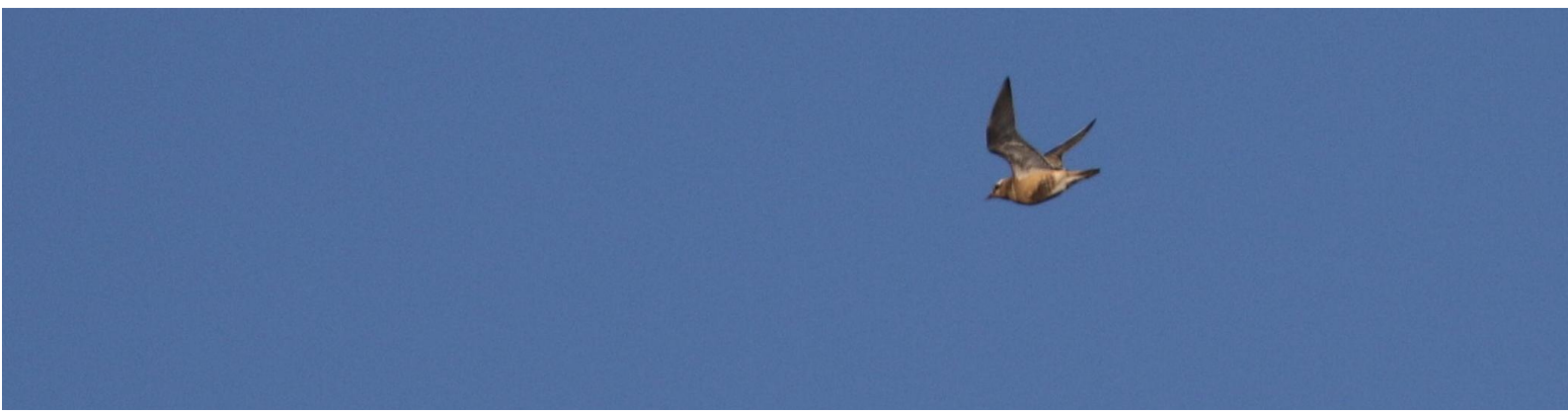
March	April	May	June	July	August	September	October	November
2	16	32	0	1	22	16	9	0
(1, 2, 0)	(8, 12, 13)	(42, 17, 18)	(2, 3, 3)	(2, 0, 4)	(11, 9, 7)	(14, 1, 19)	(1, 0, 2)	(0, 0, 0)
1	3	10	0	1	7	3	1	0
(1, 1, 0)	(2, 4, 3)	(5, 3, 4)	(1, 1, 1)	(1, 0, 1)	(1, 3, 1)	(2, 1, 11)	(1, 0, 1)	(0, 0, 0)
24th & 25th	13th	12th		31st	14th	15th	9 dates	

Autumn passage began with a flyover single on 31st July; there have been 123 previous July bird-days,

including 22 since 2014. The vast majority of the 22 bird-days logged in August, which included highs of seven on the 14th and three on the 16th, were flyovers, unsurprisingly so given that North, South and Winter Ponds were empty until the 25th; the peak daycount equalled the seventh highest to be logged in August, whilst the bird-days total was only down on the 23 of 1958, the 24 of 2015 and the 65 of 2016. Sightings of up to three birds on 12 September dates took the bird-days total to 16; although up on all but six pre-2013 September totals and those logged in 2018 and 2019, the tally was the third lowest of the last eight years and down on a 2013-2019 mean of 27.0 (primarily due to highs of 39 in 2015 and a record 74 in 2016). One at North Pond on the 2nd and 3rd October was perhaps different to the juvenile which seemingly lingered there between the 5th and 10th, whilst a flyover on the 11th was the last of the season; there have been October records in 29 previous years, with the only bird-days total up on the nine of this year being the 14 of 1961. The most recent of 20 November bird-days was noted in 2016. An autumn bird-days total of 48 was only down on highs of 158 in 2016, 68 in 2015 and 59 in 1989.

Dotterel *Charadrius morinellus* **Hutan y Mynydd**
Rare 11 previous autumn records of up to two birds and one spring record of five birds
Earliest 7th May 1960 **Latest** 16th October 1981 (1st October 2020)
1936-1976: 1 trapped

A vocal southbound flyover at 1015hrs on 1st October was the first since a flyover on 21st September 2014 (GE, RDB). Of the 11 previous autumn records, one was of a single which remained for two days from 25th August in 1970, seven were logged in September (including the only autumn record of multiple birds, this of two which lingered in 1974) and three were logged in October.



Upland Sandpiper *Bartramia longicauda* **Pibydd Cynffonhir**
Vagrant only one previous record

In a national context, the Upland Sandpiper flushed from near the flashes between Twinlet and North Pond on 31st October was the rarest bird logged on Skokholm this year (GE); there had been 50 British records by the end of 2019, including the first shot in c.1847, 13 this century and three in Wales (all of which have been in Pembrokeshire, including one which spent two hours along a Skokholm clifftop on 18th October 1960). Although only seen in flight, the views were surprisingly lengthy as the bird struggled against a storm force southwesterly, this allowing the majority of key plumage and structural features to be recorded. The distinctive call was also heard at close range. A description is currently in circulation with the British Birds Rarities Committee.

Whimbrel *Numenius phaeopus* **Coegylfinir**
Common Visitor has seemingly overwintered on at least 20 occasions
1936-1976: 30 trapped, 2018: 2 trapped

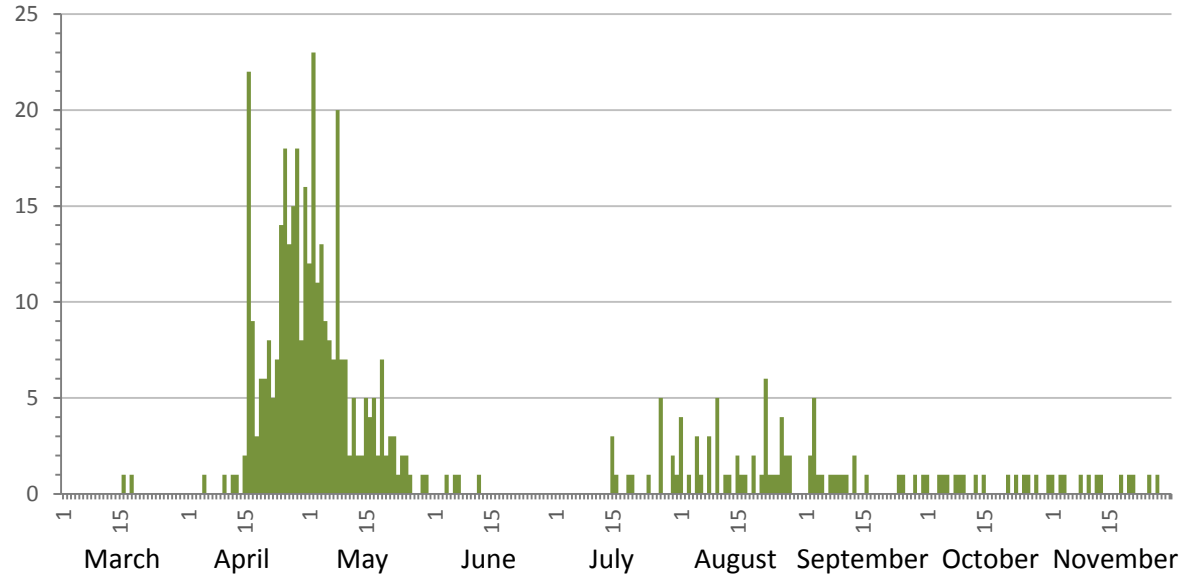
An adult seen at the Anticline on 16th March, along the South Coast on 18th March and in Crab Bay on 5th April was almost certainly the bird last seen on 30th November 2019, however on each occasion the ringed leg was obscured from view; it is likely that this was the bird ringed in September 2018 and noted on 20 dates during the October and November of that year (it may also be the case that this is the same lone bird which spent the previous four winters between the Anticline and Crab Bay, and is perhaps one of the two birds which had spent earlier winters in the same area). A single above the Jogs on 10th April, above Twinlet on the 12th and along the South Coast on the 13th may also have been the same bird, although it had not previously been confirmed at the former two sites. Two over on 15th April were thus the first definite spring migrants, these three days earlier than the first of 2019 but four days later than the 2013-2019 mean (with the earliest during this period logged on 3rd April in 2016). There followed daily April records, with high counts of 22 on the 16th, 18 on the 25th and 28th and 16 on the 30th which took the monthly total to 174; although the peak daycount was down on the 45 of last year and a 2013-2019 mean of 27.1, the bird-days total was the second highest to date, up on a 2013-2019 April mean of 127.7 and only down on the 179 of 2016. May proved less productive, with records on all but three dates and highs of 23 on the 2nd, 13 on the 4th and 20 on the 8th but 17 daycounts of five or less taking the bird-days tally to 167; the peak count was fractionally up on a 2013-2019 mean of 20.9, but the total was the second lowest of the last eight years and down on a 2013-2019 mean of 227.0. Singles on four dates between the 4th and 12th made this the poorest June since 2016. A combined April, May and June total of 345 bird-days was very similar to that logged in each year between 2013 and 2018 (which ranged between 321 and 357), but was well down on the 504 of last year (this a tally which was only down on the 615 of 1989).

The total number of Whimbrel bird-days logged each month, along with the maximum monthly daycount and the date on which the 2020 peak was recorded. Counts from 2017 to 2019 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	2	174	167	4	15	43	21	15	12
2019	9	159	326	19	48	57	27	12	15
2018	7	117	227	5	15	88	59	12	8
2017	6	156	196	5	45	92	38	12	5
2020	1	22	23	1	5	6	5	1	1
2019	1	45	25	4	5	5	2	1	1
2018	1	25	19	2	3	9	5	1	1
2017	1	17	21	2	18	12	7	1	1
	16th & 18th	16th	2nd	4 dates	27th	22nd	3rd	15 dates	12 dates

Records on eight July dates from the 15th peaked at three on the 15th and five on the 27th, one of the latter being a ringed adult at the Anticline which was quite probably the overwintering bird first recorded on 9th August last autumn; both the peak count and a bird-days total of 15 were down on respective 2013-2019 July means of 6.4 and 28.3. August was similarly disappointing, with counts of up to six on 20 dates taking the bird-days total to 43; although the peak was one up on that of last August, it was only half the 2013-2019 mean, whilst the bird-days total was the lowest of the last nine Augusts, down on a 2013-2019 mean of 80.0, a recent high of 135 in 2015 and the all-time high of 172 logged in 1989. Sightings on 15 days in September were predominantly of the ringed adult, with additional birds noted on just three dates including a count of five on the 3rd; although the peak was close to the September mean, a total of 21 September bird-days was the lowest of the last decade, down on a 2013-2019 mean of 43.7 and a record 160 in 1974. A lone Whimbrel, noted on 31 dates between 1st October and 4th December, was seen to be ringed on five occasions; it was only found between South Haven and Crab Bay Rocks.

The number of Whimbrel logged each day between March and November 2020.



Curlew *Numenius arquata* **Gylfinir**

Common Visitor previously Abundant and usually present throughout the year, but has never bred
1936-1976: 141 trapped, 2016-2019: 5 trapped, 2 controls

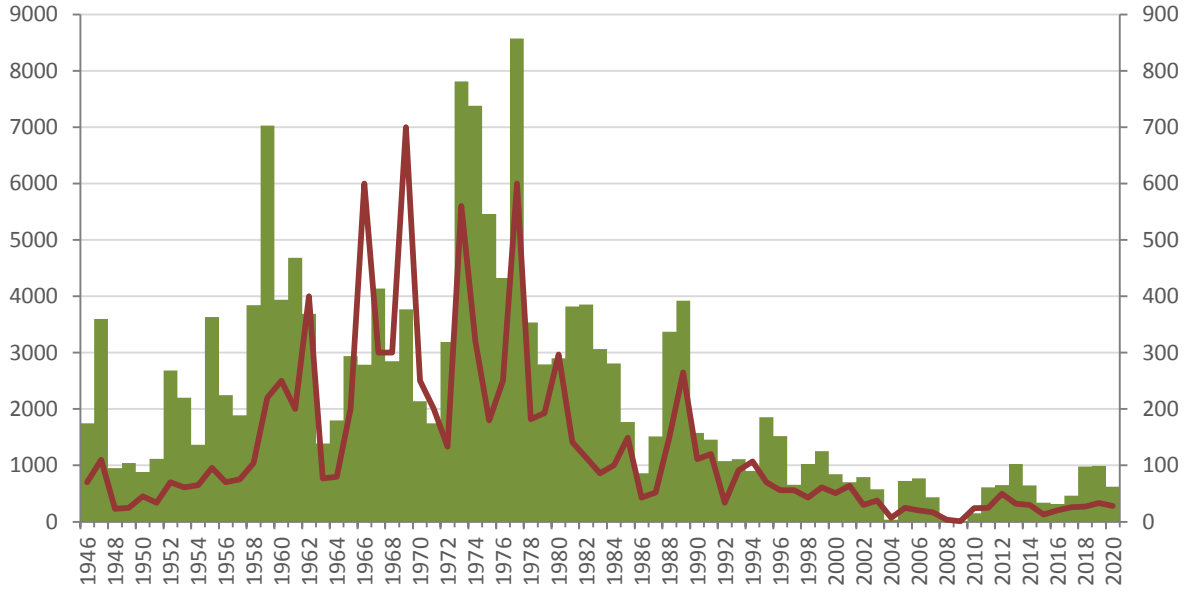
The drop in the number of Curlew visiting Skokholm has been alarming, with recent seasons proving the worst on record for this charismatic red-listed wader, a species which between 1994 and 2010 declined in the United Kingdom by 46% and in Wales by over 50% (BTO, 2016). Whereas we might expect an undisturbed Island to prove attractive to this species during the winter months, day-trippers located just one bird on 22nd January and no birds on 6th February. March counts were little better, with sightings on all but two dates from the 16th peaking at four; there have only been eight lower post-War peak March daycounts. Curlew were seen on 24 dates in April, with highs of six on the 1st, four on each day between the 7th and 9th and three on the 2nd and 29th; although an April bird-days tally of 49 was the highest since the 50 of 2014, the peak was down on a record 60 in 1970 and daycounts in 58 previous Aprils (including three of the last seven). The maximum May daycount, which reached 32 in 1967 and averaged 15.6 between 1966 and 1983, has recently been much lower; a single logged on 13 dates made May 2020 the sixth in which counts have not exceeded one. As has often been the case in recent years, numbers increased in June, with records on 25 dates and daycounts of up to four taking the bird-days total to 35; although fractionally up on a 2013-2019 mean of 32.7, the total was down on the 76 of last year and June highs of 412 in 1947, 464 in 1957 and 898 in 1959. All Curlews seen during this period are not necessarily local; 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 bird-days logged each month, along with the maximum monthly daycount and the date on which the 2020 peak was recorded. Counts from 2019 to 2016 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	25	49	13	35	120	146	65	65	73
2019	27	26	36	76	191	377	155	81	20
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
2020	4	6	1	4	27	28	4	28	5
2019	3	3	3	6	14	33	19	5	4
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
	30th	1st	13 dates	7th	20th	20th	3 dates	1st	28th & 29th

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



The majority of autumn records were again of birds which returned to Skokholm to roost but which were feeding elsewhere. Sightings on all but two dates in July included highs of nine on the 13th, 27 on the 20th and ten on the 25th which took the bird-days total to 120; although the peak July daycount equalled those of 2018 and 2002 as the highest since 2000, and the bird-days total matched a 21st century mean of 120.3, historically July daycounts of up to 149 (in 1985) and bird-days totals of up to 1741 (in 1959) have been logged. August proved similar to July, with birds present on all but three dates, highs of 12 on the 6th, 28 on the 20th and eight on two dates and a bird-days total of 146; although the maximum August daycount was the seventh highest this century, it was massively down on peaks of 220 in 1959, 297 in 1980 and 265 in 1989, whilst the total was down on a post-1946 mean of 587.9 and highs of 2175 in 1959, 1521 in 1960 and 1897 in 1978. It proved one of the poorest Septembers to date, with daily sightings of up to four totalling just 65 bird-days; the September tally has reached four-figures on nine previous occasions, including a peak of 2069 in 1977. The only Gann ringed individual to be seen this year was found at dusk on 23rd September, however its identifying number could not be read. Although a North Pond roost of

28 on the evening of the 1st provided the largest October daycount since 1996, counts on 23 further October dates failed to exceed five; a bird-days total of 65 was down on three of the last eight years and at least 97.9% down on almost unimaginable October highs of 4305 in 1973, 3468 in 1974 and 3131 in 1977. While it may just be a coincidence, it is tempting to think that the larger flocks of 27 or 28 seen in July, August and October were comprised of many of the same individuals. Counts on 27 November dates peaked at five birds, this the largest November gathering since the 22 of 2014; that less than 50 years ago a herd of at least 600 were present on one November date is a sad reflection of the Curlew's plight. There were daily December sightings of up to six birds prior to the departure of staff on the 7th; December daycounts peaked in 1979 when a group of 193 were present.

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

A flyover on 29th April was the first of the year; although the 2018 'Beast from the East' led to an influx into Pembrokeshire which included the first seven Skokholm March bird-days since 2001, the first in four of the years between 2014 and 2019 was logged between the 18th and 23rd April. There was no May record for the first time since 2014. A spring bird-days total of just one was the lowest since a blank 2011, down on the 31 of last year and a 2013-2019 mean of 14.0 (the highest spring bird-days totals are the 38 of 2000, the 50 of 1992 and the 108 of 1966, the latter year seeing eight or nine logged on ten dates). Although autumn birds are scarcer, indeed there were no sightings at all in 2014, 2017, 2018 and in five earlier years this century, a westbound single over the Lighthouse on 18th September was surprisingly the only other record this year; the highest autumn bird-days total of the 21st century is the 47 of 2016, although there have been five higher post-1927 tallies peaking at 72 in 1950, 76 in 1979 and 257 in 1988 (the latter the product of an unprecedented September which saw 11 double-figure daycounts including flocks of 43 and 21). Traditionally this has proven the commoner godwit on Skokholm, although this was not the case this year or in nine of the ten years between 2010 and 2019.

Black-tailed Godwit *Limosa limosa* **Rhostog Gynffonddu**
Scarce or Uncommon Visitor but Fairly Common in 2012, 2013, 2015, 2017 and 2019
1936-1976: 1 trapped

The first of the year frequented North Pond on 19th March and an eastbound flyover was logged two days later; there have been March sightings in 21 previous years, with a bird-days high of 23 logged in 1971. North Pond again held singles on the 9th and 19th April; there have now been April sightings in 33 years, including seven of the last ten. A winter-plumaged bird at North Pond on 23rd June was

different to that which lingered at the Dip between the 23rd and 25th but was perhaps the bird which also settled at the Dip on the 25th. Two summer-plumaged *L. l. islandica* at North Pond on the 28th and 29th took the June bird-days total to nine, this equalling the fifth highest tally to be logged in this month (down on a record of 17 set last year). It was tempting to think that a winter-plumaged bird which lingered at the Dip between the 3rd and 5th July had been there previously, whilst the same bird may have been responsible for records of a single at North Pond on the 9th and Sugar's Delight on the 10th and was perhaps one of the two back at the Dip on the 12th. Two which flew over the Cottage on 22nd July were probably those found at Orchid Bog the following day. Thus, for the third time in four years, July proved to be the most productive month; a bird-days total of 11 equalled the sixth highest July total, with all but one of the higher tallies coming this century (including the record of 41 logged in 2017). One over with two Curlew on 16th August was the last of the year, this ten days later than the last of 2019. An annual total of 25 bird-days equalled the tenth highest Skokholm tally, however it was also the third lowest of the last nine years; in contrast to the Bar-tailed Godwit, the six most productive years have occurred since 2012 (including a record of 149 bird-days in 2017).

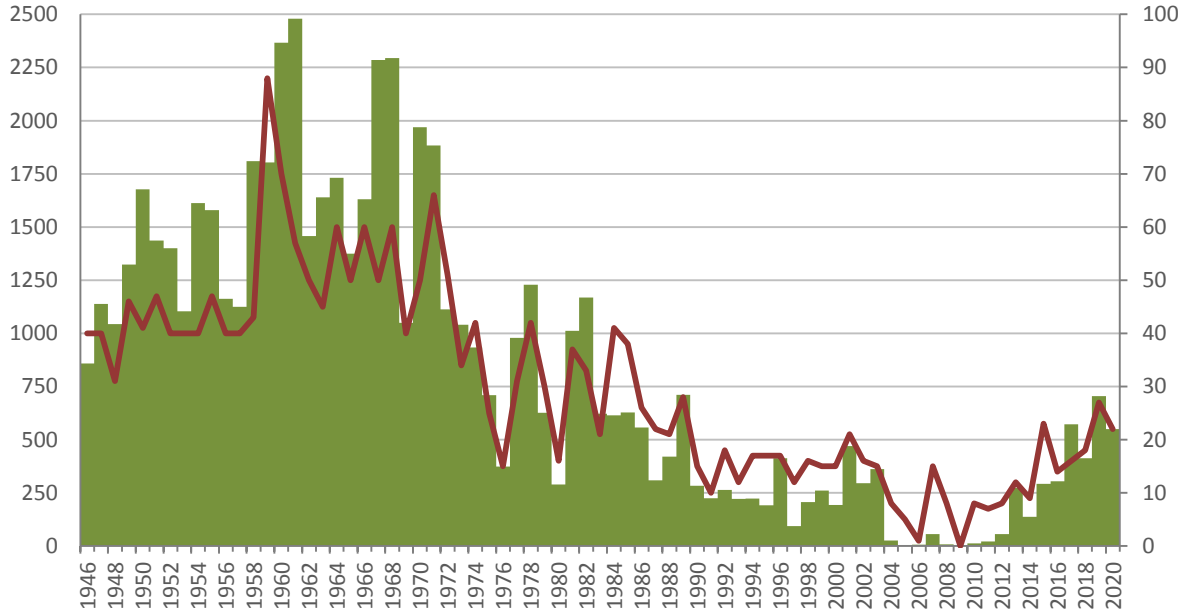
Turnstone *Arenaria interpres* **Cwtiad y Traeth**
Common Visitor once Abundant but sometimes only Fairly Common in recent years
1936-1976: 12 trapped

Although Turnstone are no doubt under recorded due to their preference 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. Winter daytrips on 22nd January and 6th February located just a single bird on the former date, whilst there were no March or April records for the first time in ten years. Historically early spring counts were much higher; an April total in excess of 400 was not uncommon between 1947 and 1961, although 137 in 1982 is the most recent three-figure April tally. Two below Wardens' Rest on 9th May were thus the first of the spring, this followed by a rare North Pond single on the 11th and 12th, two coastal birds on the 13th and six at Little Bay Point on the 19th; the peak May daycount, although up on that of last year, was down on a 2013-2019 mean of 9.3 and a high of 50 logged in 1966, whilst a May bird-days total of 12 was down on a 2013-2019 mean of 20.3, a 1958-1974 mean of 177.6 and a high of 334 logged in 1967.

One heading south past South Haven on the 23rd made this only the eighth July since 1996 with a record; the monthly total was the lowest of those eight years and was considerably down on tallies of up to 228 logged previously. Following singles on four dates between the 6th and 14th, there were sightings on 11 August dates from the 18th, with highs of 13 on the 24th, 21 on the 25th (including two

at North Pond) and 20 on the 26th; the peak was the second highest August daycount since 1989 and a bird-days total of 111 was the third highest to be logged during the same period, however both were massively down on August records between 1946 and 1989 which averaged 353.2 bird-days with a mean maximum daycount of 35.0 (an August daycount record of 88 was noted in 1959 and a bird-days record of 781 was logged in 1971). September again proved the busiest month of the year, with observations on all but five dates and highs of 15 on the 5th and 21st, 22 on the 9th and 17 on the 12th which took the bird-days total to 227; although the total was down on each September between 2017 and 2019, it was otherwise the second highest since 1985, with the peak daycount being the second highest since 1989. Daily October sightings to the 6th included highs of 19 on the 5th and 17 on the 6th, this followed by counts on 15 further October dates which peaked at ten and took the total to 146; the tally, although down on the 203 of last October, was otherwise the second highest since 1974 and the peak daycount was the fourth highest since the same year. Records on 12 dates, including highs of ten on the 3rd, 14 on the 4th and seven on the 19th and 21st, took the November bird-days total to 50; although somewhat biased by a longer than average staff presence, the peak November daycount equalled the highest since 1977 and the total was the third highest in the same period. One on 6th December was the last prior to the departure of staff.

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



The total number of Turnstone bird-days logged each month (2019 to 2017 in parenthesis), along with the maximum monthly daycount (2019 to 2017 in parenthesis) and the date on which the 2020 peak was recorded.

March	April	May	June	July	August	September	October	November
0	0	12	0	1	111	227	146	50
(13, 4, 4)	(6, 6, 3)	(8, 24, 10)	(2, 0, 0)	(2, 0, 20)	(136, 38, 135)	(299, 258, 268)	(203, 69, 113)	(34, 14, 19)
0	0	6	0	1	21	22	19	14
(9, 1, 2)	(4, 2, 3)	(3, 7, 6)	(2, 0, 0)	(2, 0, 4)	(22, 5, 14)	(27, 18, 16)	(24, 14, 16)	(10, 8, 8)
		19th		23rd	25th	9th	5th	4th

A cumulative autumn total of 536 birds over 75 dates was up on a 2013-2019 mean of 345.6 logged over 60.7 dates, but was down on the 676 noted over 90 dates last year (the latter was the busiest autumn since 1982 when 871 birds were counted across 72 dates). Totals were 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 doubtless consist of counts of the same birds over multiple

dates, the highest daycount made each year is telling; the maximum Skokholm daycount of 88 logged on 26th August 1959 was 300% up on that of 2020, this starkly illustrating how the number of Turnstone visiting the Island has declined 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

Summer records of this Arctic breeder are rare, indeed a winter-plumaged bird, at an empty North Pond on the 7th, was just the second June record for Skokholm following three birds at the same site on the 21st in 2018. Interestingly a winter-plumaged adult at North Pond on 3rd July last year was just the eighth bird to be logged in that month, with another adult noted on 31st July 2016. The only other 2020 record was of a single at the Devil's Teeth on 24th August, this becoming only the 11th year with an August sighting. Knot was another species caught up in cold weather movements associated with the 2018 'Beast from the East', movements which led to the first March sightings since recording began and contributed to an annual bird-days total of 13; two 2020 bird-days matched the more typical tally of 2019 and made this the 41st of 89 recording years with a record. There have been birds in every month bar December, but the majority pass through in September.

Ruff *Calidris pugnax* **Pibydd Torchog**
Scarce usually singles or pairs but with a high of 12 on the 17th and 18th April 1987
Earliest 3rd March 1964 (16th April 2020) **Latest** 26th October 1971 (20th April 2020)
1936-1976: 7 trapped

A male, which visited North Pond, North Plain, South Pond and the Bog between the evening of the 16th and the 20th, was the first April sighting since 1995 and the first to be logged in any month since 2017. Although Ruff have been recorded in 32 previous springs, two together in May 2017, a reeve in June 2016, a reeve and male in 2015 and a lone black-ruffed male in 2014 are the only other spring birds since 1998. Given that 340 of the 519 bird-days logged on Skokholm have occurred in autumn and that there have been 82 autumn bird-days this century (including highs of 26 in 2016 and 40 in 2015), it is disappointing that there have now been three consecutive autumns without a sighting.

Curlew Sandpiper *Calidris ferruginea* **Pibydd Cambig**
Rare with five spring records of up to two birds and nine autumn records of up to five birds
1936-1976: 2 trapped

A smart bird found at North Pond on 5th May, which appeared to be the individual photographed at the Gann on the 4th, was the third Skokholm record in six years, the first spring sighting since 1990

and only the third to be seen in May (RDB). It remained at North Pond for five days, this the longest stay yet made by a Curlew Sandpiper (one day longer than that of a juvenile at Winter Pond between the 27th and 30th August 1993 and of one present between the 21st and 24th May 1959).

Sanderling *Calidris alba* **Pibydd y Tywod**
Rare only 39 previous records, with ten records totalling 15 individuals this century
1936-1976: 2 trapped

It proved the third consecutive year with a spring sighting; a single at North Pond on the morning of 30th May had departed by mid-afternoon. A juvenile at Winter Pond and then North Pond on 12th September was the eighth individual to be noted in the last six years and just the fourth to be seen in autumn since four flew past the Stack in October 2001. There have now been birds in 32 years, with a total of 41 records accounting for 80 bird-days. Although Sanderling have been logged in every month between March and November inclusive, the most productive month is May, now with a total of 14 records, whilst there have been six records in August and nine 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
1936-1976: 181 trapped, 2014-2019: 18 trapped

A single on the 31st made this the 47th year with a March sighting; only one or two bird-days were logged in 25 of those years, with a high of 51 in 1968, whilst the post-1927 March bird-days mean is 2.7. Sightings on 16 April dates from the 6th were all of four or less bar the seven logged on the 30th; although the peak daycount was the second lowest of the last six years, a bird-days total of 42 equalled that of 2018 as the ninth highest April tally to date (the maximum being the 115 logged in 1960). Records on all but one May date to the 16th included highs of 24 on the 4th, 23 on the 6th and 8th and 26 on the 12th, this followed by singles on three further dates which took the monthly total to 204; there have been higher daycounts in seven previous Mays (with a peak of 41 in 1995) and three higher May daycounts since 2013, however the bird-days total was a new May record, up on the 166 of 1950, the 193 of 1967 and the 167 of 2016. Up to three Dunlin present at a very small North Pond on each day between the 11th and 14th led to a June bird-days total of eight; there have only been 12 bigger June tallies, with highs of 30 in 1963 and an unprecedented 133 in 2018.

The total number of Dunlin bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2020 peak was recorded. Counts from 2017 to 2019 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	1	42	204	8	2	9	24	13	5
2019	0	23	155	17	73	87	6	3	2
2018	11	42	111	133	24	5	7	2	0
2017	0	21	58	3	134	192	30	12	0
2020	1	7	26	3	1	3	3	6	1
2019	0	4	16	4	9	21	3	2	1
2018	4	17	21	21	9	2	2	1	0
2017	0	8	15	1	17	22	6	3	0
	31st	30th	12th	11th	9th & 21st	9th	1st	14th	5 dates

Adults on the 9th and 21st were the only Dunlin seen during July; although there have been 22 previous Julys without a sighting, a bird-days total of two was the lowest since 2011 and well down

on a 2013-2019 mean of 44.0 (during which period there were all-time highs of 134 in 2017 and 73 last year). No doubt due at least in part to the fact that North, South and Winter Ponds were empty until the 25th, three flyovers on the 9th and a single over on the 23rd were the only August records prior to the 28th, from when there were daily sightings of up to two adults and a juvenile; a bird-days total of nine was down on a 2013-2019 mean of 72.4 (this a period which included August records of 139 in 2015 and 192 in 2017). Birds were present on 17 September dates, with a daycount maximum of three on the 1st contributing to a bird-days total of 24; there have been 18 higher September tallies, with peaks of 68 in 1958, 83 in 1981 and 69 in 2015. A better than average October saw records on seven dates to the 18th, all of singles bar six east on the 14th and two east the following day; an October bird-days total of 13 was the highest since the 31 of 1988 and the seventh highest to date. Lone flyovers on the 4th and 5th, along with one at North Pond between the 22nd and 24th, took the November total to five and equalled the seventh highest tally in this month, whilst two at North Pond on the 5th were the first to be observed in December since Lockley logged three in 1938.

Purple Sandpiper *Calidris maritima* **Pibydd Du**
Uncommon Visitor previously Fairly Common but occasionally Scarce in recent years
1936-1976: 8 trapped

It proved to be the 20th year since 1947 without a spring sighting; all of the blank springs have occurred after 1989 and 16 of them have been logged this century. One at the Little Neck on 22nd August was thus the first of the year, this the earliest autumn record since six on 28th July 1996. No more were seen in August; of the 2120 bird-days logged in August, just 24 have been recorded this century (20 of which were noted in 2014). The only September records were of one at the Neck on the 3rd and two at the Devil's Teeth on the 24th. Sightings on seven October dates were all of singles bar seven at the Devil's Teeth on the 5th and six there on the 6th; an October bird-days total of 18 equalled that of 2003 as the highest since 1979, whilst the peak daycount matched that of last October as the highest in any month since the nine of 1st November 2003 (this a tally well down on record highs of 32 on 20th March 1968 and 26th August 1978 and of 30 on 27th March 1966). In November there were three at the Howard's End Hide on the 15th and one on the Anticline the following day, whilst December saw singles on the 4th and 6th. A 2020 bird-days total of 28 was the highest annual tally since 2014 when sightings on 13 dates totalled 32. Prior to 1983 three-figure annual totals were the norm, with record monthly tallies of 279 in August 1971, 234 in August 1978 and 229 in August 1979. 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, this a sad reflection of the situation nationally and their amber listing as a species of UK conservation concern.

Pectoral Sandpiper *Calidris melanotos* **Pibydd Cain**
Rare at least 18 previous records of at least 22 birds, including the first for Wales in 1958
1936-1976: 5 trapped

A bird which arrived to North Pond at 1530hrs on 31st May remained for only 20 minutes before heading off high and west (GE, RDB); there have only been five previous spring records, all logged between 13th May and 10th June and with one on 15th May 2013 the most recent. A vocal juvenile (below photograph), which dropped in at North Pond on 15th September, was the first autumn sighting since one on 30th August 2017 (RDB, GE, RD); this was a typical autumn arrival, with the previous birds all present between 23rd August and 11th October and with the majority occurring in September (including three together on the 27th in 1970 which remains the highest daycount). The only other records this century, all from North Pond, are of a single on the 7th and 8th September 2012, two between the 16th and 18th September 2012 (one of which remained for a further three days) and two on the 13th and 14th May 2011 (one of which also lingered a further day). The exact number of previous records is somewhat confused by what may have been long-staying individuals going absent for short periods; some birds are certainly known to have remained for up to 19 days.

Woodcock *Scolopax rusticola* **Cyffylog**
Scarce Winter Visitor not recorded every year, but over 200 corpses found in February 1963
Earliest 15th July 1962 (6th November 2020) **Latest** 19th May 1999
1936-1976: 3 trapped, 2018: 1 trapped

As is typically the case, there were no spring birds this year; there have been records between 3rd March and 19th May in only 23 previous years, including four of the last nine. One flushed from the Bramble at the Old Well on 6th November was the first of the autumn, this 11 days later than the first of last year, ten days later than the 2014-2019 mean and the latest autumn arrival of the last seven years. Further singles seen along the Lighthouse Track, after dark on the 7th, 9th and 12th, took the monthly total to four, this equalling the seventh highest November bird-days tally (there were highs of eight logged in 1991 and 2018 and ten in 1968). A nocturnal single was again along the Lighthouse Track on 3rd December, whilst one at the Well on 5th December was the last to be seen prior to the departure of staff. 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 (26th September 2020) **Latest** 22nd May 1995
1936-1976: 8 trapped

Although Jack Snipe have been noted in 35 previous springs, this proved to be the third of the last eight without a record. One at South Pond on 26th September was 35 days earlier than the first of last year, the earliest autumn record since one on the same date in 2012 and only the 20th September bird-day; there have been nine earlier autumn sightings. One at South Pond on 5th October and one along the stream above North Gully on 15th October were the only other records this year; a 2020 total of three autumn bird-days matched those of 2016 and 2019 as the highest since the 11 of 2013. Lockley described Jack Snipe as 'common from 7th October to 24th March', however 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
1936-1976: 54 trapped, 2018-2019: 14 trapped, 3 retrapped

Winter daytrips encountered 11 on 22nd January and 17 at North Pond on 6th February; visits during this period are rare, however there were pre-1940 January and February daycounts of 200 and a post-War February high of 54 on the 28th last year. Counts on all but two March dates from the 16th were, bar the 22 logged on the 17th, of nine or less; the peak was the highest daycount in the second half of March since 30 were logged on the 20th in 1981. Although grounded Snipe are occasionally encountered along the clifftop heath, one stood on the cliff at Middlerock on 31st March was exceptional. Daycounts on 11 April dates to the 25th peaked at five on the 14th, with the remainder being of two or less; although the peak equalled the second highest April daycount since 1995, a bird-days total of 19 was the lowest of the last four years and down on a 2013-2019 mean of 25.0. There was no May sighting for the second time since 2015; only 26 of 313 previous May bird-days were logged this century, including just nine in the last decade. The last of 36 previous June bird-days occurred in 1999.

The total number of Snipe bird-days logged each month (2019 to 2017 in parenthesis), along with the maximum monthly daycount (2019 to 2017 in parenthesis) and the date on which the 2020 peak was recorded.

March	April	May	June	July	August	September	October	November
76	19	0	0	0	19	85	131	89
(313, 170, 20)	(61, 32, 30)	(0, 3, 2)	(0, 0, 0)	(1, 10, 5)	(25, 35, 42)	(64, 83, 29)	(113, 174, 51)	(149, 184, 14)
22	5	0	0	0	5	14	10	15
(72, 33, 6)	(16, 5, 4)	(0, 1, 2)	(0, 0, 0)	(1, 2, 4)	(6, 18, 8)	(7, 15, 6)	(13, 23, 9)	(18, 21, 5)
17th	14th				29th	28th	16th	27th

One in the stream above North Gully on 6th August was the first of the autumn, this seven days later than the first of last year. Sightings of up to five birds on eight further August dates took the monthly total to 19; there have been 18 higher August tallies, including four totals of up to 42 in the last five years and highs of 86 in 1947 and 1958 and 77 in 1982. September saw counts of up to four birds on five dates to the 9th and daily sightings from the 12th which peaked at ten on the 26th, nine on the 27th and 14 on the 28th; the maximum daycount was the third highest to be logged in September, only down on the 15 of 1934 and 2018, whilst a bird-days total of 85 was only down on the 145 of 1972. Counts again increased in October with 131 bird-days noted over 27 dates and highs of nine on the 3rd, 11th and 12th and ten on the 16th; although the peak daycount was down on those of the last two Octobers and a 2013-2019 mean of 10.9, the bird-days total was the third highest since

1977 (albeit well down on highs of 273 in 1973 and 259 in 1975). There were sightings on all but six November dates, with highs of 13 on the 23rd and 15 on the 27th which took the bird-days total to 89, this the lowest tally of the last three years; although differing staff departure dates mean that November totals are not directly comparable, a 2018 tally of 184 was the highest to date. Counts of up to 19 were logged on five December dates prior to the departure of staff on the 7th.

Common Sandpiper *Actitis hypoleucos* **Pibydd y Dorlan**
Uncommon more regular in autumn
Earliest 21st March 1948 (7th July 2020) **Latest** 29th October 1975 (6th September 2020)
1936-1976: 23 trapped, 2018: 1 trapped

Although this has never proven a common species in spring, indeed the 1946-2019 spring bird-days mean is only 9.7 (with highs of 25 in 1948 and 27 in 1950 and 1953), this became only the sixth spring without a sighting; all of the blank springs have been logged since 2004, with the 21st century spring bird-days mean being 4.6 (with a high of 17 in 2016). The first returning bird arrived on 7th July, this ten days later than the first of last autumn. Two were in Crab Bay on 11th July, two the following day were between there and South Haven and singles on two further dates to the 16th occupied the same area. Sightings on six August dates from the 11th were all, bar the three logged on the 19th, of singles and were all of birds found between South Haven, North Haven and the Neck. One in North Gully on the evening of the 6th was the only September record and the last of the year, this two days earlier than the last of 2019. An autumn total of 16 bird-days was 14 down on last year and down on a 1946-2019 autumn mean of 20.3, on recent highs of 36 in 2014 and 58 in 2013 and on all-time highs of 70 in 1947 and 64 in 1948.

Green Sandpiper *Tringa ochropus* **Pibydd Gwyrdd**
Scarce not recorded every year, only seven records 1998-2013 and only 17 spring records
Earliest 2nd April 1997 (20th July 2020) **Latest** 21st October 1967 (12th September 2020)

One seen at both South Pond and Orchid Bog on 20th July was four days later than the first autumn record of last year (there had been a rare spring sighting that April); of the 38 previous July bird-days, 11 have been logged since 2013 and only seven were earlier than that of this year. There was no August sighting for only the second time in eight years; it was postulated that a lack of records in August 2018 was linked to the absence of water in North, South and Winter Ponds, something which was also the case for the first 24 days of the month this year. One at North Pond on 11th September was perhaps the vocal bird which flew over at 0630hrs the following day; there have been 15 later autumn bird-days, three of which were logged in October (all between 1946 and 1967). A total of three autumn bird-days was down on the seven of last year and a 2013-2019 mean of 7.2 (although this period included highs of 13 in 2015 and ten in 2017, tallies only down on a remarkable 31 logged in 1997 when August daycounts of up to five were linked to flooding).

Redshank *Tringa totanus* **Pibydd Coesgoch**
Uncommon more regular in autumn
1 control
1936-1976: 4 trapped, 2018-2019: 3 controls

Winter daytrips found a single on 22nd January and two on 6th February. One was at North Pond on the 17th, 19th and 23rd March, the bird-days total matching the third highest tally in this month; records in 22 previous Marches included bird-day highs of three in 2013, 35 in 2018 and 30 in 2019. The sole April record was of three which visited both South and North Ponds on the 16th; the only higher April daycount was of four in 1968, although there have been six higher totals including the nine of 2018 and the six of 2015. A lone bird spent 30th May at North Pond, this a rather typical late spring sighting; records in 34 previous Mays have totalled 100 bird-days, with highs of 14 in 2000

and 12 in 2014. There was no June sighting for the first time since 2013, but for the 55th time since recording began. July records were either of flyovers or of birds around the coast, with three singles logged between the 7th and 19th and three together below the Lighthouse on the 29th; a July bird-days total of six was down on a 2013-2019 mean of 8.7, although this period included totals of 22 in 2015 and 13 in 2017 which are the highest to date.

Flyover singles on the 6th and 23rd were the only August sightings prior to the rains which refilled the ponds from the 25th, although counts of up to three on the last three days of the month took the total to eight; the bird-days tally matched that of a dry August 2018 as the lowest since 2011, a total down on a 2013-2019 mean of 15.0 and an all-time high of 34 logged in 2017. September is typically quiet, indeed the bird-days record logged in 1973 is just 17, nevertheless singles on the 1st and 5th were the only sightings. A flyover on the 14th was just the 33rd bird-day to be logged in October, 11 of which have occurred in the last five years. A Gann colour ringed adult at North Pond on 22nd November (see below) was perhaps the bird there on the 24th and 25th and on the 4th and 5th December (a colour ring was seen on two of the latter dates, but the unique number could not be read); Redshank have been recorded in eight previous Novembers, including four of the last six, and in the Decembers of 1927 and 2019.

Ringing recovery Left tibia: Orange, Right tibia: White 58 on Black, Right tarsus: DT23633
Originally ringed as an adult, THE GANN, DALE, PEMBROKESHIRE 21st February 2018
Previously retrapped as an adult, THE GANN, DALE, PEMBROKESHIRE 10th December 2018
Previously resighted as an adult, NORTH POND, SKOKHOLM 5th, 23rd and 25th March 2019
Previously resighted as an adult, THE GANN, DALE, PEMBROKESHIRE 28th November 2019
Previously resighted as an adult, THE GANN, DALE, PEMBROKESHIRE 16th March 2020
Resighted as an adult, NORTH POND, SKOKHOLM 22nd November 2020
Subsequently resighted as an adult, THE GANN, DALE, PEMBROKESHIRE 3rd and 6th December 2020
Finding condition Colour rings read in field
Distance travelled 9km at 258 degrees (WSW)
Days since ringed 1005
This is the second Gann ringed Redshank to be seen on Skokholm, both of which have returned to the Island in more than one winter. The other returning bird, DT23625 (number 26), joined this individual at North Pond on 5th March 2019 having previously been seen there in March, April and November 2018.

Wood Sandpiper *Tringa glareola* **Pibydd y Graean**
Scarce not recorded every year and only 11 spring records
Earliest 22nd April 1973 **Latest** 22nd September 1966 (20th July 2020)
1936-1976: 2 trapped

Two separate flyovers above South Haven on the evening of 20th July were assumed to be the same vocal bird circling the Island; there have been five previous July sightings, with one in 2018 the most recent. This becomes the seventh consecutive year with a record, a regularity of occurrence which has not previously been recorded here; there were sightings in each of the three years between 1962 and 1964, 1971 and 1973 and 1994 and 1996. Ten records in the last seven years comprise six flyover singles, lone juveniles which have lingered for one, four and six days and two together at North Pond for 15 minutes in August 2015 (the latter one of only six sightings of multiple birds). Since the first in August 1955, there have now been approximately 52 records totalling at least 58 individuals and with birds noted on 95 dates, all logged during 31 of 66 recording years.

Greenshank *Tringa nebularia* **Pibydd Coeswerdd**
Uncommon but not recorded every year and only seven records between 2005 and 2012 inclusive
Earliest 30th March 2019 (17th August 2020) **Latest** 9th November 1958 (18th October 2020)

There was no spring sighting for the first time since 2013 and for the 54th time since 1927. A maximum spring daycount of three in April 1966 took the total for that month to a spring record 13, however the majority of the 86 previous spring bird-days have been logged in May. A vocal bird heading west off North Gully on 17th August was the first of the year, with one over Home Meadow on the 29th the only other sighting that month; there have been more bird-days logged in August than in any other month, with a total of 275 including 20 this decade and highs of 18 in 1964 and 1983. One seen briefly on North Pond at 0700hrs on 18th September was perhaps the bird present the following day; ten of 102 September bird-days have been logged this decade and there have been highs of 14 in 1955 and ten in 1958. The last of the year was at North Pond on 18th October; only one of the singles logged in eight previous Octobers was later than that of this year (the one on the 24th in 1997), whilst one on 9th November 1958 is the only later record.

Kittiwake *Rissa tridactyla* **Gwylan Goesddu**
Very Abundant a single pair attempted to breed in 1959
4 controls
2018: 1 control

Although present offshore in all months, Kittiwake were logged in smaller numbers than might be expected given the presence of 1681 breeding pairs on nearby Skomer. The pattern of records broadly matched that observed in recent years, with a quiet pre-breeding period, an increase during the breeding season and a substantial autumn arrival, however the post-breeding dip in numbers (which has been seen in the majority of recent years) was not evident this year. A peak March daycount of 422 on the 20th was down on the 919 of last year, however it was otherwise the highest since 1500 were logged on the 26th in 1980. Daycount maxima in April, May and June were down on the majority of recent years (see table below) 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 and September as autumn passage attracts regular and prolonged observations, so the usual dip in numbers logged during this period no doubt reflects a genuine absence (which coincides with the period of post-breeding moult). This dip was not seen this year, indeed an August daycount of 1170 on the 28th and a monthly bird-days total of 4989 were both the highest to date. Interestingly similar high August counts were also logged in 2018, with both that year and this seeing unusually high numbers loafing on coastal rocks and roosting on the sea in the lee of the Island; colour rings again suggested that birds present

during this period are not all local (see below). There were again several summer records of Kittiwakes feeding above gatherings of feeding Razorbills, the diving auks seemingly pushing fish up to where they could be reached by the gulls.

The total number of Kittiwake bird-days logged each month, along with the maximum monthly daycount and the date on which the 2020 peak was recorded. Counts from 2019 to 2015 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	920	150	462	619	1656	4989	5455	7978	5530
2019	2152	361	597	2627	2136	1928	786	10414	3715
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
2020	422	38	52	121	457	1170	1481	1542	1154
2019	919	65	171	640	262	332	388	3032	860
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
	20th	27th	9th	27th	11th	28th	26th	14th	15th

Kittiwake were seen ashore on 20 dates from 9th June to 4th September, with 15 counts of between one and 38 but five higher counts from the 15th to 31st August which peaked at 287 on the 17th, 492 on the 30th and 169 on the 31st; the 30th August roost, which gathered on rocks to the north of the Quarry, was the largest yet recorded and contained four birds which had been colour ringed in France and just nine first-winters. A 2020 total of 1388 loafing birds was the highest tally this decade, 12.4% up on the 1235 seen ashore over 13 dates between 9th July and 2nd September 2018 (which included a peak of 261 on 21st August); only 48 were noted ashore over three dates in 2019. Three of the birds ashore in both 2018 and 2019 were also colour ringed with five separate bands, this a combination which matches that used by the French scheme, however only one in 2018 was seen well enough to confirm it as having bred at Pointe Du Van that year; it would seem likely that many of the birds present around Skokholm during late summer and early autumn are from the south. Although birds were no longer coming ashore, September daycounts were often high, with a bird-days total of 5455 including tallies of 893 on the 13th and 1481 on the 26th (the latter count of birds heading northwest the morning after a northwesterly gale); both the total and the peak count were the highest since 1978 when there were daycounts of up to 5000. Although there were 14

dates when fewer than 100 were logged, October daycounts included highs of 1542 on the 14th, 1079 on the 15th and 940 on the 29th, the majority of which were feeding in Broad Sound; both the peak daycount and a bird-days total of 7978 were down on last year (when a count of 3032 contributed to an October tally of 10,414), however both were otherwise the highest since 1980. A sporadic Broad Sound presence continued into November with highs of 590 on the 13th, 1154 on the 15th and 558 on the 18th (unusually a first-winter flew over East Bog and Home Meadow on the latter date), but fewer than 100 noted on 15 dates; although the peak was the third highest of the last eight years, it was well down on the Skokholm record of 8000 logged in November 1968. Kittiwake were again often absent on days when other small gulls remained, for example only seven joined 206 Black-headed Gull and 86 Mediterranean Gull in Broad Sound on 4th November, but only seven Black-headed Gull and nine Mediterranean Gull fed alongside the 558 Kittiwake present on the 18th.

Ringing recovery Left leg: Green/Orange/FRP FX25733, Right Leg: Green/Yellow/Blue
Originally ringed as a chick, POINTE DU RAZ, PLOGOFF, FINISTÈRE, BRITTANY, FRANCE 2018
Previously recovered as a pre-breeder, POINTE DU VAN, BRITTANY, FRANCE 13th May 2020
Previously recovered as a pre-breeder, POINTE DU RAZ, BRITTANY, FRANCE 31st July 2020
Recovered as an adult, WILDGOOSE BAY, SKOKHOLM 30th August 2020
Finding condition Colour rings read at roost
Distance travelled 406km at 352 degrees (N)
Days since ringed approximately 793
This pre-breeder was seen on four occasions between 13th May and 31st July 2020, during which time it visited club sites at both the Pointe du Raz and Pointe du Van colonies.

Ringing recovery Left leg: Red/Green/FRP FX26830, Right Leg: White/Green/Blue
Originally ringed as a chick, POINTE DU VAN, CLÉDEN-CAP-SIZUN, FINISTÈRE, FRANCE 2016
Previously recovered two sightings as a pre-breeder, POINTE DU VAN, BRITTANY, FRANCE 2018
Previously recovered as a breeding male, POINTE DU VAN, BRITTANY, FRANCE 2019
Previously recovered as an adult, POINTE DU VAN, BRITTANY, FRANCE 2020
Previously recovered as an adult, POINTE DU RAZ, BRITTANY, FRANCE until 19th July 2020
Recovered as an adult, WILDGOOSE BAY, SKOKHOLM 17th August 2020
Finding condition Colour rings read at roost
Distance travelled 406km at 352 degrees (N)
Days since ringed approximately 1510
This male first bred in 2019, using a ledge on its natal cliff; the attempt failed at about the time that chicks were hatching, probably due to predation by a Herring Gull. This year he moved to a neighbouring cliff but failed to complete a nest, possibly again due to the attentions of Herring Gulls. Having abandoned a 2020 breeding attempt, he moved 3km to the colony at Pointe du Raz.

Ringing recovery Left leg: Green/White/FRP FX27841, Right Leg: Black/Orange/Green
Originally ringed as a chick, POINTE DU RAZ, PLOGOFF, FINISTÈRE, BRITTANY, FRANCE 2017
Previously recovered as a pre-breeder, POINTE DU RAZ, BRITTANY, FRANCE 21st May 2020
Previously recovered as a pre-breeder, POINTE DU RAZ, BRITTANY, FRANCE 1st August 2020
Recovered as an adult, WILDGOOSE BAY, SKOKHOLM 30th August 2020
Finding condition Colour rings read at roost
Distance travelled 406km at 352 degrees (N)
Days since ringed approximately 1158
Although some Kittiwakes may attempt to breed in their third year, this individual was seen on just four occasions during the summer (either at its natal cliff or at another adjacent cliff).

Ringing recovery Left leg: Green/Yellow/FRP FX28027, Right Leg: Yellow/Green/Yellow
Originally ringed as a chick, POINTE DU RAZ, PLOGOFF, FINISTÈRE, BRITTANY, FRANCE 2019
Recovered as a first-summer, WILDGOOSE BAY, SKOKHOLM 30th August 2020

Finding condition Colour rings read at roost
Distance travelled 406km at 352 degrees (N)
Days since ringed approximately 428
This bird was last seen on 29th July 2019, just seven days after it made its first flight; the fledging period was thus shorter than is typically expected for this species.

Sabine's Gull *Xema sabini* **Gwylan Sabine**
Rare records in only nine previous years, totalling 24 bird-days

An adult off the Lighthouse on 30th August was briefly chased by an Arctic Skua before it rounded on its assailant and harried it westwards (RDB *et al*.); this becomes the earliest Skokholm record, nine days earlier than a juvenile in 2011 and two juveniles in 2003. There have been ten bird-days in the last four years, with a daycount record of three logged on 9th October last year and a record annual total of six logged in 2017. Of the 24 previous bird-days, 14 were in September, nine in October and one on 1st November 1980.

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

Given the size of the Broad Sound flocks which gather each autumn and winter, it was again surprising that there were very few spring records, this probably suggesting that Black-headed Gulls have already dispersed towards their breeding grounds by the time that staff return to Skokholm. The only March sighting was of a single with Kittiwakes on the 16th; although there have been 658 previous March bird-days, 455 of these were logged in 2013 (with 44 in 1968 being the next highest tally). The three April records were all of birds over the Island, with one over Orchid Bog on the 8th, two over the Farm on the 11th and two over the Lighthouse on the 27th; although up on a blank 2019 and a 2013-2019 mean of 3.0, an April bird-days total of five was down on that logged in each year between 1966 and 1976 (when the total averaged 31.3 and peaked at 65 in 1971). A first-summer on the 11th and another which lingered in the vicinity of North Pond from the 28th to the 31st were the only May records; there have been sightings in 55 previous Mays, including seven of the last nine, with bird-day highs of 23 in 1967 and 30 in 1970 but a 2013-2019 mean of 2.1. The sole June bird was high over the Island on the 25th; annual June sightings between 2013 and 2019 averaged 7.3 bird-days (with a peak of 19 in 2018), whilst the only totals up on that of 2018 are the 26 of 1966, the 23 of 1967 and the 28 of 1969. The only July record was of two on the 19th which were the first definite juveniles of the year; this was the latest juvenile arrival of the last eight years, 18 days later than the 2013-2019 mean (the earliest during this period arrived on 22nd June in 2018 and the latest on 15th July in 2016). Two July bird-days was the lowest tally since 2012, well down on a 2013-2019 mean of 25.3 and an all-time high of 102 logged in 2018.

Sightings on 12 August dates from the 9th, including highs of 22 on the 9th, 43 on the 17th and 24 on the 18th, tallied 124 bird-days; the peak was only down on daycounts of 97 and 70 logged last year and a count of 66 in 1958, whilst the total was only down on the 224 of last year. Birds were noted on eight dates in September, with 49 on the 1st the only daycount to exceed single-figures; although the peak daycount was the highest of the last five Septembers, and a bird-days total of 74 was the second highest to be logged during the same period, both were down on respective 2013-2019 means of 58.9 and 108.0 (owing to daycount highs of 128 in 2013 and 199 in 2015 and record September totals of 269 in 2013 and 270 in 2015). It proved a disappointing October, with counts on 16 dates totalling 715 bird-days and peaking at 121 on the 14th and 127 on the 16th; the mean 2013-2019 October maximum is 865.9 (with a high of 1735 in 2017), whilst the bird-days mean for the same period is 4336.4 (with an all-time high of 10,147 logged in 2018). Differing staff departure dates mean that November bird-days totals are not directly comparable, however peak 2020 daycounts of 206 on the 4th, 257 on the 5th and 237 on the 30th were the lowest of the last eight

years, down on a 2013-2019 mean of 1124.1 and highs of 1178 in 2014, 2400 in 2017 and 1466 in 2018 (the 2017 high being the November record). Daily December counts to the 7th were all of 163 or less, bar the 874 present in Broad Sound on the 1st; although this peak was more than 600 up on any other 2020 daycount, it was still the lowest annual maximum of the last five years. It is unclear why the number of small gulls utilising Broad Sound was comparatively low this autumn.

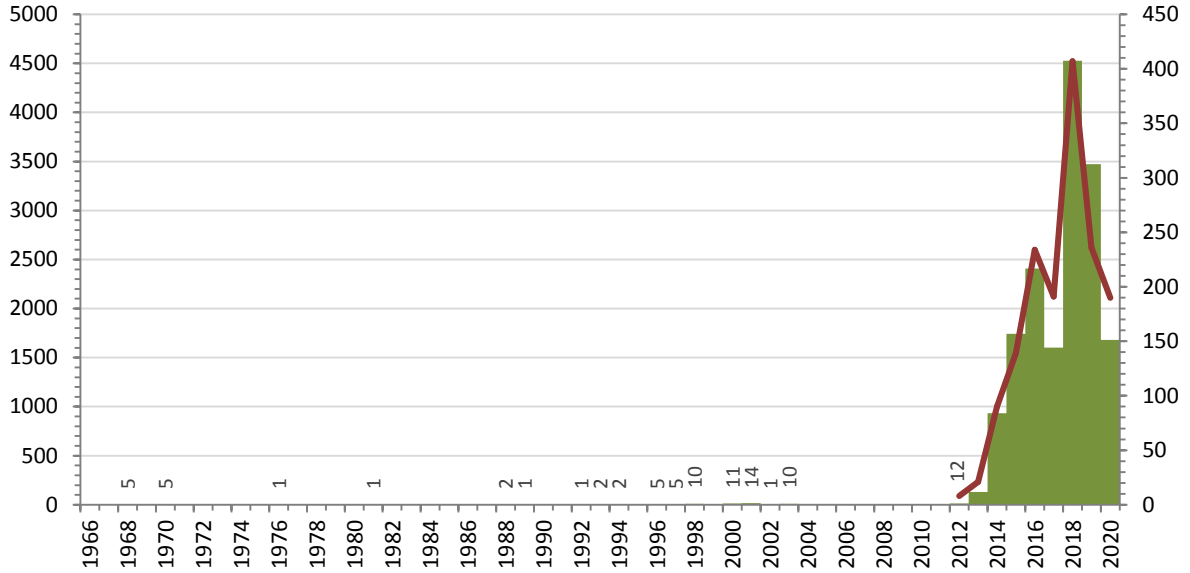
Little Gull *Hydrocoloeus minutus* **Gwylan Fechan**
Scarce offshore mid-July to November, primarily from mid-October and with one spring record

A first-winter flying northwest off the Lighthouse on 14th October was perhaps the bird seen heading south off the Quarry three days later. Likewise sightings of an adult in Broad Sound on the 1st, 15th, 16th, 18th and 25th November perhaps related to one individual. A bird-days total of seven was nevertheless the sixth highest to date, only down on the 12 of 1967, the nine of 1968, the 14 of 1980, the ten of 1990 and the 13 of 1996; the 1967 tally included a record daycount of seven, whilst a daycount of six was logged in both 1980 and 1996. Although a small number of birds have been recorded at other times of year, this species is not expected until late autumn; there have now been a total of 15 bird-days logged in September, 38 in October and 56 in November.

Mediterranean Gull *Ichthyaetus melanocephalus* **Gwylan Môr y Canoldir**
Abundant offshore during the autumn but Rare prior to 2000 and first logged in 1968

Considering that there had only been a total of 76 bird-days up until 2003, 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 bird-days 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; there were 934 bird-days logged in 2014, 1743 in 2015, 2407 in 2016, 1602 in 2017, an incredible 4528 in 2018 and 3473 last year. Despite this huge increase, spring records are still rare, indeed there have only been 11 bird-days in February or March (nine of which were logged last year), and there has not yet been an April or May sighting. Two adults on the 25th, heading northwest off the Lighthouse at 1930hrs, was only the third June record following three adults on the 21st in 2014 and one on the 29th in 2015. An adult on the 11th and a second-summer on the 28th were the only July sightings; a single in 1998, along with four in 2015 and five in 2017, are the only other records in this month. A juvenile was in Broad Sound on 2nd August; the only earlier youngster was logged on 7th July in 2015. Juveniles were seen on five further August dates from the 6th and an adult on the 31st took the bird-days total to seven; August sightings in eight previous years, including six of the last seven, have tallied 29 bird-days (with highs of 11 in 2018 and ten in 2019).

The total number of Mediterranean Gull bird-days noted in each year since the first five logged in November 1968 (green) and the maximum daycount logged in each year since 2012.



Sightings on ten September dates included highs of four on the 17th, 18th and 27th; although the peak counts were down on a 2013-2019 mean of 5.6, a bird-days total of 23 was only down on September highs of 27 logged in 2013 and 2017. October proved disappointing by recent standards, with records on 25 dates including highs of 97 on the 17th, 74 on the 18th and 68 on the 19th, but 14 daycounts of ten or less; the daycount maximum was down on that of the last four Octobers and a 2013-2019 mean of 126.0 (during which time counts peaked at 243 in 2018), whilst an October bird-days total of 564 was the lowest since 2013, down on a 2013-2019 mean of 945.0 and highs of 1186 in 2017 and 1961 in 2018. Although there were sightings on all but two November dates, these included nine daycounts of ten or less and 15 counts of between 11 and 50, whilst highs of 86 on the 4th, 81 on the 16th and 190 on the 19th took the bird-days total to 889; despite the fact that in every year bar 2019 staff had departed prior to the end of the month, the bird-days total was the second lowest of the last six Novembers (down on a 2013-2019 mean of 1123.1 and a high of 2547 in 2018). The peak November daycount was only down on highs of 230 and 236 in 2019, 197, 221, 361 and 407 in 2018 and 234 in 2016. Counts on the first six days of December peaked at 104 on the 1st, but were otherwise of between three and 39. Given the substantial number of Mediterranean Gulls being recorded in Skokholm waters, it is surprising how few are first-winters, for example only 16 of the 407 daycount record were young birds, whilst no first-winters were included in the maximum 2020 tally. The peak count of first-winters logged this year was of ten on the 17th and 19th October; there were highs of 11 in 2019, 33 in 2018, ten in 2017 and 12 in 2016. The most recently published estimate of the British overwintering population is 4000 individuals (Frost *et al.*, 2019); the Broad Sound feeding grounds are thus of significant importance to this species, with up to 5% of the published total being regularly present and 10% being present on one occasion in 2018.

Common Gull *Larus canus* **Gwylan y Gweunydd**

Uncommon offshore during the late autumn, but with only 34 bird-days between April and July
1936-1976: 12 trapped

There were no spring records this year; Common Gulls have been noted in 25 previous springs, with 18 of the 69 bird-days logged between 2013 and 2019 and highs of ten in 1974 and eight in 2013. The first of the year was a juvenile off the Lighthouse on 1st September; there have been seven July bird-days logged over six years and 31 August bird-days logged over 11 years, with two adults on 27th August last year the most recent. The only other September sightings were of an adult off the Stack on the 9th and, unusually, an adult over the Well on the 21st; there have been September sightings in

20 previous years (including just three this century), totalling 87 bird-days and with a high of 33 in 2013. Numbers again increased in October, with a juvenile on the 4th and sightings on nine further dates from the 13th which included highs of 12 on the 15th, 20 on the 17th and 16 on the 18th; although there have been higher daycounts in ten previous Octobers, including a 1992 maximum of 60, the peak was up on a 2013-2019 mean of 15.7. The peak October daycount comprised four adults, three second-winters and 13 first-winters, although nine adults were present the following day. An October bird-days total of 76 was up on a 2013-2019 mean of 52.6, albeit well down on highs of 130 in 1991 and 182 in 1992. As was the case with the other small gulls, November proved disappointing, with sightings on 19 dates and highs of five on the 12th and 11 on the 30th which took the bird-days total to 43; despite a staff presence throughout the month, the peak daycount was down on a 2013-2019 November mean of 23.1 and the total was down on a 2013-2019 mean of 102.6 (the maximum daycount in this period was of 44 in 2018 and the peak bird-days total was the 247 logged in the same year, both well down on records in 1968 when daycounts of up to 150 took the November total to 823). The peak 2020 November daycount comprised seven adults, two second-winters and two first-winters, although four first-winters had been present on the 4th. Counts on all but one December date to the 7th peaked at four on the 2nd and 6th, although four adults and two first-winters were logged during the period.

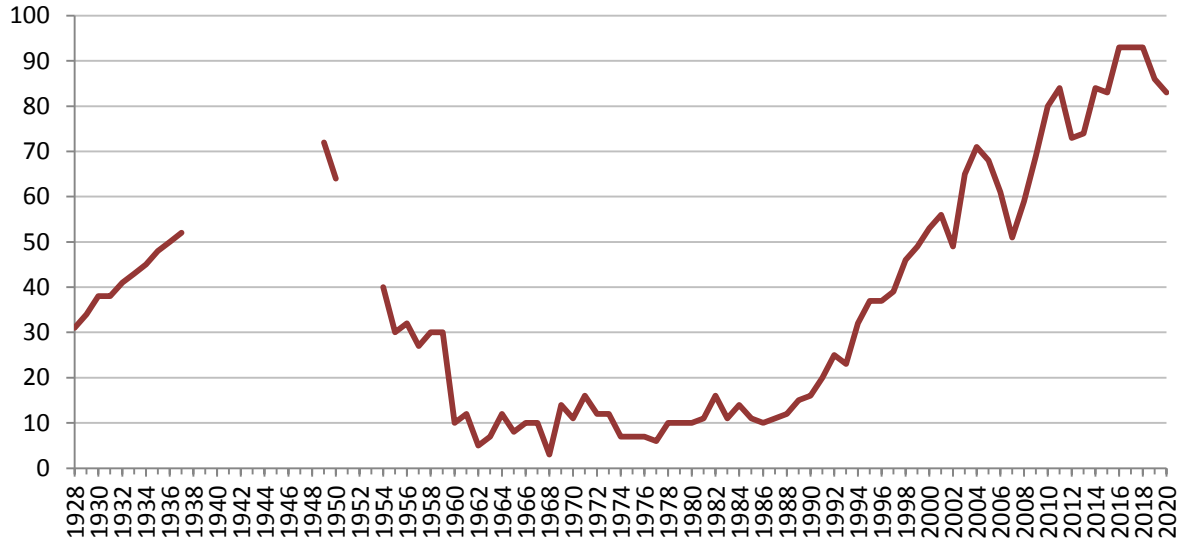
Great Black-backed Gull *Larus marinus* **Gwylan Gefnddu Fwyaf**
Fairly Common Breeder and Common Visitor
40 trapped (including 39 pulli), 54 resighted, 1 control
1936-1976: 219 trapped, 2013-2019: 404 trapped, 15 retrapped, 164 resighted, 5 controls

Many birds were absent in March, with counts during the last 16 days of the month peaking at 88 on the 17th; this was the lowest March high since the 68 of 2014. The majority of the birds present were on territory, with maximum roost counts of only 18 on the 17th and 20 on the 25th (the peak March roost between 2013 and 2019 averaged 40.3 birds, with highs of 48 in 2016 and 2017). Numbers again increased in April, with a maximum daycount of 150 logged on the 13th (which included 26 birds foraging around the potting vessel 'Our Hazel'). Communal roosts only formed occasionally and were typically of 20 birds or less, although there were highs of 48 on the 6th, 22 on the 13th and 29 on the 17th; the peak April roost between 2013 and 2019 averaged 76.3 birds, with a high of 213 on the 3rd in 2013 (the only peak down on that of this year was the 38 of 2019). A whole Island census between the 4th and 15th May located 83 apparently incubating birds (the only nests not visited to confirm the presence of eggs were adjacent to the Bog Lesser Black-backed Gull colony and on offshore stacks); although the total was, equal with that of 2015, the seventh highest on record, it was down on the 86 mapped in 2019 and the 93 mapped in 2018, 2017 and 2016. Indeed this proved the second year in succession in which the total number of breeding pairs has fallen below the lower limit stipulated in the Skokholm Management Plan. A marked drop in adult survival is seemingly, at least in part, to blame for the decline in the size of the Skokholm breeding population (see below). A decline in the size of the spring roosts is perhaps indicative of a drop in the number of individuals available to recruit to the breeding population.

A colour ringing project, begun six years ago, is providing an insight into how adult return rates influence the number of breeding pairs. Of 23 adults wearing rings in 2014, 19 (82.6%) returned for the 2015 breeding season; the number of nesting pairs dropped from 84 in 2014 to 83 in 2015. There followed an apparent increase in adult survival, during which time the breeding population increased to, and then stabilised at, 93 pairs; of 21 adults wearing colour rings in 2015, 19 returned in 2016 (90.5%), whilst 32 of 33 adults returned in 2017 (97.0%) and 32 of 36 returned in 2018 (88.9%). Of 44 adults wearing rings in 2018, only 35 (79.6%) returned in 2019; the breeding population dropped by seven pairs during the same period. This year saw 38 of 45 birds return (84.4%), whilst the breeding population declined by three pairs; this suggests that approximately 27 established adults did not return to breed in 2020 and that 21 new birds recruited in their place.

Since this study began, the population has only increased or remained stable with adult survival of 88.9% or better. One potential issue is that the ringing of adults on the nest could deter them from returning to Skokholm, however if we exclude the data collected in the year after ringing (when any disturbance should take effect), the return rates remain at a very similar 89.5% in 2016, 100% in 2017, 90.6% in 2018, 75.0% in 2019 and 82.9% this year; it thus seems likely that disturbance at the nest is not responsible for the recent decline in return rates.

The number of Great Black-backed Gull breeding pairs 1928-2020 (where data exists). Control of numbers started in 1949 (destruction of both nests and adults) and stopped in 1985.



The 2018 and 2019 return rates were previously reported as being lower than listed above. However a chance close encounter with a metal only ringed bird this year revealed it to be an adult colour ringed in 2014 (which lost its colour mark between the 2017 and 2018 seasons). A close inspection of birds occupying territories from which colour ringed individuals had previously gone missing revealed a further darvic loss, this from another 2014 ringed adult (which had lost its ring between the 2018 and 2019 breeding seasons). Additionally W:142, ringed as an adult in 2016 and pictured below with a Puffin, lost its colour ring between the 5th and 6th June this year; fortuitously the

dropped ring was found in the Puffin study plot, allowing the loss to be attributed to snapping rather than glue failure. Although the rate of ring loss is seemingly low, it will perhaps increase as the rings age; a careful check for metal rings in thus important, although reading the inscribed digits demands good views and significant patience. It would appear that Skokholm Great Black-backed Gulls rarely take a year away from the colony or go unseen; between 2016 and 2019, no missing colour ringed birds were found subsequently (with the exception of those which had lost their darvic). However this year saw the appearance of W:235 on North Plain in August (a bird which was later seen at the Gann); it had not been found since the end of the 2018 breeding season. Additionally W:239, also ringed in 2018 and which occupied its 2018 territory in 2019, was not seen until it appeared at the Gann in August and September; it was subsequently found in its 2018/19 Skokholm territory on 1st December, perhaps suggesting that it had been present this year but had departed early. A third bird, W:286 ringed in 2019, was not seen until September when it appeared on North Plain. There were thus three birds alive this autumn which were not found during the breeding season colour ring searches (but which are included in the survival figures listed above).

It is not clear what may have caused such seemingly high adult mortality since 2018, although interactions with the fishing industry and poisoning have been raised in recent Skokholm Seabird Reports as areas for concern. Fewer injuries were noted this year; an adult with a broken and almost severed wing, present in the Bog between the 6th and 8th June, was found dead on the 9th, a lethargic adult on 28th June had a bleeding puncture wound in its flank, a juvenile on 12th August had a broken leg and a dead (but seemingly undamaged) adult was found on 20th August. Additionally a juvenile had a damaged wing from 21st August, although this was almost certainly the result of misadventure during its first storm. In August 2018 an unringed adult arrived to the Lighthouse with a bloody leg which was missing its foot, whilst five individuals were found with serious leg injuries between 16th April and 30th May last year (similar injuries were seen in Herring Gulls). Although birds can be injured during aggressive encounters with other gulls (as was perhaps the case with the broken winged adult this June), it seems likely that undamaged corpses are often caused by poisoning, perhaps botulism, and that many violent injuries are caused by interactions with fishing gear. Great Black-backed Gulls were again regularly observed behind fishing vessels this year, although clearly some boats were more attractive than others; peak counts were of 26 behind 'Our Hazel' on 13th April and of 32 behind 'Boy's Pride' on 21st April. A 'Boy's Pride' crew member was deliberately feeding fish remains to 11 birds on 25th June. An important step in understanding the Skokholm Great Black-backed Gull population will be to discover if such anthropogenic food sources are

regularly exploited; additional food will increase survival, particularly during the winter or periods of low seabird and Rabbit numbers, however foraging around boats or mainland food sources also has the potential to seriously impact health.

Checks of any accessible and seemingly complete nests from 10th April failed to find any eggs until the 16th; a search of the area to the south of North Pond on the latter date located a single complete nest which contained a full complement of three eggs. The first egg of last year was a single found on the 18th, whilst the 2013-2019 average is 16th April (with the earliest found on the 10th in 2014 (a single egg) and 2018 (a clutch of three) and the latest on the 25th in 2013). The first chicks to be seen in 2020 were found in Peter's Bay on 17th May; the first of last year were found on the 16th and the first of 2018 on the 20th. Of 47 monitored nests, 15 pairs failed, nine pairs fledged a singleton, 12 pairs fledged two and 11 pairs fledged three. There were thus 66 young fledged and a productivity figure of 1.40 fledglings per monitored pair; productivity was 2.1% down on that of 2019 but 28.4% up on the 1989-2004 mean of 1.09 and 7.7% up on the 2010-2019 mean (1.30 ±se 0.12).

Productivity estimates 2006-2020 (average number of fledglings per sample pair).

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1.07	1.02	1.02	-	0.71	0.89	-	1.80	0.93	1.66	1.38	1.54	1.40	1.43	1.40

The Great Black-backed Gulls are spectacular apex predators and an exciting component of the Skokholm seabird assemblage, however it is important we monitor the impact of higher breeding numbers on the Manx Shearwater population. Dead shearwaters were counted for a seventh consecutive year, the vast majority of which had been eaten by Great Black-backed Gulls (see the Manx Shearwater section for further details); a total of 3978 depredated corpses, comprising 3008 adults and 970 youngsters, were marked this year. The number of adults marked was the highest on record, up on a peak of 2931 recorded in 2014 and a 2014-2019 mean of 2308.2, whilst the number of youngsters marked was the lowest to date, down on a 2014-2019 mean of 1218.7 (a high of 1398 was recorded in 2016 and a low of 971 in 2018). The total number of marked corpses was the third highest to date, down on the 4218 of 2014 and the 4026 of 2015 but up on a 2014-2019 mean of 3526.8. For a second year, ad hoc observations suggested an increase in the number of shearwaters being dug out from their burrows; this form of hunting has the potential to impact more than just

the eaten individual, as it reduces the suitability of nest sites and the stability of the colony. Accessing nest chambers increases the likelihood that Great Black-backed Gulls are taking small chicks, birds which would probably not be represented in the corpse counting survey as they are typically swallowed whole. Indeed 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 shearwater specialists (Westerberg *et al*., 2018)), the number of shearwaters available (including 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 any growth in the Great Black-backed Gull population will impact the shearwaters. Ultimately more data is required to understand these relationships in greater detail.

The colour ringing project initiated in 2014 is also providing information on juvenile survival and recruitment. Of 43 fledglings ringed in 2014, 31 (72.09%) have been resighted subsequently, including four which have been found dead. At least 19 birds (44.19%) definitely survived their first full year, 14 (32.56%) survived two years, 12 (27.91%) survived three years, 11 (25.58%) survived four years, six (13.95%) survived five years and four (9.30%) have survived at least six years (one of which was seen on Skokholm (but was not paired), two of which were breeding on Skomer and one of which was seen regularly at the Nevern Estuary, Newport, Pembrokeshire). The birds ringed as fledglings in 2015 have provided similar results; of 52 ringed, 27 (51.92%) have been resighted subsequently, 18 (34.62%) survived their first full year, 15 (28.85%) survived two years, 13 (25.00%) survived three years, 12 (23.08%) survived four years and seven (13.46%) survived their fifth years. Of the 32 2016 ringed fledglings, 14 have been seen subsequently, whilst 11 of the 39 2017 fledglings, 21 of the 38 2018 fledglings and 31 of the 44 2019 ringed 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 25% of fledglings are surviving to four years of 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 31 youngsters which have so far returned to Skokholm at some point, eight were first back as first-summers, four as second-summers, 11 as third-summers, six as fourth-summers, one as a fifth-

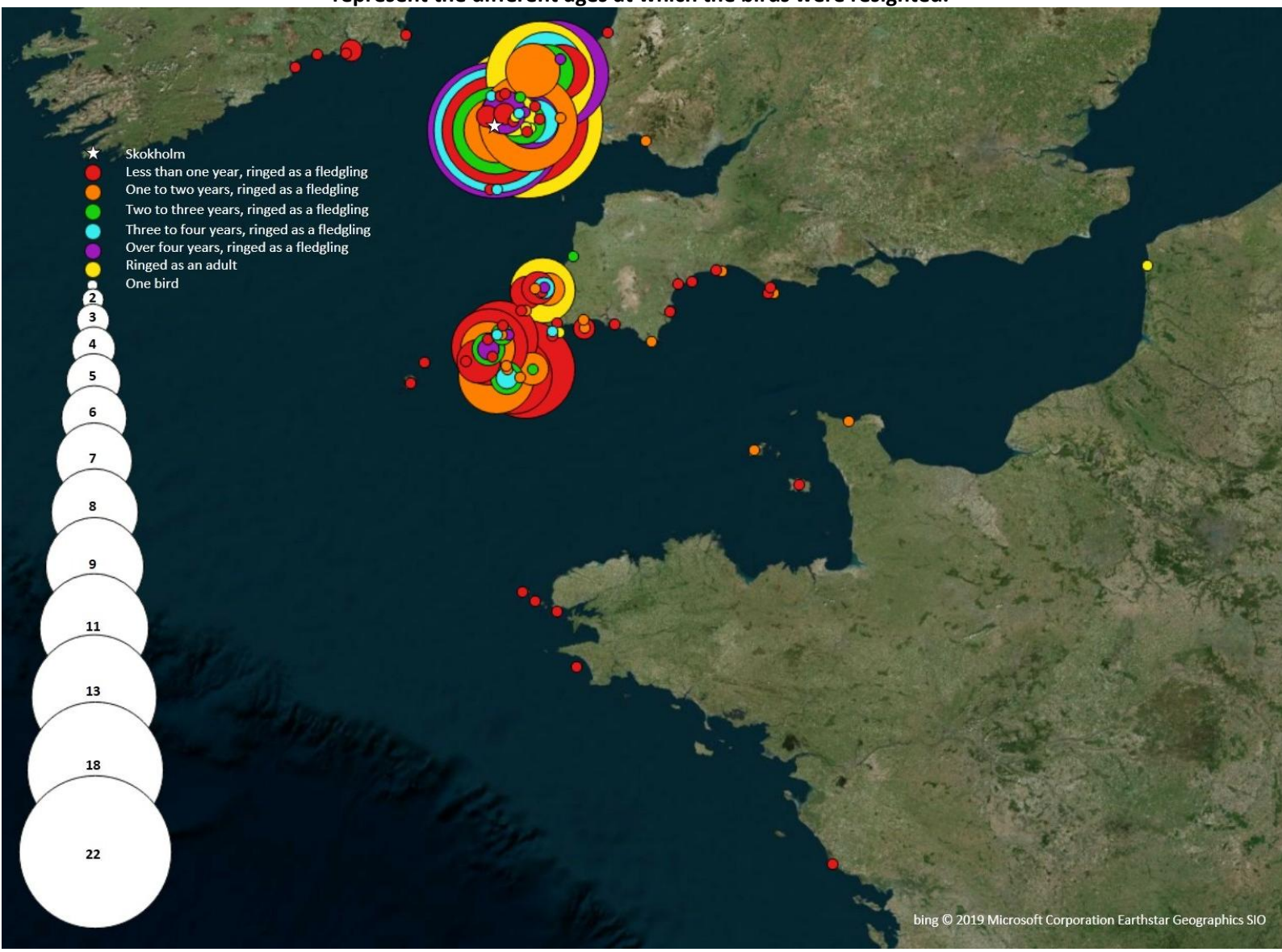
summer and one as a sixth-summer (none of these have bred on the Island); it would appear that birds are most likely to first return in their third summer (with a mean of 2.8 in each year between 2017 and 2020).

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). Birds then gravitate back towards Pembrokeshire as they get closer to breeding age (see both the table and map below). All of the records below were received since a similar table was published in the 2019 Seabird Report. There were 15 birds ringed as breeding adults and found 7.5km away on the Gann Estuary, a site which also saw 2020 visits from a sixth-winter, two fourth-winters, a third-winter, two second-summers, four second-winters, a first-summer and three first-winters (all in addition to those listed in the table below). Also in addition to the table below were sightings on Skokholm of two returning fifth-summers, two returning fourth-summers, a returning fourth-winter, a returning third-summer, a returning second-summer and a returning first-summer.

Darvic	Ring	Location	County	Age	Date
W:004	MA37971	Polzeath Beach	Cornwall	First-summer	04/06/20
W:004	MA37971	Hayle Estuary	Cornwall	First-summer	16/09/20
W:004	MA37971	Gwithian	Cornwall	Second-winter	04/11/20
W:007	MA37974	Nevern Estuary	Pembrokeshire	First-summer	19/06/20, 11/07/20
W:007	MA37974	Gann Estuary	Pembrokeshire	Second-winter	24/10/20, 08/11/20
W:055	HT94917	Nevern Estuary	Pembrokeshire	Sixth-summer	25/07/20, 09/09/20
W:060	HT94921	Skomer Island	Pembrokeshire	Sixth-summer	11/04/20 (breeding)
W:060	HT94921	Hayle Estuary	Cornwall	Seventh-winter	27/11/20
W:064	HT94925	Skomer Island	Pembrokeshire	Sixth-summer	06/05/20 (breeding)
W:064	HT94925	Gann Estuary	Pembrokeshire	Sixth-summer	28/09/20
W:077	HT94934	Skokholm	Pembrokeshire	Sixth-summer	29/05/20
W:077	HT94934	Nevern Estuary	Pembrokeshire	Sixth-summer	23/08/20, 24/08/20
W:079	HT94936	Nevern Estuary	Pembrokeshire	Adult	23/02/20
W:083	HT94940	Skokholm	Pembrokeshire	Fifth-summer	02/05/20
W:083	HT94940	Gann Estuary	Pembrokeshire	Fifth-summer	25/09/20
W:114	HT94943	Skomer Island	Pembrokeshire	Fifth-summer	25/05/20
W:116	HT94976	Camel Estuary	Cornwall	Fourth-winter	11/01/20
W:116	HT94976	Nevern Estuary	Pembrokeshire	Fourth-winter	10/03/20
W:119	HT94979	Skokholm	Pembrokeshire	Fifth-summer	30/05/20, 23/08/20
W:119	HT94979	Gann Estuary	Pembrokeshire	Fifth-summer	28/09/20
W:124	HT94955	Skokholm	Pembrokeshire	Fifth-summer	11/09/20
W:124	HT94955	Gann Estuary	Pembrokeshire	Sixth-winter	28/10/20
W:124	HT94955	Hayle Estuary	Cornwall	Sixth-winter	11/12/20
W:162	MA37820	Skomer Island	Pembrokeshire	Fourth-summer	18/05/20 (breeding)
W:195	MA37862	Skokholm	Pembrokeshire	Third-summer	24/04/20, 30/08/20
W:195	MA37862	Bristol Channel Approaches	Pembrokeshire	Third-summer	17/07/20
W:195	MA37862	Gann Estuary	Pembrokeshire	Fourth-winter	13/09/20, 24/10/20
W:195	MA37862	Gwithian	Cornwall	Fourth-winter	13/11/20
W:222	MA37887	Copperhouse Creek, Hayle	Cornwall	Third-winter	06/03/20
W:222	MA37887	Gann Estuary	Pembrokeshire	Third-summer	28/09/20
W:242	MA37911	Hayle Estuary	Cornwall	Third-winter	05/12/20
W:253	MA37900	Newgale Beach	Pembrokeshire	Third-winter	26/11/20 (dead)
W:254	MA37919	Nevern Estuary	Pembrokeshire	Second-summer	03/04/20, 26/09/20

W:260	MA37905	Hayle Estuary	Cornwall	Second-winter	28/02/20
W:260	MA37905	Southerly Point, The Lizard	Cornwall	Second-summer	21/06/20, 29/07/20
W:271	MA37928	Southerly Point, The Lizard	Cornwall	Second-summer	15/07/20, 28/08/20
W:282	MA37951	Bassin de la Liane, Calais	FRANCE	Adult	04/12/20
W:288	MA37957	Camel Estuary	Cornwall	Adult	08/12/20
W:291	MA37960	Hayle Estuary	Cornwall	First-winter	22/02/20
W:292	MA37959	Dunmore East, Waterford	IRELAND	First-winter	06/03/20

The movements of Skokholm ringed Great Black-backed Gulls 2014-2020. The different colours represent the different ages at which the birds were resighted.



Darvic	Ring	Location	County	Age	Date
W:299	MA37968	Hayle Estuary	Cornwall	First-winter	26/01/20
W:299	MA37968	Halzephron Cliff	Cornwall	First-summer	14/06/20
W:300	MA37969	RSPB Ryan's Field, Hayle	Cornwall	First-winter	14/02/20
W:306	MA37981	Camel Estuary	Cornwall	First-winter	05/01/20
W:315	MA37989	Skokholm	Pembrokeshire	First-summer	01/06/20
W:315	MA37989	Hayle Estuary	Cornwall	Second-winter	04/12/20
W:322	MA37996	Gwithian	Cornwall	First-winter	31/01/20

W:322	MA37996	Hayle Estuary	Cornwall	Second-winter	04/02/20, 27/11/20
W:322	MA37996	Gann Estuary	Pembrokeshire	Second-winter	01/11/20
W:324	MA37998	Gann Estuary	Pembrokeshire	First-winter	01/02/20
W:324	MA37998	Skokholm	Pembrokeshire	First-summer	17/04/20
W:331	MA46912	Skomer Island	Pembrokeshire	Juvenile	19/09/20, 20/09/20
W:333	MA46914	Llanon Beach, Aberaeron	Ceredigion	Juvenile	18/08/20
W:346	MA46927	Gwithian	Cornwall	First-winter	13/11/20
W:347	MA46928	Newlyn Harbour	Cornwall	Juvenile	19/09/20
W:350	MA46934	Marloes Sands	Pembrokeshire	Juvenile	20/09/20 (dead)

A roost of up to 44 birds (although on all but five occasions less than 30), regularly formed in the Bog during the breeding season; the smallest post-2012 breeding season roosts have occurred in the last three years. The first three fledglings were recorded on 1st July, one day later than the first of last year but two days earlier than the post-2013 mean. It was not until mid-August that the larger post-breeding roosts began to develop, with counts of between 44 and 64 increasing to highs of 97 on the 27th, 98 on the 29th and 96 on the 30th. The first fledgling to be seen away from the Island was found on Llanon Beach, north of Aberaeron, Ceredigion on 18th August; this is perhaps surprisingly the farthest north that a Skokholm ringed Great Black-backed Gull has been seen. A fledgling had reached Newlyn Harbour, Cornwall by 19th September; this was 40 days later than the first southwest resighting of 2019 (a bird at Newquay Harbour, Cornwall on 10th August which remains our earliest southwest resighting), but matched the mean 2014-2019 first southwest arrival date. Although up on a 2019 high of 113, September roost counts were lower than in most recent years; peaks of 128 on the 4th, 130 on the 5th and 129 on the 6th were down on highs of 135 in 2018, 183 in 2017, 247 in 2016 (when there were six daycounts of more than 200), 249 in 2015 and 355 in 2013 (the September 2014 maximum was only 52). For the first time in ten years, there were no three-figure October daycounts; following counts of 91 on the 3rd, 5th and 6th, only nine October tallies exceeded 30 (with a high of 60 on the 13th). The only November daycounts in excess of 30 were of 66 on the 1st, 117 on the 2nd, 45 on the 16th and 52 on the 17th, however a bird-days total of 574 was the highest since the 947 of 2013; the peak November daycount was likewise the highest since 2013 (when numbers peaked at 270 on the 3rd and 243 on the 5th). The 34 birds counted on the 1st was a new December record, up on the 30 logged by Lockley on Christmas Day 1928.

Ringing recovery MA24967 (green darvic with white B:158)
Originally ringed as a chick, YNYS GWYLAN-FAWR, GWYNEDD 19th June 2019
Recovered as a first-summer, SOUTH COAST, SKOKHOLM 28th August 2020
Recovered as a first-summer, NORTH PLAIN ROOST, SKOKHOLM 11th September 2020
Finding condition Colour ring read in field
Distance travelled 127km at 199 degrees (SSW)
Days since ringed 437 and 451
Given that the majority of Skokholm ringed youngsters disperse to the south and west, it is perhaps unsurprising that birds ringed in north Wales are following a similar pattern.

Glaucous Gull *Larus hyperboreus* **Gwylan y Gogledd**
Vagrant five previous records

A first-winter on 18th November, initially watched from Howard's End as it floated westwards, soon joined the feeding flock in the centre of Broad Sound (RDB, GE). What was probably the same bird was foraging in Skomer's North Haven the following day and was in a small Herring Gull roost on Skokholm's North Pond at 1550hrs on the 20th (GE, RDB). This was the first Island record since 12th March 2004 when a first-winter was seen briefly on the roof of the Wheelhouse. The only other records are of 'immatures' on 6th April 1969 and 1st November 1981, a second-winter on 31st March

1991 and a second calendar-year bird logged on 17th April and 14th May 1995 (the latter two sightings were presumed to be of the same individual).

Herring Gull *Larus argentatus* **Gwylan y Penwaig**
Common Breeder Abundant Breeder in the 1970s
14 resighted
1936-1976: 13,164 trapped, 2013-2019: 134 trapped, 24 retrapped, 28 resighted, 1 control

March counts again fluctuated widely, with lows of 61 on the 24th, 56 on the 28th and 55 on the 29th when birds fed and roosted away from Skokholm, but highs of 251 on the 17th and 196 on the 19th; the only lower post-2012 March high was the 176 logged in 2017 (peaks during the same period were of 439 in 2018 and 444 in 2015). In contrast with observations made of Lesser Black-backed Gulls during the same period, Herring Gull roosts again included reasonable numbers of subadult birds. The first lone egg was found in Crab Bay on 22nd April, four days later than the first of last year and the mean 2013-2019 first egg date (see table below); the only later first eggs were found on the 25th in 2015. Whole Island counts between the 17th and 19th May located 301 active nests, the same number as last year and a total fractionally up on the 2010-2019 mean (294.0 ±sd 22.8) but 4.6% down on the 1984-2019 mean (315.6 ±sd 46.7); this was thus the second consecutive year in which the total has been below the lower limit set in the Skokholm Management Plan. 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.

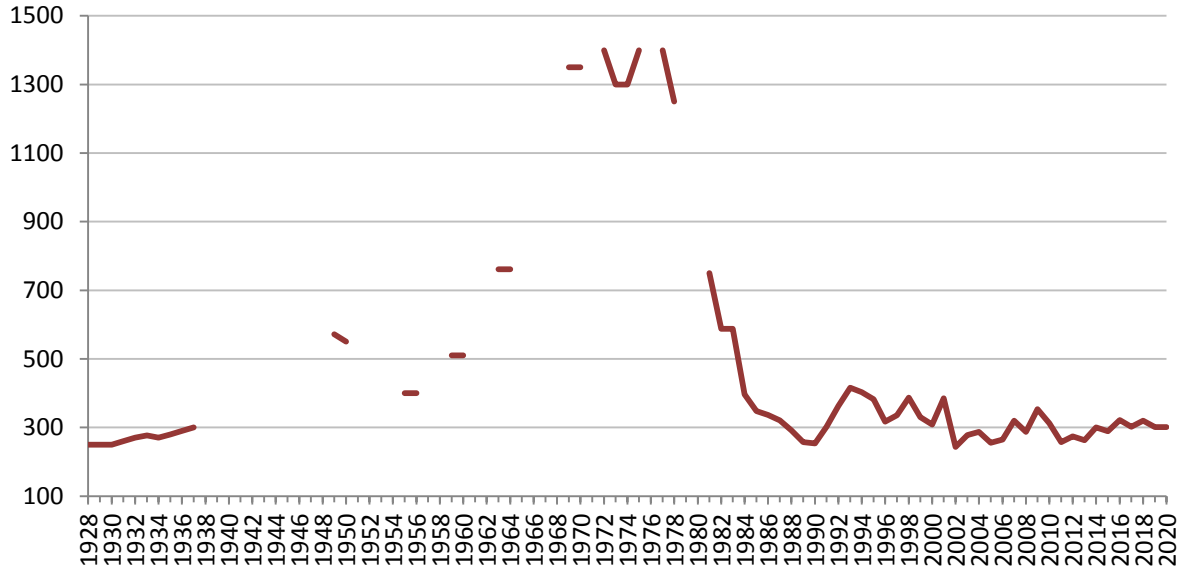
When the first egg was located in each year 2013-2020, along with the 2013-2019 first egg mean.

2013	2014	2015	2016	2017	2018	2019	2020	Mean
18th April	14th April	25th April	17th April	18th April	19th April	18th April	22nd April	18th April

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. There were 13 nesting adults trapped in 2017, 15 in 2018 and nine in 2019, although COVID-19 dictated staffing shortages meant that there were no adults trapped this year; each bird was ringed with a red darvic inscribed W:9** in white, the latter two digits identifying the individual. Of the 13 birds marked in 2017, 11 returned to breed in the same areas in 2018 (84.62%). Of 26 birds with rings in 2018, 16 (61.54%) were still alive during the 2019 breeding season (although one of these was not seen until 2020, two were seemingly not breeding and two had changed nest site (one moved 370m from South Haven to Green Rocks and one moved 837m from South Haven to Purple Cove)). Of 25 with rings in 2019, 15 (60.00%) were alive this year (although four of these were

not seen on the Island). There is clearly the potential for an underestimate of survival if birds are breeding away from their ringing territories or skipping breeding seasons (behaviours which are apparently not occurring in Great Black-backed Gulls). The return rates are marginally higher if they are calculated from a year after ringing (allowing time for any ringing related disturbance to take effect); seven of 11 (63.63%) such birds were alive in 2019 and ten of 16 (62.50%) were alive this year (although this increases to seven of nine (77.78%) if only the 2018 ringed birds are used). Four of the birds colour ringed in 2018 were trapped in the Home Meadow Gull Trap before their nests were located; all four of these returned to the same nest sites in 2019 and three returned this year. Although the sample size is too small to draw any firm conclusions, these observations suggest that trapping on the nest may be increasing the likelihood that birds will not be found in the same area the following year (which is not the case with Great Black-backed Gulls); with this in mind, adults will not be trapped on the nest until further off-nest Gull Trap work is conducted and analysed.

The number of breeding pairs 1928-2020 (where data exists). The 1970s peak was attributed to the exploitation of local fish waste and the decline to botulism (Thompson, 2007).



The number of breeding pairs and productivity estimates (average number of fledglings per sample pair) 2006-2020.

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
265	320	287	353	312	257	274	263	300	289	322	302	320	301	301
0.47	0.61	-	-	0.82	0.67	1.15	0.72	0.70	0.66	0.86	0.70	0.73	0.69	0.33

Two of the colour ringed birds have been found dead, both on Skokholm and with no apparent cause of death (including one on 20th March this year). Additionally unringed dead adults were found in the Bog on 19th May and near South Pond on 6th July. Various injuries were again recorded this season; a bird in Crab Bay had a badly broken leg on 12th May, an adult at North Pond on 14th May had a bloody hole in its flank but could fly (see the Great Black-backed Gull section for a report of a similar injury) and a bird on 22nd June was missing a foot (three serious leg injuries were noted last year). Following four affected birds in 2019, there were no incidences of oiling recorded this year.

For a third successive year, the only colour ring resightings away from Skokholm came from mainland Pembrokeshire.

Darvic	Ring	Location	County	Age	Date
W:999	GV22351	Haverfordwest	Pembrokeshire	Adult	28/06/20
W:998	GV22352	Gann Estuary	Pembrokeshire	Adult	06/02/20, 04/11/20, 20/11/20
W:984	GV22423	Gann Estuary	Pembrokeshire	Adult	23/10/20, 04/11/20
W:983	GV22390	Gann Estuary	Pembrokeshire	Adult	27/10/20
W:978	GV22428	Gann Estuary	Pembrokeshire	Adult	30/01/20, 28/09/20, 14/12/20
W:977	GR98293	Gann Estuary	Pembrokeshire	Adult	05/02/20*, 05/11/20
W:974	GV22432	Johnston	Pembrokeshire	Adult	23/05/20
W:972	GR87973	Gann Estuary	Pembrokeshire	Adult	05/02/20*
W:971	GV22440	Gann Estuary	Pembrokeshire	Adult	27/10/20, 04/11/20
W:970	GV22457	Gann Estuary	Pembrokeshire	Adult	28/09/20, 01/11/20, 08/11/20
W:969	GV83059	St Ishmaels	Pembrokeshire	Adult	09-12/06/20, 21/06/20, 25/06/20
W:969	GV83059	Gann Estuary	Pembrokeshire	Adult	21/10/20, 08/11/20, 25/11/20
W:965	GV83063	Dale Beach	Pembrokeshire	Adult	08/05/20
W:965	GV83063	Gann Estuary	Pembrokeshire	Adult	14/09/20, 16/10/20, 08/11/20
W:964	GV83064	Gann Estuary	Pembrokeshire	Adult	05/09/20, 14/10/20, 08/11/20
W:961	GV83058	Gann Estuary	Pembrokeshire	Adult	16/10/20, 01/11/20, 16/12/20

* on 5th February, W:977 was roosting near to (but not associating with) its partner W:972 at the Gann (7.5km from Skokholm). The 2019 Skokholm Seabird Report gave details of a Great Black-backed Gull pair seen together at the Nevern Estuary during the winter (46.5km from Skokholm).

The first chicks were seen at Dumbell Bay and the Little Neck on 17th May, one day later than the first of 2019 and one day earlier than the first of 2018. The first flying fledgling was seen at the Top Tank on 1st July, three days earlier than the firsts of 2019 and 2018; the mean 2013-2019 first

fledgling date is 4th July, with the earliest logged on 30th June 2016 and the latest on 10th July 2015. Checks of the Neck productivity plot during July, where 129 pairs had established nests (three fewer than last year), located a maximum of 42 fledging-sized young (along with four small chicks and four incubating adults, although none of these late attempts were believed to result in fledged young). The resulting 2020 productivity figure of 0.33 fledged young per pair was 52.2% down on the 0.69 of last year, 57.1% down on the 2010-2019 mean (0.77 ±se 0.05) and the lowest since the 0.18 of 2004. One possible reason for such poor productivity is the impact of rough weather on the 22nd and 23rd May; although the wind reached little more than gale force, the remote monitoring station based on the Mid Channel Rock Lighthouse Beacon off St Ann's Head registered multiple, very unseasonable, 11m waves. White water was breaking over several North Coast nests, although at least one was incubated so well that the eggs went on to hatch (above photographs). A check of the Neck productivity plot on the 27th concluded that several nests on the low cliffs of the Little Neck were missing entirely and that several more were seemingly deserted. The timing of the gales was particularly unfortunate as they struck during a period when many eggs were hatching. A climate change related increase in breeding season rough weather events will clearly impact a species which, on Skokholm, regularly nests close to the level of mean high water springs.

On 23rd May Herring Gull W:974 was seen 19.5km inland, feeding on fruitcake left on a lawn in Johnston. During June W:999 was watched eating wholemeal bread in Haverfordwest (22.5km inland) and W:969 found a reliable source of food in a St Ishmaels garden (9.5km inland) where it was seen on six dates between the 9th and 25th; the latter bird was feeding chicks at the Little Neck on 27th May and 13th June, although these did not fledge. It is unclear whether such inland feeding is the norm for Skokholm birds (as the colour ringing project here is in its infancy). It is plausible that there may have been a reduction in the availability of anthropogenic marine food due to COVID-19 restrictions impacting recreational, and at times some commercial, fishing activities. Birds were still observed foraging behind fishing vessels, with 30 behind 'Boy's Pride' on 21st April the highest count. Additionally small feeding flocks regularly gathered offshore during the breeding season, with peak counts of 75 off Little Bay on 10th May and of 52 off the Lighthouse on 1st June. On 22nd July one drank a pool of blood left where a Peregrine had eaten a Puffin.

There was the customary post-breeding departure of both adults and fledglings during July and August, with the mean August daycount dropping to 53 (the lowest of the last eight years, down on the 69 of 2019 and a 2013-2019 mean of 76); lows of between four and six were logged on each date

between the 25th and 27th August. August daycounts peaked at 176 on the 31st when 151 birds roosted on the sea to the south of the Island; this was the lowest August high of the last eight years, well down on ant swarm enticed highs of 295 in 2018, 348 and 409 in 2017 and 296 in 2014 (in 2020 the number of birds feeding on swarming ants peaked at 55 adults on 30th July and 41 adults with eight juveniles on 13th August). As is typically the case, few Herring Gulls visited Skokholm in September; there were 20 single-figure daycounts and the only totals in excess of 19 were of 59 on the 1st and 6th, 54 on the 13th and 82 on the 14th when ants were again being collected. A fledging-sized chick with a broken wing, which was still being fed by a parent in South Haven until at least 23rd September, walked to Sugar's Delight on 4th October and the Dip on the 5th before it was eaten in Crab Bay on the 6th. Although up on last year, October counts were down on the 2013-2019 mean; only five daycounts exceeded 40, including highs of 83 on the 15th and 151 on the 30th (a striking leucistic first-winter was along the North Coast cliffs on the latter date). Numbers again increased in November, with a low of 41 on the 27th but a mean daycount of 143 and highs of between 248 and 260 noted on five dates between the 8th and 17th; although up on a peak 2019 daycount of 215, the 2020 high was down on the 339 of 2018, the November record of 612 logged in 2017, the 588 of 2016 and the 585 of 2015. The lower November counts recorded in the last two years reflects a substantial drop in the number of Herring Gulls feeding in Broad Sound. Daycounts during the first seven days of December averaged 92, with a high of 177 on the 1st.

***Larus* hybrid** *Larus argentatus* x *L. fuscus* (or possibly *L. argentatus* x *L. michahellis*)
Scarce Breeder *L. argentatus* x *L. michahellis* would be a first for Skokholm

Although Herring Gull x Lesser Black-backed Gull hybrids occasionally establish territories on Skokholm (see the 2015 and 2014 Seabird Reports for photographs and further details), a metal ringed bird found in South Haven on 30th March appeared more similar to a Yellow-legged Gull. Indeed correspondence with several experts on the continent suggested that all of the observable features fell within the range exhibited by *L. michahellis*. However further communications with experienced gull watchers in southeast England led to the conclusion that both the washed-out leg colour and primary pattern, with the grey primary bases extending into what would typically be an extensive black outer wing, were too far removed from what is usual in this species.

Surprisingly the same bird, mid-way through its primary moult, loafed in South Haven on 5th August

and reappeared sporting winter-plumage on 30th October; it was seen on 20 further dates to 6th December, either standing on rocks in South Haven or floating offshore. If the bird can be traced to a breeding territory in 2021 it may be possible to either read the metal ring or attain a DNA sample, but for now the identity of its parents remains uncertain. Unsurprisingly the 2020 bird led to a review of the sole Island record of Yellow-legged Gull, this of an adult found at the Neck on 19th April 2013 (see the Skokholm Annual Report 2013 for a photograph); the 2013 bird exhibited the vivid yellow legs and extensive black outer wing typical of Yellow-legged Gull, an identification which has been universally supported.

Lesser Black-backed Gull *Larus fuscus* **Gwylan Gefnddu Leiaf**
Abundant Breeder previously a Very Abundant Breeder
6 resighted
1936-1976: 12,085 trapped, 2013-2019: 579 trapped, 26 retrapped, 99 resighted, 16 controls

A mean March daycount of 476 matched that of last year as the lowest yet recorded, down on the 568 of 2018, the 494 of 2017 and the 823 of 2016. The number of birds within the colonies again fluctuated considerably during the day; for example morning counts of the colonies near the Pedestal, Middle Heath and to the west of the Bog on the 21st produced a total of 144, whereas a check of the same areas that afternoon produced a total of 380. The larger communal roosts recorded in previous years were again generally absent; the majority of March counts were of birds on territory, although there were roosts of 44 at North Pond on the 18th and 122 to the south of North Pond on the 21st. 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 in 2017. Although up on the 2019 high of 759, peak April daycounts were otherwise the lowest of the last nine years; there were April highs of 747 on the 20th, 676 on the 24th and 798 on the 30th, whilst the largest roost away from the colonies contained only 24 birds on the 30th (April roosts peaked at 34 in 2019, 200 in 2018 and 260 in 2017). A check of the nests near the Top Tank on 25th April located a single egg; the first egg was three days earlier than both the first of last year and the 2013-2019 mean.

When the first egg was located in each year 2013-2020, along with the 2013-2019 first egg mean.

2013	2014	2015	2016	2017	2018	2019	2020	Mean
3rd May	24th April	4th May	25th April	1st May	26th April	28th April	25th April	28th April

Vantage point counts of all the inland breeding subcolonies and a full census of the coast nesting pairs were made between the 17th and 21st May, during which 795 apparently incubating adults were located; this was the lowest total in over 50 years, 16.4% down on the 951 of last year and 12.0% down on a low of 903 counted in 2017. A COVID-19 dictated lack of volunteers meant that walkthrough surveys, which have been used to check the accuracy of the point counts, were not logistically feasible this year. The number of apparently incubating adults and the number of nests containing eggs located during walkthrough surveys invariably differs, primarily due to incubating birds being hidden by vegetation (particularly in areas where there are no raised vantage points). Between 2013 and 2019 there were on average 12.83% more nests containing eggs than apparently incubating adults (although this was as low as 0.82% in a year with a particularly short breeding season sward height and as high as 27.32% when vegetation was taller (see table below)). The walkthrough surveys also reveal a variable number of empty nests; 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)), although between 2013 and 2019 this dropped to between 4.98% and 17.62% (with a mean of 14.03%). It is unclear whether empty nests are second nests made by the pairs

present, nests robbed of eggs or nests where adults are yet to lay. The breeding season is certainly a protracted one, with the first 2020 chick located on 22nd May (on the 22nd last year, the 23rd in 2018 and the 24th in 2017), but a nest near Crab Bay containing three warm eggs on 1st July, one day after the first fledgling was seen near East Bog (the first fledgling was noted on 6th July in 2019, 5th July in 2018 and 7th July in 2017). It would thus seem likely that some (but given their extremely close proximity to each other, not all), empty nests belong to additional pairs. Between 2013 and 2019 the total number of nests (including empty nests) was between 20.68% and 43.45% higher than the vantage point total (with a mean of 31.36%).

A comparison of vantage point counts (of apparently incubating adults) and the number of nests (both empty and with eggs) located during walkthrough surveys of the same areas. The difference each year provided a correction factor to predict the number of nests (both empty and with eggs) which were actually present. The 2013-2019 means may be useful in years when walkthrough surveys are not possible/desirable.

Year	Vantage point count	Walk through count	Empty/ With egg(s)		Percentage of empty nests	Difference between counts (%)*	Correction (no empty nests)	Difference between counts (%)**	Correction (including empty nests)
2019	194aia	251	39	212	15.54	9.28	1.09	29.38	1.29
2018	266aia	321	16	305	4.98	14.66	1.15	20.68	1.21
2017	366aia	517	51	466	9.86	27.32	1.27	41.26	1.41
2016	550aia	789	139	650	17.62	18.18	1.18	43.45	1.43
2015	493aia	636	110	526	17.30	6.69	1.07	29.01	1.29
2014	613aia	827	135	692	16.32	12.89	1.13	34.91	1.35
2013	245aia	296	49	247	16.55	0.82	1.01	20.82	1.21
Mean					**14.03**	**12.83**	**1.13**	**31.36**	**1.31**

* How many more nests (containing eggs) were present than the number of apparently incubating birds seen (as a percentage).

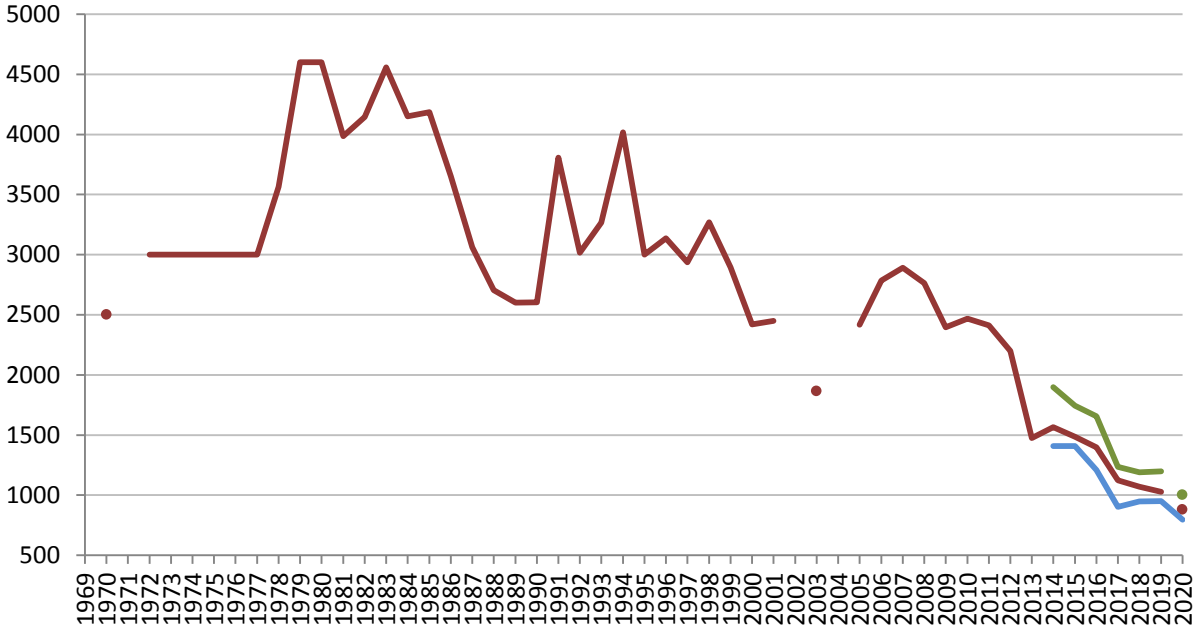
** How many more nests (including empty nests) were present than the number of apparently incubating birds seen (as a percentage).

Of the 795 apparently incubating adults counted this year, 131 were nesting in open (primarily coastal) areas where it was apparent that additional pairs were not present. A mean 2013-2019 correction factor of 1.13 (see table above) would suggest that the remaining 664 incubating birds actually represented a total of 749 nests with eggs (giving a 2020 breeding population estimate of 880); this is both the lowest and first three-figure estimate of the post-War era, down on a low of 1028 logged last year. A mean 2013-2019 correction factor of 1.31 would suggest that the remaining 664 incubating birds actually represented a total of 872 nests (including empty nests); this gives a 2020 breeding population estimate of 1003, a total 16.3% down on that of last year. The actual number of breeding pairs no doubt lies somewhere between the two estimates (880-1003). Given that the walkthrough surveys inevitably cause some, albeit brief, disturbance to the colony, it would seem acceptable for the 2013-2019 mean correction factors to be used in the future (thus removing the need to enter the colonies).

Lesser Black-backed Gull productivity is typically assessed by entering various colonies to ring as many near-fledglings as possible, the BTO rings becoming marks for a mark/recapture population estimate. However it has lately proven difficult to resight sufficient ringed fledglings in the field to allow for a meaningful evaluation. In an attempt to increase the number of resightings, recent years have seen staff and volunteers re-enter the colonies (rather than observing fledglings at a distance with a telescope). A simple calculation, '(number of fledglings ringed x number checked for rings on second visit)/ number of birds found to have rings on second visit', predicts the number of fledglings within an area. Due to COVID-19 restrictions, only two staff were present during July, an insufficient

number to corral and ring enough fledglings in a timely fashion; there is thus no comparable productivity estimate for this year.

The total number of Lesser Black-backed Gull breeding pairs 1970-2020. Control measures started in 1984 (destruction of nests) and stopped in 1998. The green line is the population estimate if all empty nests are assumed to belong to additional pairs. The maroon line is the population estimate based on a comparison of vantage point counts and the number of nests which contained eggs. The blue line is the uncorrected vantage point count total (of apparently incubating adults). A lack of walkthrough surveys means that the corrected 2020 totals are based on 2013-2019 means.



Although fledglings at North Pond could potentially have come from anywhere on Skokholm (and possibly elsewhere), a maximum of 28 on 31st July was down on the 59 of 28th July 2019, the 65 of 27th July 2018, the 133 of 1st August 2017 and was the lowest peak total from this site during the last seven 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 fourth 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 22 pairs produced a minimum of 12 fledglings, giving a productivity figure of 0.55 fledglings per pair (15 pairs fledged 0.67 in 2019, 14 pairs fledged 1.21 in 2018 and 18 pairs fledged 1.11 in 2017). 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 depredation; cannibalism was observed regularly at the Top Tank colony, particularly during May when the chicks were small. Productivity around the Neck was seemingly poor (although see the Herring Gull section for details of potentially damaging rough weather); fledgling counts during the Herring Gull productivity surveys peaked at only three (along with two chicks which were not thought to fledge), this in an area containing 43 apparently incubating birds (which equates to 0.07 fledglings per pair). Regular telescope checks of the discreet colony near the Pedestal, where over 60 pairs nested, located just one fledgling. Combining data from Purple Cove, the Neck and the Pedestal suggests that 129 pairs fledged 16 young, which equates to just 0.12 fledglings per pair (it should be noted that this estimate has been derived in a different way to that of recent years and that the sample includes a higher proportion of coastal nesting pairs than the whole Island count).

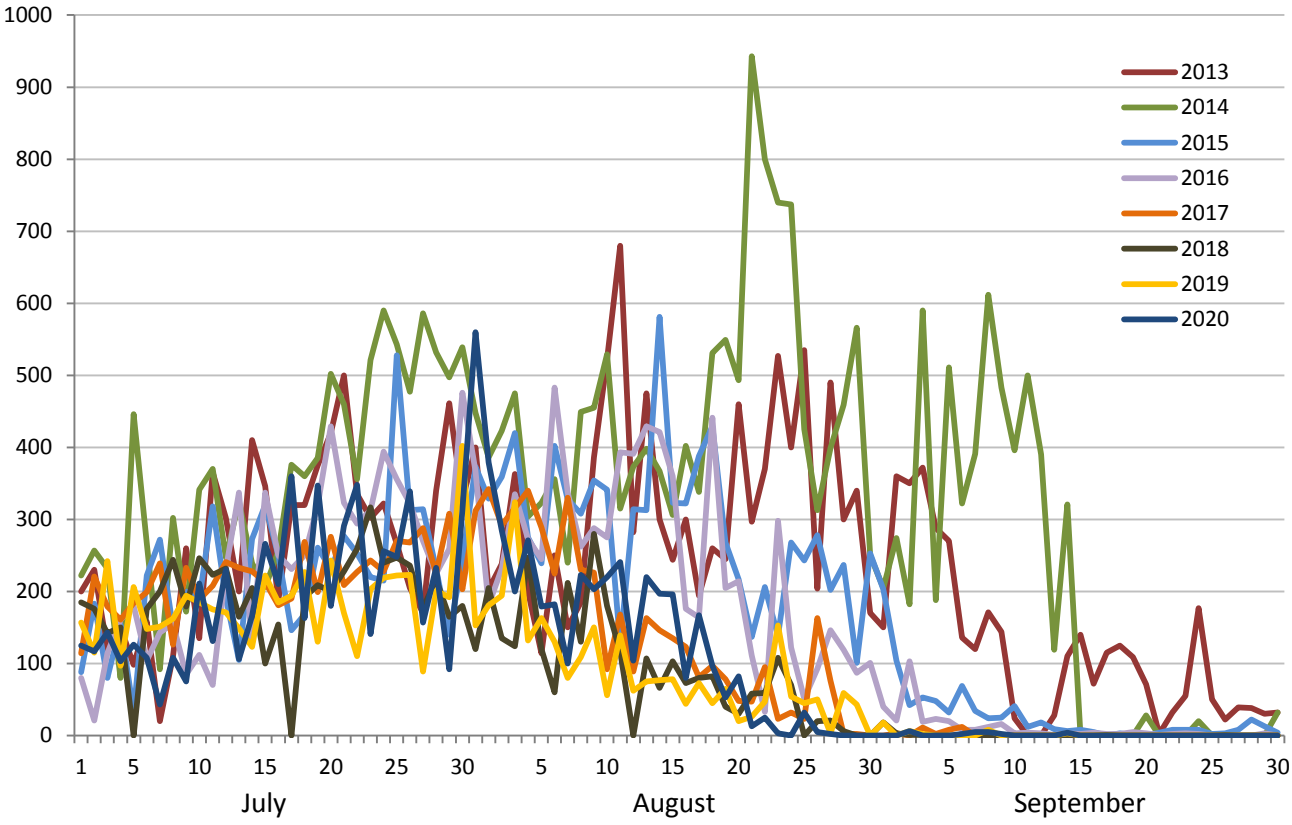
Although poor productivity is seemingly the driving force behind the declining breeding population on Skokholm, it has also been suggested that sickness may be taking its toll in some years. There

were 21 dead adults found between 4th March and 1st August 2016 which were thought to be diseased or poisoned, with the period before death characterised by very lethargic behaviour, fine shaking and an eventual loss of limb control. There were three dead adults logged in 2017, 15 dead adults in 2018 (including a bird with a particularly dirty vent and a bird handed in live from a passing boat which exhibited the same symptoms prevalent in 2016) and two dead adults in 2019 (plus one with a broken wing which was not found dead). There were 11 adults found dead between 18th April and 29th July this year; although some may have died as a consequence of aggressive interactions with other gulls, a very weak and uncoordinated adult (with a clean vent) near North Pond on 6th May was found dead two days later. Additionally two adults were seen with broken wings, one was seen with a broken leg and one was seen with a missing foot (although the injury had healed).

Lesser Black-backed Gull productivity estimates 2004-2020 (where data exists).

2004	2005	2008	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
0.07	0.27	0.27	0.03	0.16	0.16	0.30	0.15	0.23	0.38	0.63	0.27	0.12

The number of Lesser Black-backed Gulls roosting on North Plain and in the vicinity of North Pond 2013-2020.



As is typically the case, the number of birds using traditional roost sites increased during July; 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. This year saw the July roost peak at 560 birds on the 31st, this the third largest July roost of the last eight years (only down on counts of 590 and 586 logged in 2014). Nevertheless a cumulative July total of 6296 roosting birds was the third lowest noted during the same period, a total only up on the 5764 of 2018 and the 5660 of last year. Whereas roost counts between 2013 and 2017 peaked in August, the last three years have seen a more rapid departure of birds from the Island. This year saw an August peak of 379 on the 1st, the highest August roost count since the 483 of 2016 (albeit well down on August counts between 2013 and 2015 which peaked at 943 on the 21st in 2014). An August total of 3759 roosting birds was up on the 2751 of 2018 and the 2695 of 2019, but down on tallies logged

between 2013 and 2017 which ranged between 4273 and 13,849. The last three-figure roost count of the year was the 167 logged on 17th August; this was the earliest such count of the last eight years (the last of 2019 and 2018 were logged on the 23rd, the last of 2017 on the 26th and the last of 2016 on 2nd September). September again proved exceedingly quiet, with only 24 roosting birds logged during the entire month; the last six 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 85 logged over 26 dates and highs of eight on the 18th and 12 on the 28th; the total was the highest since the 166 of 2016, albeit well down on a recent peak of 658 in 2013. Sightings on all but two November dates totalled 277 birds and included highs of 42 on the 12th (when 39 adults roosted at North Pond) and 28 on the 22nd; the peak count almost matched the 43 of last year and the bird-days total was the highest since 1991 (up on the 191 totalled during a full month of observations last year). The first week of December saw sightings on five dates, with daycounts all of four or less bar the 19 logged on the 5th.

Ringing recovery GR77185
Originally ringed as a chick, SKOKHOLM 20th July 2014
Recovered as an adult, CORK CITY, CORK, IRELAND 31st October 2020
Finding condition Metal ring read in field
Distance travelled 220km at 276 degrees (W)
Days since ringed 2295
This bird was metal ringed as part of our 2014 capture, mark, recapture productivity monitoring.

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 168 separate resightings of 35 different individuals away from Skokholm. Nevertheless the number of resightings logged each year is unsurprisingly dropping. The following table summarises resightings received since similar tables were published in the 2014-2019 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 17 birds having been resighted at the same location in successive winters; records of returning birds have come from several sites in Portugal and Spain (including 9J:W in 2020), along with two in France, one in the Channel Islands and one in Morocco.

Darvic	Ring	Location	Country	Date
5P:W	GR98209	Pentewan Sands, Cornwall	UK	07/03/20
8K:W	GR98252	Gann Estuary, Pembrokeshire	UK	28/04/20
9J:W	GR98265	Barbate Harbour, Cadiz	Spain	12/09/20
9J:W	GR98265	Malaga Harbour	Spain	12/12/20

Sandwich Tern *Thalasseus sandvicensis* **Morwennol Bigddu**
Uncommon although Scarce in all but one year between 2006 and 2012
Earliest 29th March 1984 (24th June 2020) **Latest** 25th October 1967 (2nd October 2020)

There were no spring sightings this year; there have been 172 previous bird-days logged in March, April or May, including 36 between 2014 and 2019 and highs of 20 in 1980 (all of which were in May) and 2016 (of which 16 were in April and four in May). Two were seen from a passing boat as they flew over the Stack on 24th June (ST); there have been 111 bird-days in this month previously, with 11 in 2016 the most recent and a high of 24 recorded in 1989. Three east on 26th August were the first of the autumn, these 23 days later than the first of 2019; there was no July record for a second

consecutive year and for only the second time since 2011. Three were again off the Lighthouse on 31st August, taking the monthly total to six; August sightings in 38 previous years peaked at 65 in 1983 and 34 in 1993, although the 2013-2019 mean is just 6.4. The 990 bird-days previously logged in September is considerably more than in any other month (388 in August is the next highest tally), however the only counts this year were of two on the 1st, four on the 2nd, two on the 20th and three on the 24th; although a bird-days total of 11 was close to a 2013-2019 mean of 14.3, it was well down on highs of 103 in 1966, 82 in 1994 and 60 in 2011. Two east off the Lighthouse on 2nd October were the last of the year; there have been sightings in 24 previous Octobers, including four of the last seven, with bird-day highs of 25 in 1967 and 20 in 1983. An autumn bird-days total of 19 was the lowest since 2014 and well down on highs of 110 in 1966, 107 in 1983 and 102 in 1994.

Roseate Tern *Sterna dougallii* **Morwennol Wridog**
Rare records in eight years since 1963, although Mathew (1894) reported breeding on the Stack

An unprecedented series of records in September saw four adults west off the Lighthouse on the 3rd, six adults west the following day and a final adult west on the 5th (RDB, GE). The only other sightings this century were of lone adults on 27th August and 3rd September 2018. Although this species probably bred amongst Common Terns on the Stack in the 19th century, the only other modern records are of one on the 1st and two on 5th September 1963, singles on 28th September and 12th October 1967, one on 9th August 1977, four on 31st July and two on 27th August 1989, four on 24th August 1992, two on the 2nd and 4th August 1994 and one on 15th July 1999. A good year for Skokholm sightings is perhaps linked to an increase in breeding season numbers in Ireland; the large colony at Rockabill, County Dublin held 1624 pairs this year (a tally only down on the 2018 record of 1642) and there were record numbers at Lady's Island Lake, County Wexford where the count increased from 195 pairs in 2019 to 273 this year (BirdGuides, 2020).

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

Although it proved the third best year to date for counts of passage *Sterna* spp. terns, the number of birds positively identified as Common Terns was down on four years this century and all-time highs of 66 in 1993, 47 in 2003 and 77 in 2015. Five adults on 28th August were the first of the year, another was off the South Coast the following day, two were off the Lighthouse on the 31st and eight on 4th September were the last. The peak daycount was down on that logged in 12 previous years, including highs of 23 in 1992, 21 in 2003 and 71 in 2015. Additionally there were unidentified 'commic' terns logged on 15 dates between 11th August and 17th September, including one calling after dark on the latter date and with highs of 111 on the 27th and 93 on 28th August and of 71 on the 4th, 45 on the 5th and 30 on 6th September. A further five on 11th October took the 2020 bird-days total to 436; there have been higher counts of 'commic' terns in six previous years, with peaks of 582 in 1957, 1400 in 1958, 578 in 1977 and 713 in 2011.

Arctic Tern *Sterna paradisaea* **Morwennol y Gogledd**
Uncommon sometimes Scarce, although unidentified 'commic' terns Uncommon or Fairly Common
Earliest 18th April 2018 (5th August 2020) **Latest** 27th October 2017 (5th September 2020)
1936-1976: 3 trapped

There were no spring records this year; a total of 35 spring bird-days have been logged since the first in 1938, including just six this century (with one in 2001, four in 2016 and one in 2018). An adult feeding off the Lighthouse on 5th August was the first of the year, this five days earlier than the first of last year and the earliest autumn sighting since one on 11th July in 2001. There followed four on 11th August and lone juveniles on the 20th and 25th prior to daily sightings between the 27th and 5th

September which peaked at 56 on the 28th, 25 on the 31st, 62 on the 1st and 27 on the 5th; the two highest daycounts were only down on the 130 of 1997 and the 71 of 2016, whilst a bird-days total of 229 was a new record, up on the 149 of 1997, the 88 of 2016 and the 91 of 2018. Additionally there were 'commic' terns logged on 15 dates between 11th August and 17th September, including one calling after dark on the latter date and with highs of 111 on the 27th and 93 on 28th August and of 71 on the 4th, 45 on the 5th and 30 on 6th September. A further five on 11th October took the 2020 bird-days total to 436; there have been higher counts of 'commic' terns in six previous years, with peaks of 582 in 1957, 1400 in 1958, 578 in 1977 and 713 in 2011.

Great Skua *Stercorarius skua* **Sgiwen Fawr**
Uncommon sometimes Scarce and much more regular in autumn
Earliest 4th April 2015 (19th August 2020) **Latest** 15th November 2015 (7th October 2020)
1 trapped

The first of the year went west on the morning of 19th August, this 32 days later than the first of last year and the latest autumn arrival of the last ten years; following records of up to three birds in each of the springs between 2014 and 2017, this was the third consecutive year without a spring sighting. Counts on seven further August dates were all of singles bar two on the 21st and 25th and three on the 26th; an August bird-days total of 12 matched that of last year as the highest yet recorded in this month. Daily sightings of a single between the 3rd and 6th, along with three on the 13th, were the only September records prior to the arrival of a moulting adult on the 16th which toured the Island and spent some time sat on the Sugarloaf. Although sightings over Skokholm have become annual in recent years, indeed one went east over North Plain and Home Meadow on 22nd August this year, the following stay was unprecedented; the same adult was seen each day to the 20th, during which time it occasionally joined the North Plain Great Black-backed Gull roost, washed in The Dip and was spring trapped and ringed (on the 19th). Counts of up to three, offshore on six further September dates, may have included further sightings of the same moulting adult. A September bird-days total of 21 was down on a record 42 logged last year and was the lowest of the last four years, however there have only been four higher totals. Three on 2nd October, along with singles on the 6th and 7th, took the 2020 bird-days total to 38, this matching that of 2018 as the second highest on record (only down on a remarkable 81 logged last year).

Pomarine Skua *Stercorarius pomarinus* **Sgiwen Frech**
Rare 26 previous records totalling 37 birds
Earliest 28th April 1997 **Latest** 16th October 1987 (3rd October 2020)

A juvenile heading east off South Haven on 3rd October was the first since a pale morph off the West

Coast on 17th May 2018 (RD); there have been three previous October sightings, with singles in 1970, 1987 and 1993. Of the 38 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 logged (albeit this courtesy of the record Skokholm daycount of five made on the 28th in 1981).

Arctic Skua *Stercorarius parasiticus* **Sgiwen y Gogledd**
Uncommon sometimes Scarce
Earliest 9th April 1996 (12th May 2020) **Latest** 26th October 1967 (**15th November 2020**)

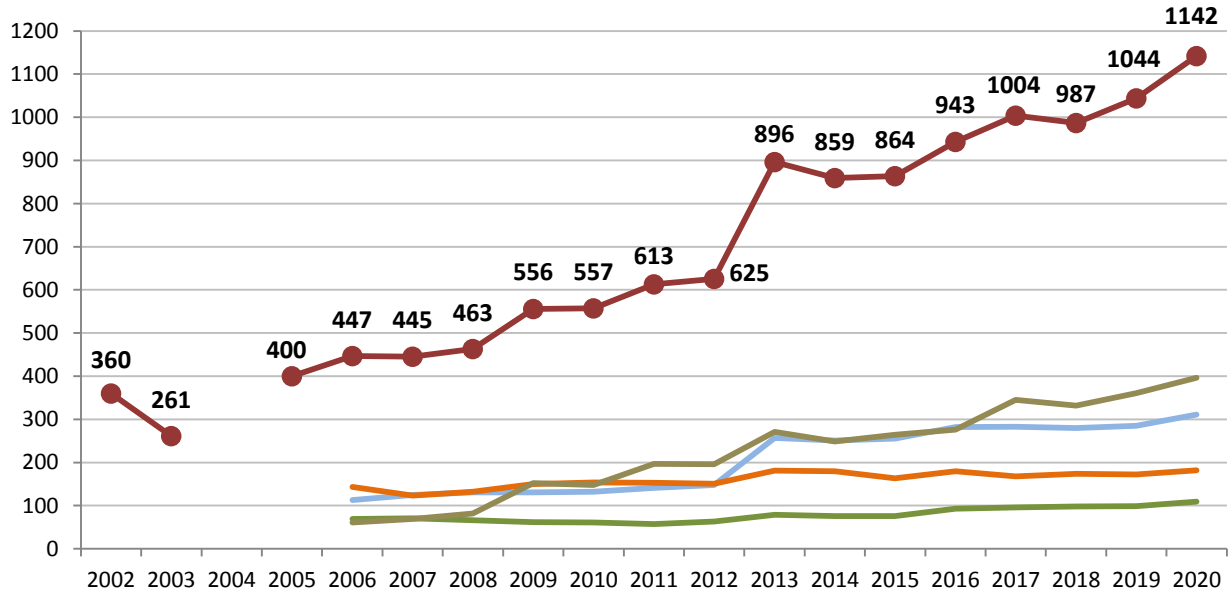
The only spring record was of a pale adult which circled above North Gully before drifting northwest on 12th May; there have been 52 spring bird-days logged during 23 previous years, with 11 this century and highs of eight in 1982, seven in 1993 and six in 2002. A pale adult off the Lighthouse on 7th July was the first of the autumn and the earliest autumn arrival since one on 2nd July 2011; there have been 30 previous July bird-days, with three in 2015 the most recent. Singles on four dates from the 24th produced the third highest August tally this century, a total down on all-time highs of 15 in 1957 and nine in 2015. A pale adult on the 6th was the only September sighting prior to counts of three on the 28th and two on the 30th; although up on a 2013-2019 September mean of 5.3, a bird-days total of six was down on 14 previous years and highs of 50 in 1980, 27 in 1993, 67 in 2004 (which included an astonishing 63 on the 5th) and 21 in 2017. The sole October sighting was of a pale adult on the 2nd; there have been 72 previous October bird-days logged during 18 years, with a high of 19 in 2019 (when a daycount of ten equalled one made on 15th September 1993 as the second highest in any month). A dark adult west through Broad Sound on the 15th was the first to be seen in November, this 20 days later than the previous latest Skokholm sighting. An annual bird-days total of 14 was down on each of the last three years, a 2013-2019 mean of 15.3 and highs of 30 in 2017, 36 in 1993, 51 in 1980 and 67 in 2004 (the latter of which came courtesy of that remarkable daycount).

Guillemot *Uria aalge* **Gwylog**
Very Abundant Breeder Common during the period 1928-1996, numbers then increasing rapidly
3 controls
1936-1976: 1023 trapped, 2013-2019: 5 pulli trapped, 17 controls

Visits for the deployment and checking of rodent bait stations allowed for calm day winter counts of 36 ashore on 22nd January and of at least 2000 ashore on 6th February. The mean March daycount following the return of staff on the 16th was 725; although there were four dates without a sighting and a further six dates when between one and 14 were logged, there were highs of 2587 on the 23rd and 3686 on the 24th (the latter the second highest March daycount to date, only down on the 3835 of last year). Customary departures for the sea continued in April, with ten dates when counts of less than 600 were logged (including three dates without a sighting and four dates with between one and 11 birds present); there were eight similar mass April departures during an unprecedentedly early 2019 breeding season, 16 in 2018, 13 in 2017, 2016 and 2015 and 19 in 2014 and 2013. A minimum

of 3971 birds on the 3rd was the highest April daycount to date and an indication of totals to come. The first egg to be found was at Middlerock on 27th April; although nine days later than the first 2019 egg (which is believed to be the earliest yet recorded in Wales (Birkhead, *pers. comm.*) and perhaps the result of unusually high 2019 sea surface temperatures (Burton, M., 2019)), this was otherwise the earliest of the last eight years and six days earlier than a 2013-2019 mean of 3rd May (the latest egg during this period, found on 15th May 2014, followed a winter of prolonged storms and significant auk wrecks). Early eggs are likely to be at risk during spring storms, as was the case on the night of 26th April last year when Storm Hannah encouraged the majority of birds back to sea (leaving those incubating birds which managed to protect their early eggs from the storm more exposed to predators). The weather during late April and the first half of May was more settled this year, although an unseasonably large swell on 22nd May was to impact 2020 productivity.

The total number of adult Guillemot in all six study plots 2002-2020 (as an average from ten visits) and the totals from the four largest plots (as an average from ten visits).



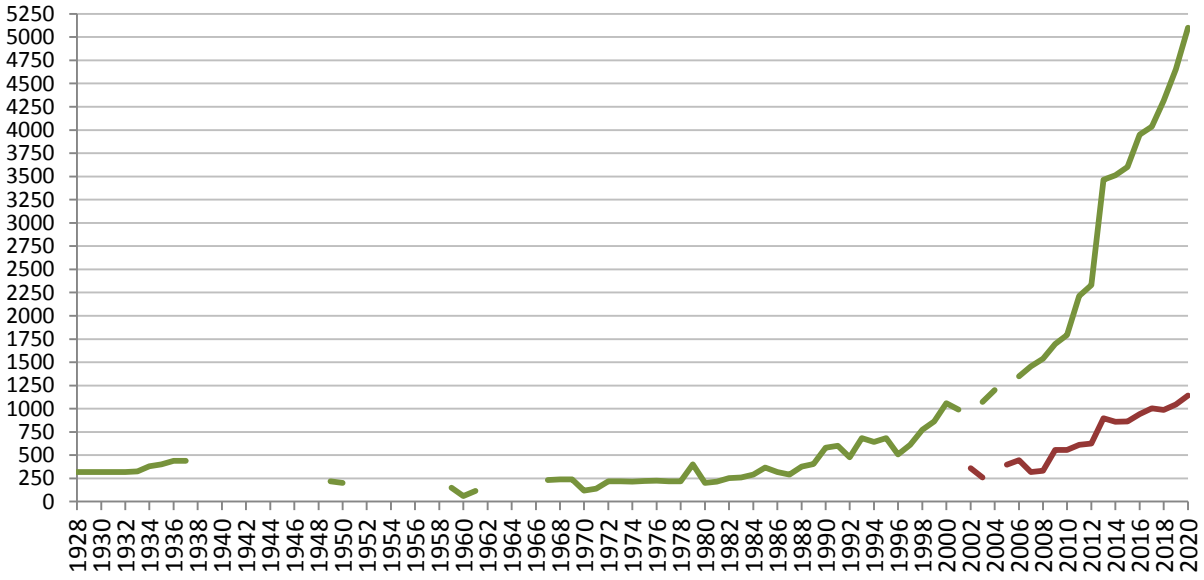
The six study plots were counted on ten dates between 25th May and 9th June. This followed a period of exceptionally large seas, with the swell peaking at 11m on 22nd May (above photograph); although Razorbills were seemingly impacted more heavily, multiple Guillemot eggs were lost from the plots

at Middlerock and North Gully along with sites at Purple Cove and the ledges to the east of Calf Bay. Such an unseasonable loss of eggs probably altered the number of adults present on at least some areas of cliff during the survey period. The mean total from all plots was 1142 adults on ledges; this was 9.4% up on the record 2019 total and 36.1% up on the 2010-2019 mean (839.2 ±sd 177.21). Numbers increased in all six plots, although small increases around Twinlet resulted in totals below or almost the same as those logged in earlier years; at Middlerock the ten visit mean increased from 55 to 58 (a 5.5% rise which took the total to six birds down on the high of 2015 and 2016) and at Guillemot Cliff the mean increased from 172 to 182 (a 5.8% rise which took the total to a new high only fractionally up on the 181 of 2013). The Little Bay Point plot contained an average of 311 birds (a 9.1% increase on the record 285 of 2019), the North Gully plot contained an average of 396 (a 9.7% increase on the record 361 of 2019) and the Steep Bay plot contained an average of 109 (a 10.1% increase on the record 99 of 2019); a North Gully increase of 35 birds was the largest numerical gain this year. The largest proportional increase was seen on the slope to Purple Cove where the mean jumped by 19.7% from 71 to 85 (a 47.9% rise was recorded here last year, this by far the largest increase in 2019). Remarkably the plots now contain more birds than were present on all of the Skokholm cliffs prior to 2003 and more than twice the number present in the plots in 2010, whilst the lowest of the ten 2020 plot counts exceeded the highest 2018 count.

The whole Island totals, mean plot totals and the percentage of the Island totals made up of study plot birds 2011-2020. 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)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Island	2212*	2330	3466*	3512*	3603*	3949*	4038*	4316*	4654*	5101*
Plots	613	625	896	859	864	943	1004	987	1044	1142
Range		530-746	824-949	797-947	756-939	887-1003	939-1144	937-1060	982-1140	1069-1213
±sd			39.20	54.25	58.30	40.25	57.45	37.38	54.40	50.57
Plot %	27.7	26.8	25.9	24.5	24.0	23.9	24.9	22.9	22.4	22.4

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

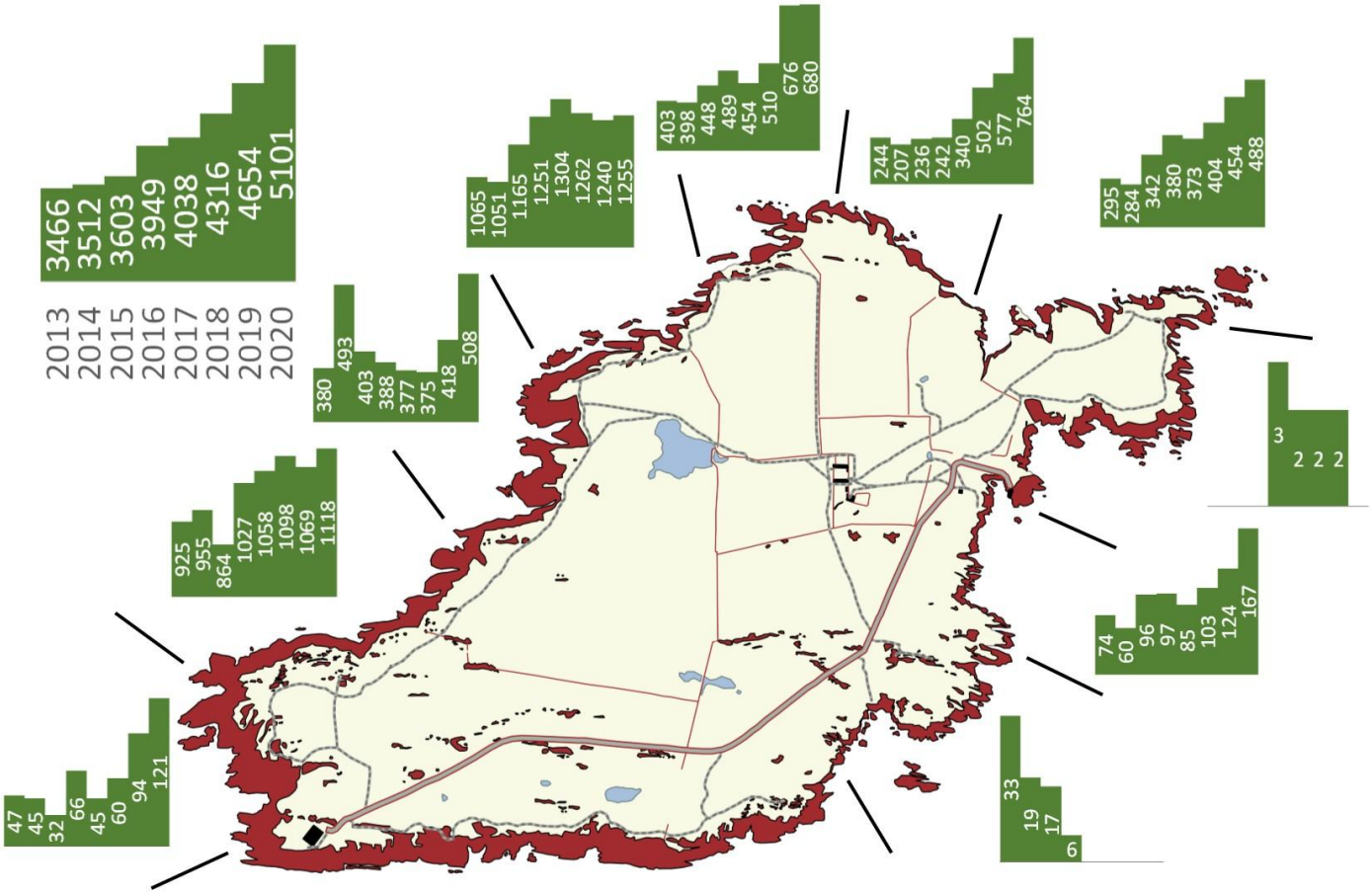


Recent Skokholm Seabird Reports have suggested that some of the study plots (particularly the Middlerock and Guillemot Cliff ledges of Twinlet) are seemingly close to capacity, perhaps in part due to an increase in Fulmar numbers; it seems possible that Fulmars will halt any further expansion of auks along their current ledges and may be excluding birds from previously occupied areas. For example a Fulmar projectile vomiting over non-breeding Guillemots at Little Bay on 27th May was

seemingly enough to deter the auks from that area for the remainder of this season. Although Fulmar-free ledges apparently suitable for colonisation by cliff nesting auks are present within the study plot boundaries, these new areas were not utilised this year.

Whole Island counts were made from the land between 25th May and 4th June and calm seas allowed for a boat-based survey on 9th June. 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 5101 adults in suitable breeding habitat was a 9.6% increase on the 2019 count and the highest tally yet recorded on Skokholm. Although down on the 2010-2019 average of 11.4% growth per year, the increase was the largest since 2016 (when numbers also increased by 9.6%) and equalled the third largest of the last ten years. The proportion of the whole Island count made up of study plot birds (22.4%) was down on the 2010-2019 mean of 25.4% and matched last year as the lowest this decade, perhaps suggesting that some of the factors limiting the more intensively studied plots are not impacting the entire Island population in the same way (although a 9.4% increase in the plots was very close to that seen across the Island as a whole). Additionally the Island total is based on fewer visits and only one boat-based survey, meaning that it is more likely to be further from the genuine mean.

The distribution of Guillemots on suitable breeding ledges 2013-2020.



As can be seen from the above map, the largest numerical increase occurred in the area around Near and Far Bays where a mean of 187 additional adults on ledges was logged; the population in this area has now increased by a remarkable 215.7% in four years. There was also a substantial increase of 90 adults in the area between Purple Cove and Twinlet, only 37 of which were in the four plots that fall within this stretch. The largest percentage increase occurred on the ledges around Hog Bay where 43 additional birds represented a 34.7% rise in the population. The reason for such rapid

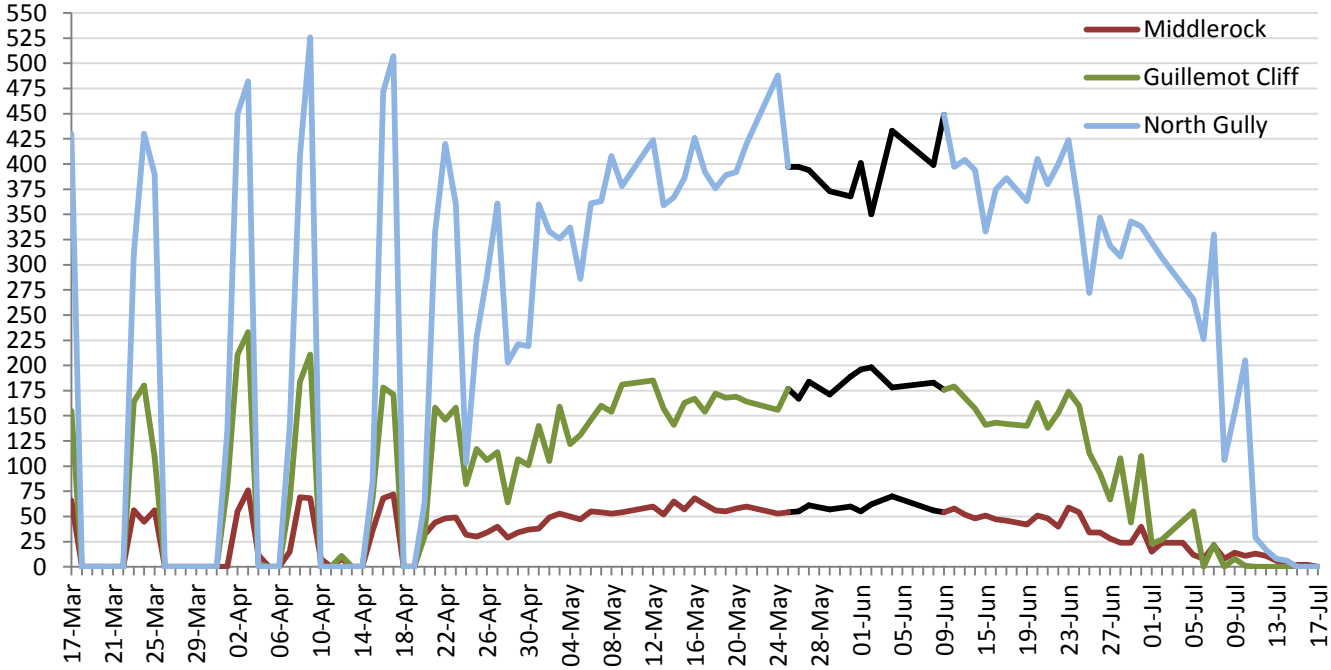
growth in some areas compared with the rest of the Island is unclear, although it may just reflect the availability of previously unoccupied habitat. Although the stretch of coastline containing North Gully increased by an average of 15 adults, the North Gully plot had increased by 35 adults (suggesting that the population on the surrounding cliffs was down 20 birds and not increasing in the way observed elsewhere). There were no birds occupying ledges in Peter's Bay, this the second area to see a local extinction following a disappearance from the west of Crab Bay in 2017. These counts of individuals on ledges potentially include incubating adults, some of their partners, failed breeders, non-breeding adults and younger birds yet to pair; 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 close 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 3418 pairs, 300 more than last year.

On 27th May an adult was watched as it arrived with a fish to what was seemingly its partner, the second bird receiving the fish before stooping and holding the food in position for a chick; a very close inspection revealed that this pair had neither an egg nor a chick. Four chicks were seen in the vicinity of North Gully the following day; these were five days later than the first chicks to be seen last year, but otherwise the earliest of the last eight years and eight days earlier than the 2013-2019 mean of 5th June (the first chick of 2014, the year following the severe winter auk wrecks, was on 13th June). A distinctive yellow billed individual in the North Gully plot was brooding a chick on 22nd June; similar aberrants have been seen on the Isle of Man, Bass Rock, the Farne Islands and Lambay. Productivity, calculated at between 0.55 and 0.61 jumplings per pair in 2013 and 0.6 in 2007, was not assessed in 2020 following recommendations from the Islands Conservation Advisory Committee. Chicks were jumping from 20th June and the number of adults recorded in the three regularly monitored plots dropped from 657 on the 23rd to 568 on the 24th, 488 on the 30th, 358 on 2nd July and 333 on 5th July (see chart below).

Between the 5th and 6th July, the number of adults in the Guillemot Cliff plot dropped from 55 to zero; the last birds had departed Guillemot Cliff by the 3rd last year, the 14th in 2018 and the 5th in 2017. The following day saw a late spike in numbers, with the total in the three monitored plots increasing from 234 to 373 (which included 22 birds in the Guillemot Cliff plot deserted on the 6th); similar late season returns occur each year. Following an increase to 205 on 10th July, counts at North Gully dropped to 29 on the 11th and to six on the 14th which were the last to be seen ashore here; North Gully was deserted on the 16th last year, the 20th in 2018 and the 17th in 2017. The number of birds at Middlerock dropped from 14 on 9th July to six on the 13th and just a single pair

remained between the 14th and 16th (birds which had lost their first egg to late May waves); Middlerock was also deserted on the 17th in 2018, but on the 6th last year and the 9th in 2017. This was thus the first year in seven that birds have not remained for longer at North Gully; although the larger breeding population at North Gully probably accounts for the typically later departure, the last four years have seen the last birds depart Guillemot Cliff before Middlerock (this despite the larger population at the former). Whole Island counts mirrored those made at the plots, with Steep Bay the only site to see birds ashore for longer than in the plots; 15 birds were still ashore on the 17th, up to three remained to the 21st and two on the 22nd were the last to be seen on land this breeding season (one day later than the 2013-2019 mean last date, with two on 16th July 2019 the earliest last birds and six on the 27th in 2013 the latest). Up to four were seen at sea on a further six dates to the end of July and in August there were records on 23 dates, totalling 1138 bird-days and with peaks of 156 on the 9th, 180 on the 28th and 411 on the 30th (which included one loafing with Kittiwakes on rocks to the north of the Quarry); the peak was the third highest August daycount to date, only down on counts of 475 and 1414 logged in 2018. The last three years are the only three to have produced four-figure August bird-days totals; although a boat trip four miles offshore during August 2017 revealed hundreds of rafting Guillemots, a total of 178 in 2017 was the previous August high.

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



September counts are seldom high (the record bird-days totals are the 563 of 2014 and the 1419 of 2018), however this year saw sightings on only 15 dates tally just 63 birds (including two ashore, at least one of which was injured); the 2011-2019 mean is 317, with only three totals during that period being down on this year. There were an additional 799 distant, unidentified auks logged during September, this the second highest total in this month (down on the 2613 of 2018). Although sightings of up to 40 birds on 18 October dates totalled just 123, this was nevertheless the highest October tally to date, up on the 109 of 2018. An additional 1915 unidentified auks were logged during the same period, this the second highest October tally behind the 2055 of 2016. Despite a staff presence throughout the month and sightings on 25 dates, a daycount of 233 on the 23rd was the second lowest November peak of the last six years, whilst a monthly bird-days total of 1215 was the third lowest (well down on a high of 3441 logged last year). However an additional 3038 distant auks, the second highest November total behind the 3985 of last year, suggested that Guillemots might not be too far from Skokholm. Given the increase in the breeding population, it is perhaps unsurprising that autumn counts during the last few years have proven to be the highest on record.

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 16th November in 2013 and 24th November in 2014. However birds have been seen ashore in five of six subsequent Novembers, with 2017 the only year without a record (when staff departed on the 9th). This season saw 125 birds ashore on the 5th; the only earlier landfalls since birds took to the cliffs at Steep Bay on 27th October 1999 came on the 1st and 4th last year and on the 3rd in 2016. There were landfalls on a further 12 November dates, with peaks of 212 on the 22nd and 181 on the 23rd but eight counts of nine or less (guano streaks suggested that more birds had been present prior to an early departure). No birds were ashore during the first week of December. Such a return to the colony outside of the breeding season, with the risk of being attacked, must have a substantial benefit; it has been suggested that the return may be to secure the best ledge and thus attract the best mate (Harris *et al*., 2006), but birds ashore may also use less energy than those at sea (Humphreys *et al*., 2007). The majority of early winter sightings of birds ashore come from the ledges above the Jogs; this site holds the largest breeding season aggregation, perhaps suggesting that the need to come to land is greater in birds which occupy areas with more neighbours.

Ringing recovery Blue darvic with white 0373
Originally ringed as a pullus, THE AMOS, SKOMER ISLAND, PEMBROKESHIRE June 2016
Previously recovered three different colonies, SKOMER ISLAND, PEMBROKESHIRE May 2020
Recovered as an adult, LITTLE BAY, SKOKHOLM 21st May 2020
Finding condition Colour ring read in field
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 1422 (approximately)
A subadult which has landed in at least four different colonies.

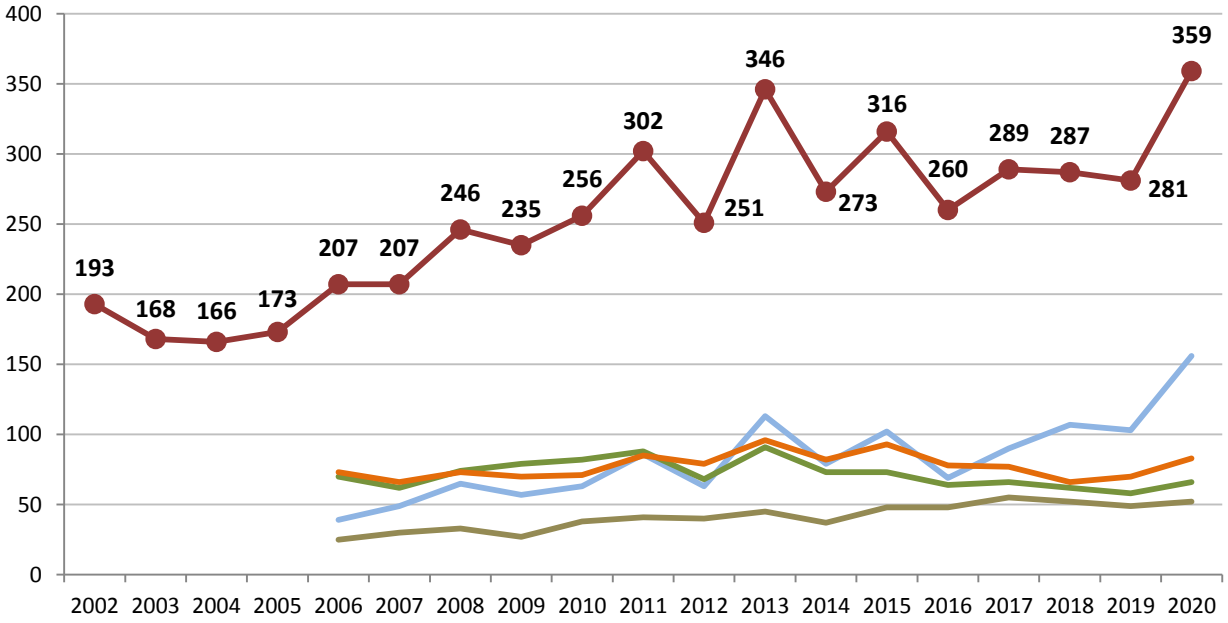
Ringing recovery Left leg green darvic with white 69K, Right leg N00620
Originally ringed as a pullus, THE AMOS, SKOMER ISLAND, PEMBROKESHIRE June 2005
Previously recovered as an adult, SKOMER ISLAND, PEMBROKESHIRE four times in 2009
Previously recovered as an adult, SKOMER ISLAND, PEMBROKESHIRE 11 times in 2010
Previously recovered as an adult, SKOMER ISLAND, PEMBROKESHIRE seven times in 2011
Previously recovered as an adult, NORTH GULLY, SKOKHOLM 5th May 2014
Previously recovered as an adult, NORTH GULLY, SKOKHOLM 29th April 2015
Recovered as an adult with a chick, NORTH GULLY, SKOKHOLM 21st June 2020
Finding condition Colour ring read in field
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 5471 (approximately)
Another bird seen in different colonies before it settled to breed on the opposite side of Broad Sound to that on which it hatched.

Ringing recovery Yellow darvic with black 829
Originally ringed as a pullus, THE AMOS, SKOMER ISLAND, PEMBROKESHIRE June 2015
Recovered as an adult, NORTH GULLY, SKOKHOLM 13th May 2020
Finding condition Colour ring read in field
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 1780 (approximately)

Razorbill *Alca torda* **Llurs**
Very Abundant Breeder Common or Abundant until 2007, numbers then increasing rapidly
43 pulli trapped, 1 retrapped
1936-1976: 9220 trapped, 2013-2019: 243 trapped, 6 retrapped, 4 controls

Whereas visits for the deployment and checking of rodent bait stations allowed for counts of up to 2000 Guillemot, these calm weather winter excursions failed to locate a Razorbill on either 22nd January or 6th February. There were sightings on all but four March dates from the return of staff on the 16th, with highs of 1863 on the 23rd and 1875 on the 24th but five dates with 34 or fewer noted; the majority were at sea, with 945 on the 24th and 466 on the 25th the highest counts of birds ashore. Numbers continued to fluctuate during early April, with highs of 2274 on the 1st (1972 of which were at sea) and 1754 on the 2nd (865 at sea), but lows of between one and 15 on five dates between the 5th and 18th. Numbers on the cliffs increased steadily from 19th April and the first egg to be seen was being incubated at Middlerock on the 23rd; although four days later than the first of 2019 (an exceptionally early egg which was probably the result of unseasonably high sea surface temperatures), this was otherwise the earliest of the last eight years, six days earlier than the 2013-2019 mean (the latest first egg during this period was found on 13th May 2014, this no doubt a consequence of the winter storms preceding that breeding season). The majority of birds at the Neck study plot produced eggs earlier than those in the North Gully plot; at the Neck 20 of 34 pairs (58.8%) had an egg by 3rd May, whereas only 17 of 33 North Gully pairs (51.5%) had an egg by 8th May.

The total number of adult Razorbill in all six study plots 2002-2020 (as an average from ten visits) and the totals from the four largest plots (as an average from ten visits).



The Mid Channel Rock Lighthouse Beacon off St Ann's Head registered multiple, very unseasonable, 11m waves on 22nd May. This exceptionally large swell was devastating for some Razorbills, including those nesting at the Neck study plot; of the 30 pairs incubating eggs in the Neck plot at that time, 18

(60%) lost their eggs to the sea, although only one (or possibly two) of the 33 North Gully eggs were lost. Inevitably such untimely losses would impact the number of adults on breeding ledges during the usual whole Island and study plot count period; whereas the period following the egg losses saw an apparent increase in the number of adults present, a period during which lots of mating was observed, a survey on 30th May revealed a lack of birds (of the 16 Neck sites where a second egg would be produced, only two contained an adult). Given these huge changes in the number of birds present, it might be expected that the range in study plot counts (and the standard deviation given in the table below) might be higher than usual; this was indeed the case, although both values were down on those logged during a 2019 season characterised by a run of unsettled weather. The counts are inevitably affected by the weather; in the unsettled June of 2012, plot counts fluctuated between 164 and 338 birds, whereas the 2018 counts, made during a prolonged period of high pressure, fluctuated between 263 and 309 (with the lowest standard deviation of the last eight years (see table below)). It is possible that some higher counts, and thus the higher standard deviation observed in some years, are due to ameliorating rough weather encouraging more birds to the cliffs; there is seemingly a trend for the highest plot counts to occur following rough non-survey days.

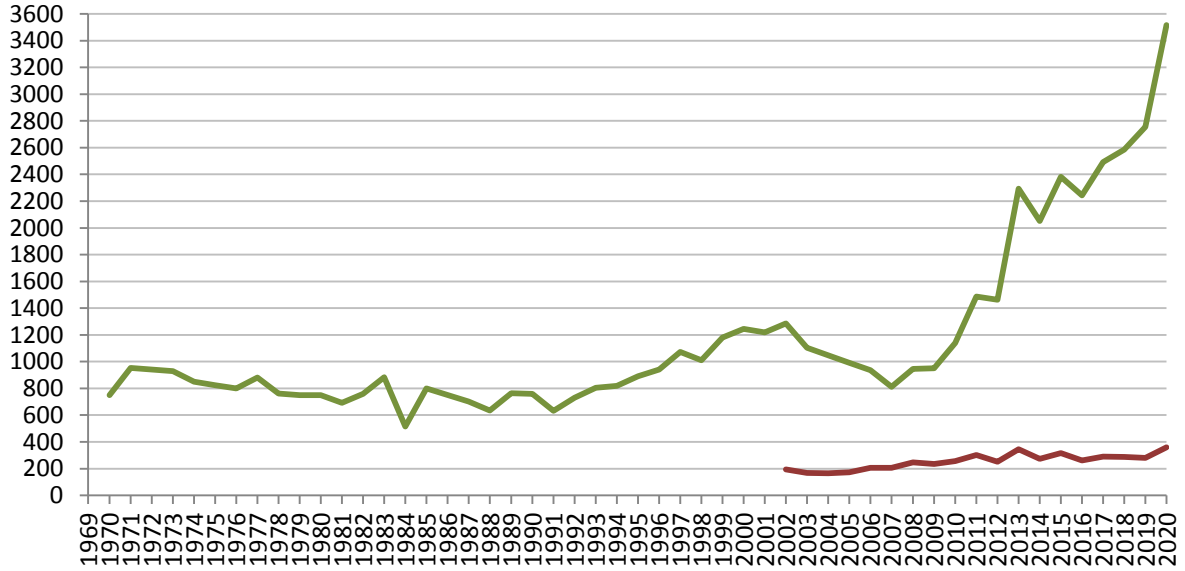
The whole Island totals, mean plot totals and the percentage of the Island totals made up of study plot birds 2011-2020. Also the range of plot counts since 2012 and the standard deviation observed over the ten plot visits since 2013. (*includes a boat-based count)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Island	1486*	1463	2294*	2052*	2382*	2242*	2491*	2585*	2755*	3517*
Plots	302	251	346	274	316	260	289	287	281	359
Range		164-338	301-397	254-315	291-346	236-324	253-334	263-309	230-351	312-395
±sd			30.54	19.96	15.78	26.58	25.61	13.25	40.82	30.72
Plot %	20.3	17.2	15.1	13.4	13.3	11.6	11.6	11.1	10.2	10.2

The six study plots, established in 2002, were visited on ten dates between 25th May and 9th June when every adult in suitable breeding habitat was counted. The mean single visit total of 359 adults on ledges was 78 (27.8%) up on that logged last year and the highest total to date, 25.4% up on the 2010-2019 mean (286.2 ±sd 29.3) and 3.8% up on the previous high logged in 2013. The largest increase was seen at Little Bay where the mean jumped by 51.5% from 103 to 156; the previous high

at this site was the 113 logged in 2013. A mean of two birds joined the Guillemot ledge on the slope to Purple Cove; although up to two birds have been seen at this site on at least one date in each year since 2013, only singles in 2013 and 2014 have been present regularly enough to register on the ten visit mean. The average number of adults in the North Gully plot increased from 49 to 52, the mean still being down on the 55 of 2017. There were larger increases in the Twinlet plots, with an additional eight birds on Middlerock taking the total to 66 (a 13.8% rise) and an additional 13 on Guillemot Cliff taking the total to 83 (an 18.6% rise); nevertheless both totals were still well down on 2013 means of 91 at Middlerock and 96 at Guillemot Cliff. The 86% increase in the number of birds occupying the plots since 2002 has thus primarily been driven by a jump in the number seen in Little Bay; the Little Bay total has increased by 117 birds (300%) since 2006 (the blue line on the above graph). A smaller 108% increase has been seen at the North Gully plot during the same period (the grey line on the above graph). It should be noted that the birds occupying the boulders in Little Bay are closer to sea level than most of those in the other plots; it is possible that the rough 2020 weather documented above impacted this area more than the other plots. Quite why the Twinlet plots have declined in recent years, particularly given the general upwards trend seen at Little Bay, North Gully and across the Island as a whole, is unclear. A possible factor is that the study plots, particularly those at Twinlet, 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 increased since 2013, perhaps leading to competition with Razorbills for space within the confines of the plot boundaries.

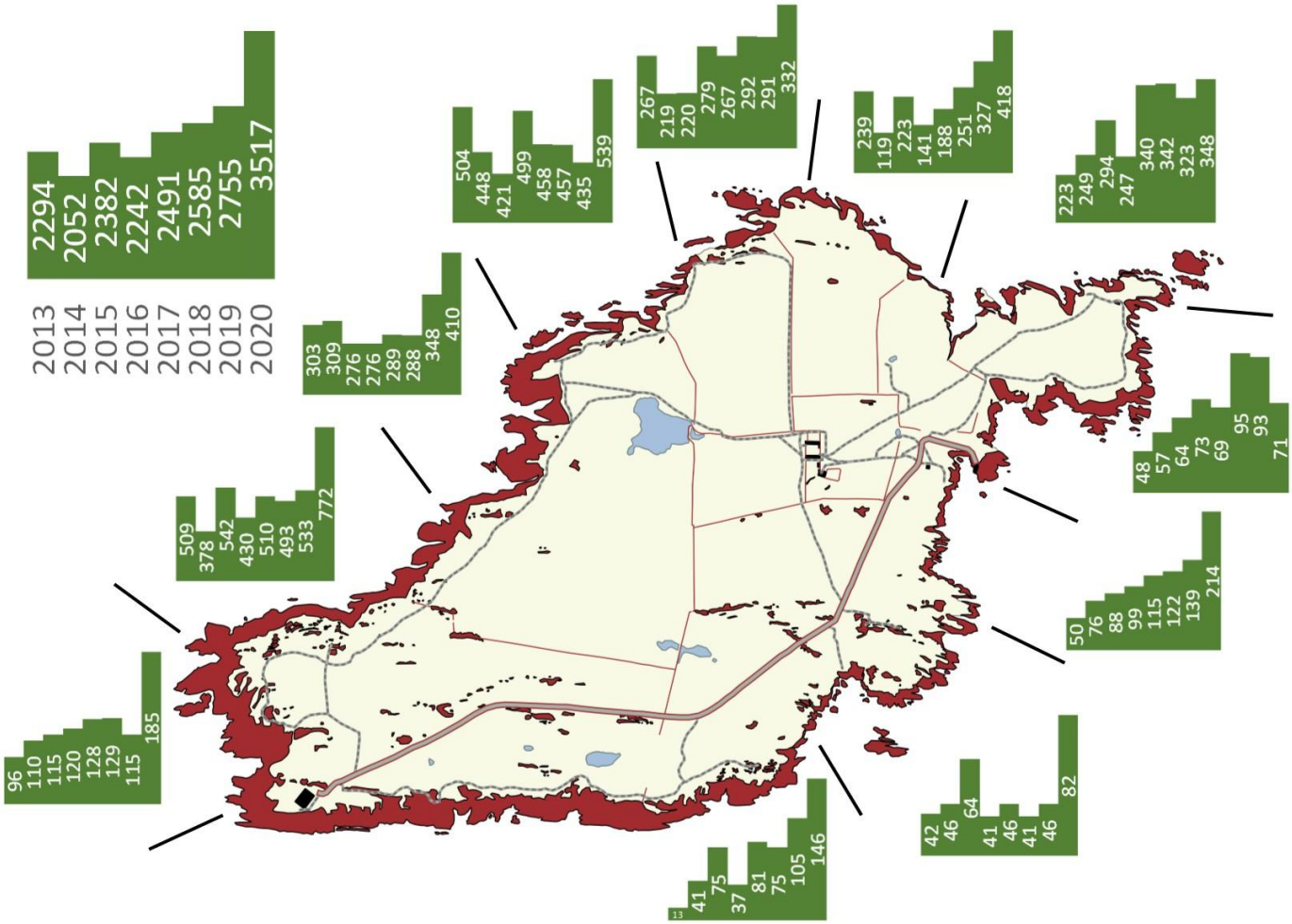
The total number of Razorbills (adults on ledges suitable for breeding) recorded on Skokholm since 1970 and the number of birds within the study plots since 2002.



Whole Island counts were made from the land between 25th May and 4th June, whilst a boat-based count was possible on 9th June. This was the eighth year running in which 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 2020 whole Island mean of 3517 adults in suitable breeding habitat was 27.7% up on the 2755 logged in 2019 and the highest total yet recorded on Skokholm (68.4% up on the 2010-2019 mean of 2089.0 ±sd 543.64). The significant jump in numbers recorded this year is perhaps in part due to the number of pairs impacted by huge seas at the start of the survey period (see above), conditions which may also have changed the behaviour of non-breeding birds. Nevertheless the ten visit study plot mean increased by a very similar 27.8%, suggesting that any impact on numbers was not exaggerated by the fact that

the whole Island count is based on fewer visits. The proportion of the whole Island total made up of study plot birds matched last year as the lowest since the plots were initiated in 2002 (10.2%), implying that the plot limiting factors outlined above, particularly competition for space in the Twinlet plots, are not affecting the Island as a whole. As can be seen from the map below, there were increases in all but one area of the Island, with the largest numerical gains coming at the Bluffs (239 more birds), between the Jogs and the Dents (104 new birds, despite the fact that the North Gully plot increased by only three) and along Near and Far Bays (91 more birds). A loss of 22 birds to the south of the Neck mirrored the decline in Guillemot numbers at this site (which led to the extinction of the latter); interestingly Fulmar productivity is regularly below average in this area (see the Fulmar section), perhaps suggesting that an unknown factor is impacting seabirds here.

The distribution of Razorbills on suitable breeding ledges 2013-2020.



Productivity monitoring was undertaken for an eighth consecutive year. There are some concerns among ICAC members that recent Pembrokeshire productivity estimates have been quite low (on Skokholm ranging between 0.21 in 2015 and 0.69 in 2018), 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 do not represent the Island as a whole, particularly the exposed Neck plot where predation levels are often quite high and where this year a significant number of eggs were lost to the sea; with this in mind an additional cliff plot was established at North Gully in 2017. There were thus three survey areas this year, one a cliff below the Neck Razorbill Hide where 34 incubating pairs were mapped between 30th April and 25th May, one the ledges around North Gully where 33 pairs were mapped between the 2nd and 16th May and one an area among the Bluffs boulders where 48 egg sites were marked on 8th May.

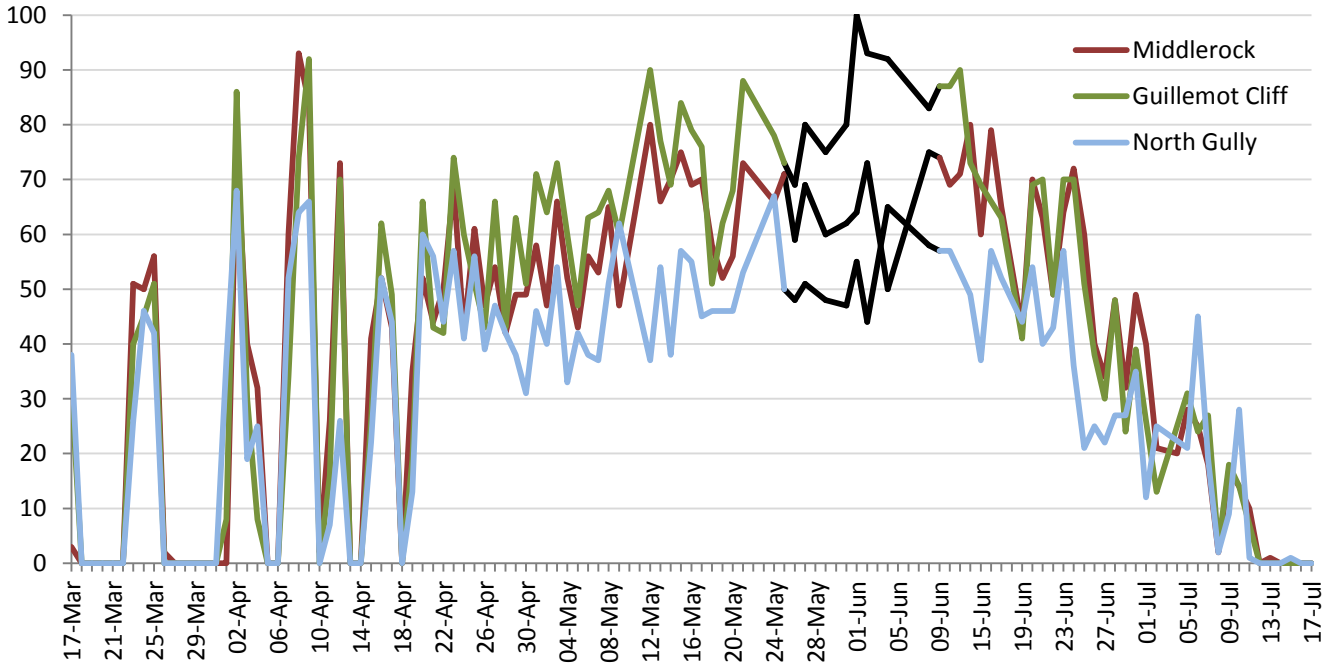
The first chicks to be seen anywhere on Skokholm this year were found in Crab Bay and the North Gully productivity plot on 23rd May; although five days later than the first of last year, these were 11 days earlier than the 2013-2019 mean (which is 3rd June, with the earliest on 18th May 2019 and the latest on 15th June 2013). The North Gully plot saw two egg stage failures (of which one pair re-laid and again failed at egg stage) and six failures at egg or very small chick stage (ledges were found empty, with no indication as to what had happened). There were no definite chick stage failures, with all 25 known chicks going on to reach jumping size. The resulting productivity value of 0.76 jumplings per pair was the highest yet recorded at this site, up on the 0.71 of last year, the 0.62 of 2018 and the 0.58 of 2017. At the Neck there were four early egg stage failures, two failures with advanced eggs, one egg or very small chick stage fail and four failures at chick stage; two chicks failed at approximately two days, one at six days (the only dead chick to be seen on the cliffs this year) and one at under 18 days. An additional 16 pairs re-laid after eggs were lost to waves (see above); of these 13 failed at egg stage and three failed at chick stage (at approximately three, eight and ten days). Only seven chicks attained jumping size at the Neck; the resulting productivity figure of 0.21 was down on a 2013-2019 Neck plot mean of 0.42 (productivity at this site is very variable, with highs of 0.86 in 2018 and 0.77 in 2013 but lows of 0.14 in 2017 and 0.03 in 2016). The combined productivity estimate for cliff nesting pairs was 0.49; this was the lowest cliff estimate since the 0.36 of 2017, a figure down on the 0.67 of last year and the 0.74 of 2018 (both the 2020 and 2017 means were lowered significantly by poor productivity in the Neck plot).

Among the Bluffs boulders four pairs failed at egg stage (three of which re-laid), seven pairs failed with eggs or small chicks (but the crevices were empty, with no indication as to what had happened), one pair failed with a small chick (hatched shell was present but no chick) and four pairs failed with chicks (two went missing at less than nine days, one at less than 17 days and one was found dead at 14 days). Of the three pairs which produced a second egg, one failed when the chick was less than 14 days old and two were successful. The offspring of an additional 32 pairs attained jumping size. Thus 34 pairs produced a jumpling, this equating to a productivity value of 0.71 per pair; the 2020 productivity estimate was the second highest to be recorded at this site, down on the 0.74 of 2016 but up on a 2013-2019 mean of 0.52 (lows during the period were of 0.29 in 2015 and 0.44 in 2014). For an eighth year running, the last of the breeding attempts within the boulders were concluded before the last of the attempts on the cliffs.

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 0.56 jumplings per pair and the latter 0.57; primarily as a result

of the disappointing productivity recorded in the Neck plot, the mean 2020 estimate was down on the 0.63 of last year and the record 0.69 of 2018, albeit up on a 2013-2019 mean of 0.49 (lows during that period were the 0.23 of 2015 and the 0.39 of 2016, both these calculated prior to the establishment of the less variable North Gully plot).

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



In an effort to ascertain the pattern of colony attendance, near daily counts were made at three of the plots throughout the breeding season (see chart above). There were again fluctuating numbers in all three subcolonies following the usual count period and regular peaks when the totals were augmented by the return of partners, 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 returning auks respond to the same environmental cues. The first jumpling had departed the productivity plots by 8th June; this was the earliest successful jumpling to date, one day earlier than the first of last year, 12 days earlier than the first of 2017 and 14 days earlier than the firsts of 2018 and 2016. The number of adults within the three

plots dropped steadily during June, with only double-figure totals logged from 1st July (the 2014-2019 mean is 10th July, ranging between 30th June last year and 17th July 2014) and single-figure counts from 12th July (the 2014-2019 mean is 20th July, ranging between 9th July last year and 27th July 2014). Whereas all of the Bluffs and North Gully study chicks had departed by 30th June, 13 of 34 attempts in the Neck plot (where 16 pairs had made late re-lay attempts) were still active on 1st July, nine were still active on the 12th and four were still active on the 19th (all of which had failed by the 23rd). Despite the early 2020 breeding season, there were single-figure counts of adults ashore each day from the 20th to 28th July, with birds provisioning big chicks at the Dents and Little Bay on the latter date the last to be seen this year; the 2013-2019 mean last adult ashore date is 27th July, with the earliest last date being 24th July in 2015, 2016 and 2017 and the latest being 2nd August in 2018.

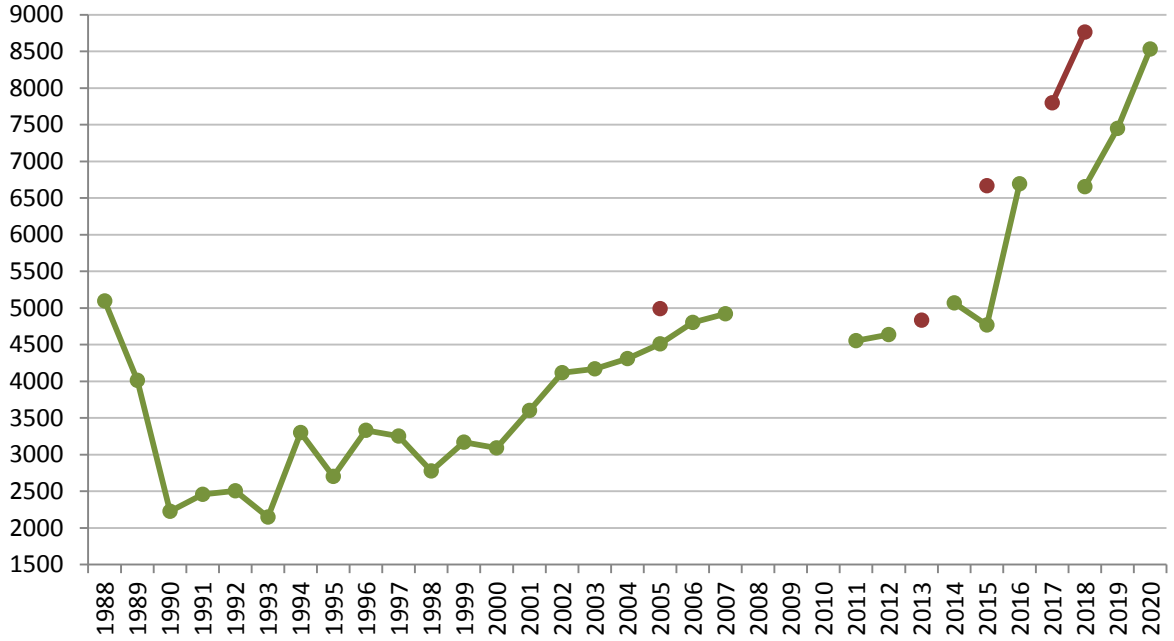
There were sightings of Razorbills at sea on 21 August dates, totalling 575 bird-days and with highs of 68 on the 13th, 159 on the 28th and 129 on the 31st; both the peak daycount and bird-days total were new August records, both up on 2018 when a daycount of 114 took the total to 392. Counts on 25 September dates peaked at 82 on the 1st, 64 on the 5th and 71 on the 13th; there have been higher daycounts in six Septembers (with peaks of 200 in 1947 and a remarkable 1148 in 2017), but only three September totals up on the 507 of this year. Although down on a record 2019 October, when daycounts of up to 763 produced a bird-days total of 1224, counts of up to 79 birds on 25 dates took the 2020 October total to 496, this the third highest to date. November proved quieter, with sightings of up to 17 birds on eight dates and a bird-days total of only 42. Given recent increases in the size of the Skokholm breeding population, it is perhaps no surprise that unprecedented numbers have been logged in recent autumns. There were however no Razorbills seen ashore for an eighth successive November, this seemingly an auk behaviour confined to Guillemots during the early winter period. Further large auks were present at sea during the autumn, but they remained unidentified due to their distance from the Island; there were 799 in September, 1915 in October, 3038 in November and 228 in the first seven days of December, with a peak of 513 on 23rd November which was the sixth highest autumn daycount to date (all of which have come in the last seven years).

Puffin *Fratercula arctica* **Pâl**
Very Abundant Breeder
1 trapped, 1 retrapped, 219 resighted
1936-1976: 5411 trapped, 2011-2019: 582 trapped, 24 retrapped, 1406 resighted, 1 control

The late return of staff on 16th March meant that early Puffins may have been missed; there had been counts of up to 23 birds on five dates totalling 31 bird-days prior to the 16th in 2019, although

these were unprecedentedly early, with the earliest pre-2019 March record being of four on the 12th in 1982. A minimum of 969 congregated offshore on the evening that staff returned; this was by far the largest arrival to have occurred by this date, with 200 in 2012 the previous 16th March high (indeed only 777 birds had been seen on this date or earlier since recording began). There were 5217 counted the following evening, this the earliest ever four-figure daycount (one day earlier than the first of last year and three days earlier than the first of 2012); of these two made landfall at Crab Bay and seven made landfall near the Bluffs, this the earliest ever return to the cliffs (two days earlier than when over 500 arrived to land in 2019 and three days earlier than an arrival of six in 2012). There were surprisingly no Puffins logged during gentle northerlies on the 18th, 19th and 20th, and less surprisingly none seen during a southeasterly gale on the 21st, however 7121 arrived offshore on the 22nd; this was the second highest March daycount to date, a tally down on the 7447 recorded on the 19th last year but up on the previous high of 4308 logged on the 27th in 2004. Sightings on all but two subsequent March dates, including highs of 2353 on the 24th and 2170 on the 25th, took the March bird-days total to 20,240 (the second highest March total on record behind the 23,633 of last year).

The maximum Puffin daycount recorded each spring during the period 1988-2020. Green points represent counts made during March and April, maroon points counts made in May.



Whereas the last seven years have seen daily counts made from around the Neck each spring evening (to record the pattern of colony attendance and to help select the most productive times for a whole Island count), COVID-19 dictated staffing shortages meant that this was not an option in 2020 (see the 2013-2019 Seabird Reports for charts showing spring attendance around the Neck). The impetus for a whole Island count on 7th April was thus an assessment of the number of birds rafting in South Haven. This survey produced a total of 8534 birds (to the north there were 2536 on the sea and seven in the air, to the south 1483 on the sea, 136 in the air and 1252 on land and around the Neck there were 2761 on the sea, 161 in the air and 198 on land); although numbers are still well down on Lockley's pre-War spring estimates of approximately 40,000, this was the highest April count since 10,000 were logged on the 22nd in 1953 and a tally 14.6% up on the peak spring count of 2019. 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 total on the evening of the 7th April peak 2020 count was 1637 birds (the 2019 peak was 1851), however more focused monitoring at this site revealed 72 active burrows in an area which comprises approximately 10% of the colony and where less than half of

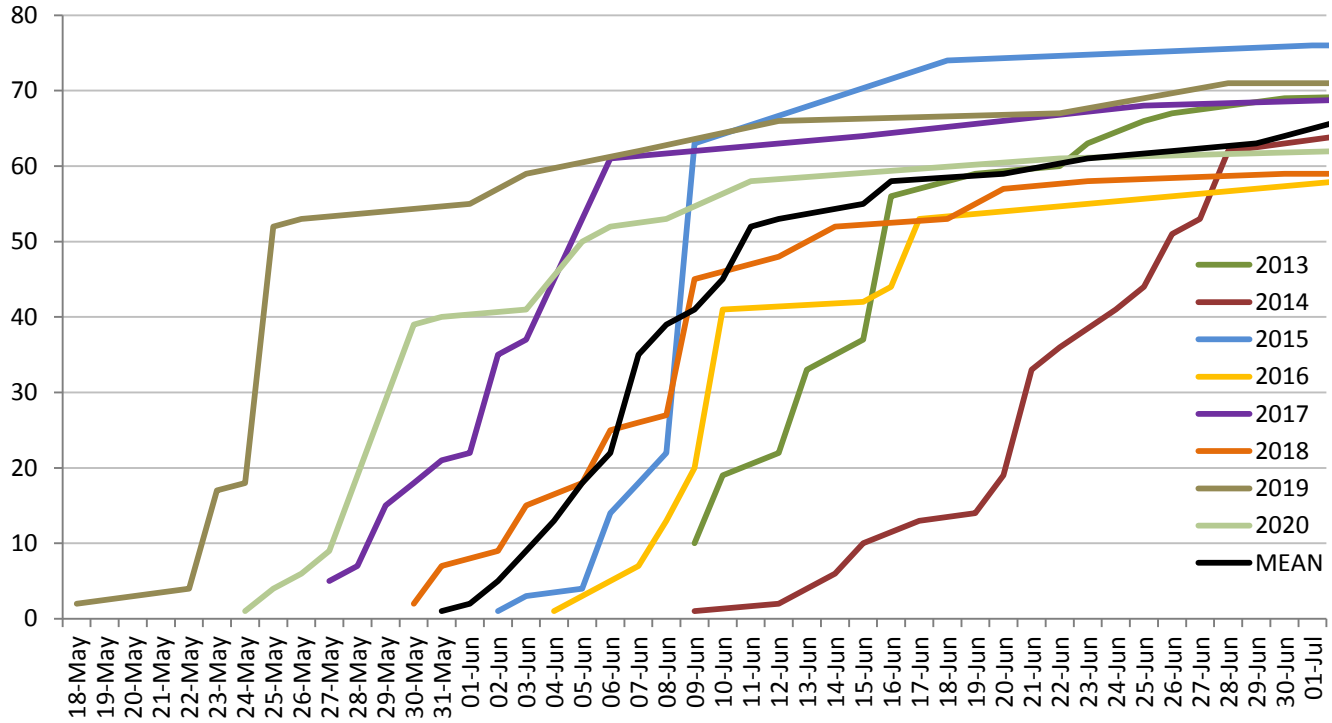
occupied burrows were study burrows; we might thus predict a very rough minimum of 1440 pairs for Crab Bay (as active burrow distribution is apparently quite even) and expect over 1200 more birds to be using this area of sea than were logged during the peak whole Island count.

A productivity plot established at Crab Bay in 2013 was used for an eighth 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, 67 were seen to be occupied and were visible throughout the season (75 in 2019); productivity estimates are based on observations of these burrows. Despite prolonged checks, no chick food deliveries were seen anywhere until 24th May when three birds arrived with fish to Crab Bay; these were the latest first fish deliveries since one on the same date in 2017, albeit two days earlier than the 2013-2019 mean (the earliest in this period was logged on 14th May last year and the latest on 3rd June in a post-wreck 2014). The mean 2013-2019 first fish delivery to the Crab Bay plot is 31st May, 5.7 days after the whole Island mean (in 2015 the first plot delivery was only two days after the first delivery anywhere, whereas in 2013 it was ten days later); this year saw a fish delivery to the plot on 24th May, the same date as the first seen anywhere (see the graph below for the first plot delivery dates logged in previous years). The cumulative total of provisioned burrows increased rapidly; over 60% of burrows had been provisioned within a week of the first fish arriving, all of these with chicks prior to the 2013-2020 mean first fish delivery date. The 2020 chick feeding period was over three weeks earlier than in 2014 (the breeding season which followed the most severe winter storms recorded during this study). The breeding season is seemingly getting earlier; three of the four earliest chick provisioning periods between 2013 and 2020 have occurred in the last four years, with the start of the 2020 provisioning period being the second earliest to date. Five active burrows (7.46%) were not seen to be provisioned with fish and it is assumed that these failed at egg stage (the 2013-2019 mean is 5.91%, with a high of 7.79% in 2013 and a low of 3.28% in 2018).

Although the study plot was visited for a minimum of one hour most days, 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 amassed to allow further comparisons to be made in the future (see 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 when burrows contain large chicks is inevitably the main issue with this technique, necessitating earlier watches to detect chick hatching dates (which since 2013 have varied by as much as a month). Whereas the previous six years have seen the use of five daylight hours watches, a COVID-19 dictated staffing shortage meant that this year the five watches each lasted from 0430-1700hrs only (five fewer hours than usual).

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



The number of fish deliveries to known active burrows during five 0430-1700hrs watches.

No. of deliveries	0	1	2	3	4	5	6	7	8	9	10	12	14
No. of burrows 30 May	2	10	7	5	9	6							
No. of burrows 11 June	2	7	7	19	11	5	5						
No. of burrows 22 June	1	11	8	9	12	5	8	1	1				1
No. of burrows 2 July	1	10	11	4	9	7	8	3	2			1	
No. of burrows 14 July		7		1			1	1			2		

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 13 days old (see table below). However it would be incorrect to assume that only those provisioned on all three watches went on to fledge; 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 2019 productivity estimates of between 0.73 and 0.80 fledglings per pair certainly include birds which did not fledge; there have been examples each year of chicks already counted as having fledged which were eaten or found dead. This technique also missed fledglings this year, with three apparently successful chicks known to hatch after 11th June (which were thus recorded on only one of three watches and assumed to have failed). Nevertheless this more standardised monitoring method suggests that 2020 productivity of 0.78 was in line with recent years, indeed it almost matched the 2013-2019

mean (0.75 ±se 0.01). 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 2020 data suggests that, of the 67 monitored breeding attempts, perhaps as few as 43 (64.2%) were potentially successful (which equates to a productivity figure of 0.64 fledglings per pair); the 2013-2019 mean ad hoc productivity figure is 0.55, with a high of 0.64 in 2016 (and this year) and a low of 0.49 in 2013. At least 48 attempts saw a chick reach a minimum of 26 days (71.6% or 0.72 chicks per pair, see second table below), a figure almost identical to last year (when 72.0% reached 26 days of age (also 0.72)).

Calculating productivity using only three daylight watches. The first watch was between 25th May and 28th June (dependent on the date of first fish delivery that year), the second between 11th June and 8th July and the third between 28th June 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.
2020	24-May	14-Jul	3	13 (30/5 - 11/6)	16	22 (11/6 - 2/7)	33	34 (30/5 - 2/7)	**0.78** (52 of 67)	0.64
2019	18-May	24-Jul	19	19 (25/5 - 12/6)	9	17 (12/6 - 28/6)	29	35 (25/5 - 28/6)	**0.76** (57 of 75)	0.55
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 0430-1700hrs watches.

Days	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-51
No. of burrows	3	2		2	7	5	29	8	2	4

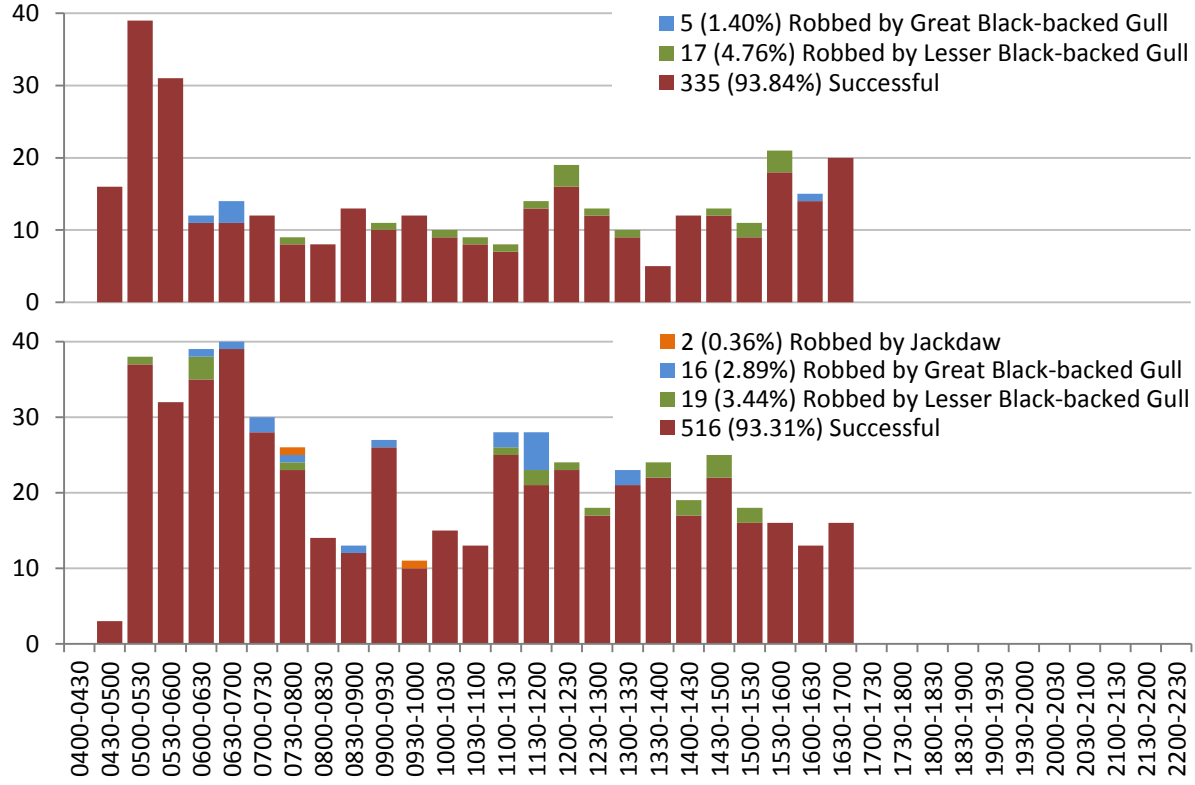
The five 0430-1700hrs watches were also used to monitor kleptoparasitism. The study plot was again confined to the area of the 100 numbered burrow stakes at Crab Bay. On 30th May 357 Puffins arrived to the study area with fish and of these 22 (6.16%) were successfully robbed. On 11th June 553 arrived and 37 (6.69%) were robbed. On 22nd June 600 arrived and just three (0.50%) were robbed. On 2nd July 659 arrived and ten (1.52%) were robbed. On 14th July 170 arrived and five (2.94%) were robbed. These figures do not take into account the number of fish lost to gulls at sea or on the approach to the colony. In terms of the percentage of deliveries lost over the study plot, a five visit mean of 3.29% was down on a 2013-2019 mean of 4.06% (it should be remembered that there were approximately 25 fewer hours of observations this year, although there is nothing to suggest that kleptoparasitism levels increase in the evening). The last four years have seen the lowest levels of monitored kleptoparasitism, whilst the highest level to be recorded so far occurred in 2013 (when 8.77% of deliveries were lost during four daylight hours watches). A general decline in kleptoparasitism is perhaps in part due to a reduced Lesser Black-backed Gull population (which has declined by 40.4% in the last eight years), 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. There has been an increase in corvids kleptoparasitising Puffins in the plot; there were no records between 2013 and 2016, a Crow stole one delivery in 2017, Jackdaws stole single deliveries in 2018 and 2019, a Raven stole a delivery in 2019 and this year saw two successful steals by Jackdaws.

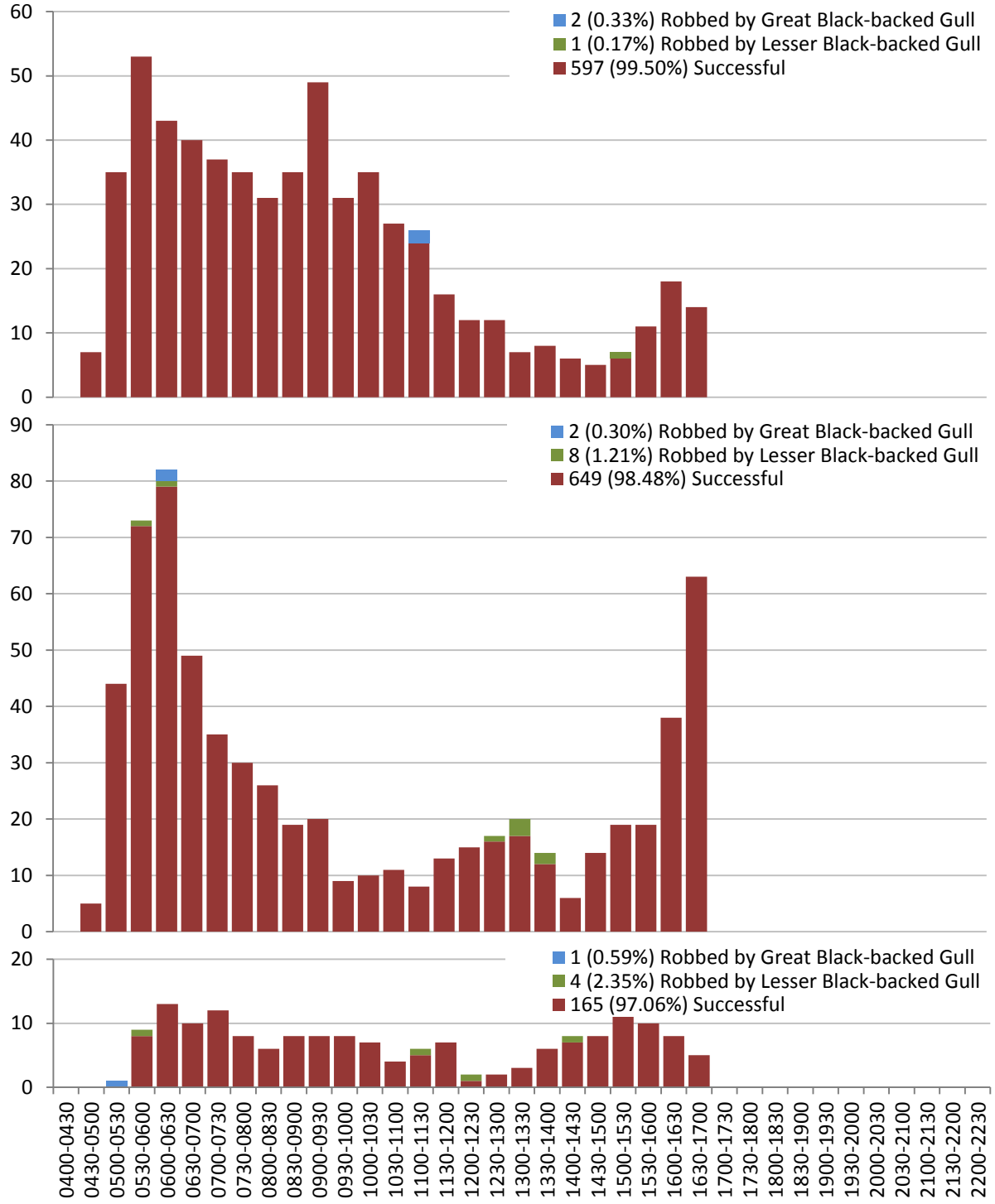
The number of fish deliveries made to the study plot during each daylight hours watch, the number of Puffins which lost fish over the plot and the percentage which lost fish. (*watches stopped at 1700hrs)

		Watch 1	Watch 2	Watch 3	Watch 4	Watch 5	Total
2020*	Number of deliveries	357	553	600	659	170	**2339**
	Number parasitised	22	37	3	10	5	**77**
	Percentage parasitised	6.16	6.69	0.50	1.52	2.94	**3.29**
2019	Number of deliveries	579	929	504	429	228	**2669**
	Number parasitised	25	18	14	18	5	**80**
	Percentage parasitised	4.32	1.94	2.78	4.20	2.19	**3.00**
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**

The number of chick provisioning attempts between 0430 and 1700hrs on 30th May and 11th June 2020, along with the number of times that gulls and corvids successfully robbed the fish.



The number of chick provisioning attempts between 0430 and 1700hrs on 22nd June and on the 2nd and 14th July 2020, 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 ringed in the first year, 166 between 2012 and 2014, 78 between 2016 and 2018 and a further 28 were added last year; another impact of COVID-19 was that a ringing team could not be safely assembled 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 plot or perhaps because their rings have not been seen, indeed 12 were not seen for two years (including two which went missing for two years twice) and seven were not seen for three years. We now know, for example, that the 154 birds seen in 2013 was only 92.77% of

the number actually alive and that when 219 were seen last year, at least 233 were alive. With nine years of resighting data now available, we can start to look at fluctuations in survival over time. The percentage of birds surviving the winter during the period 2011 to 2020 has varied between 79.72% (in 2014) and 96.51% (in 2013), with only the 2014 return rate being below 89% (until this year) and an overall mean of 90.76%. 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 a mean of 91.81%. The most striking feature of these estimates is the substantial drop in survival 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. The 2020 return rate was down on that seen in all years bar 2014, although resighting effort was inevitably reduced this year; the survival estimates for more recent years are likely to be increased in the future as it seems probable that some birds missed this year will be seen again.

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 215 birds (93.48%) are now known to have been alive in 2015, of a 2014 total of 230 (57 ringed in 2014 plus 173 (93+40+40) 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	2018	2019	Total	Survival after one year
Total Ringed	128	58	51	57	23	24	31	28	400	
Seen in 2012	72								72	
Alive in 2012	114								114	
% survival	89.06								89.06	**No data**
Seen in 2013	102	52							154	
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	78	37	35	50					200	
Alive in 2015	86	39	37	53					215	
% survival	92.47	97.50	92.50	92.98					93.48	**93.64**
Seen in 2016	67	34	32	43					176	
Alive in 2016	79	37	35	47					198	
% survival	91.86	94.87	94.59	88.68					92.09	**92.09**
Seen in 2017	71	35	31	44	19				200	
Alive in 2017	79	37	32	44	19				211	
% survival	100.00	100.00	91.43	93.62	82.61				95.48	**96.97**
Seen in 2018	69	34	28	40	19	20			210	
Alive in 2018	75	36	30	40	19	22			222	
% survival	94.94	97.30	93.75	90.91	100.00	91.67			94.47	**94.79**
Seen in 2019	65	33	27	36	17	20	21		219	
Alive in 2019	68	34	28	37	18	21	27		233	
% survival	90.67	94.44	93.33	92.50	94.74	95.45	87.10		92.09	**92.79**
Seen in 2020	60	31	23	33	15	18	22	17	220	
Alive in 2020	60	31	23	33	15	18	22	17	220	
% survival	88.24	91.18	82.14	89.19	83.33	85.71	81.48	60.71	83.91	**86.70**

Ad hoc records again mirrored the whole Island count in suggesting that the number of birds on Skokholm is increasing; despite a small number of Puffins breeding in crevices at the Quarry and in burrows to its north, a congregation of non-breeders using the clifftop to the south of the Quarry on 30th June was a novel observation. Although the main colonies were crowded during the day on 13th July, from the 11th the majority of birds did not come ashore until the evening. Between 2030hrs and 2100hrs on the 16th, an impressive 6490 birds were rafting off South Haven and Crab Bay alone. Number dropped significantly on the 22nd and the last four-figure daycount was logged the following day (only 122 of which were ashore). Raft counts remained in the hundreds until 29th July (2nd August last year) and no more than 11 were seen on each date from the 31st. The last fish delivery was seen at Twinlet on 9th August, this five days later than the last definite delivery of 2019 but otherwise the earliest last delivery of the last eight years (the 2013-2019 mean last delivery date is 12th August, with the latest on 23rd August in 2014). No Puffins were logged during the following six days, but on the evening of the 16th a bird carrying fish was watched as it circled the Bluffs; this individual did not make landfall and headed out distantly to sea (almost certainly of its own accord as it was observed distantly). The only other 2020 record was of one flying northeast off South Haven on 28th August.

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

What were presumed to be the same four individuals, off the Lighthouse on 6th December, flew east, then west and then east again. An annual bird-days total of four was up on the 2010-2019 mean of 3.2 (there were no sightings at all in four of those years), up on the 1946-2019 mean of 2.3 (with no sightings in 35 years) and matched that of 2019, but was down on ten previous years including highs of 19 in 1990, 15 in 1992 and 14 in 2016. Inevitably the number of bird-days logged is impacted by both seawatching effort and, to a lesser extent, how long staff remain on the Island towards the end of the year; although there have been sightings in every month bar July, 70 of 173 bird-days have been recorded in the last three months of the year.

Great Northern Diver *Gavia immer* **Trochydd Mawr**
Scarce passing at sea from August to May, not recorded every year but occasionally Uncommon
Earliest 3rd August 2019 (30th August 2020) **Latest** 30th May 1983 (4th April 2020)

One heading west off the Quarry on 4th April was a rare spring sighting; there have now been two bird-days logged in March, 12 in April (including four between 2014 and 2016) and nine in May (including one in 2017). The first of the autumn was swimming below the Lighthouse cliffs on 30th August (EH); there have been two previous August records, including one swimming below the South Coast cliffs on the 3rd and 4th last year. Eastbound singles were noted on the 18th, 27th and 30th September, a bird-days total of three being the second highest to be logged in this month (only down on the four found in Jack Sound by Lockley in 1930, birds which would now be outside of the Skokholm recording area). One on the sea off South Haven on the 5th was the only October sighting; there have been 16 previous bird-days in this month, including four since 2014. One flew across the Island, from Twinlet to South Haven, on 3rd November, one flew west off Crab Bay on the 23rd and on the 29th one was calling through the sea mist which hung over a flat calm sea; a November bird-days total of three matched that of last year as the third highest to date (a high of six was logged in 2015). A 2020 bird-days total of nine was only down on the 24 of last year, a tally which included an unprecedented 18 birds on 2nd December.

Storm Petrel *Hydrobates pelagicus* **Pedryn Drycin**
Abundant Breeder a 2016 whole Island survey predicted 1910 occupied sites
431 trapped (including 14 pulli), 39 retrapped, 16 controls
1936-1976: 18,526 trapped, 2011-2019: 4876 trapped, 370 retrapped, 203 controls

Despite the sizable Skokholm breeding population and the significant amount of time dedicated to seawatching, Storm Petrels typically prove a rare sight at sea. The only at sea sightings this year concerned a single west on the evening of 28th June and August records of one on the 4th, 19 during a storm on the 21st, two on the 22nd, one on the 23rd, seven on the 25th and a final single east on the

27th; the 21st August tally is seemingly the second highest diurnal count to date, a total only down on the 28 of 6th August 2017 (27 of which were following the potting vessel 'Boy's Pride'). A bedraggled adult, which had been tape lured in South Haven on 23rd July 2015 but not seen since, was found in the Courtyard during the morning of a wet 25th July (egg shell fragments fused to its brood patch and very sandy plumage suggested that there may have been a burrow collapse); the bird was dried in a box and released at the Cottage Wall, but died there overnight. With the exception of a small number of incubating adults visible in shallow crevices or in nest boxes, all other 2020 sightings came at night, although birds occasionally called from holes during the day and vocal responses were elicited for monitoring purposes. One calling from the plastic nest boxes above the Quarry at 0800hrs on 27th April was nine days later than the first nocturnal sighting of 2019, but was over two weeks earlier than the first diurnal record of that year; earlier diurnal records were logged on the 23rd in 2017, the 24th in 2014 and the 25th in 2015. Nights in May saw small numbers noted at various locations around the Island and infrared viewing equipment allowed a minimum of 100 to be watched around the Quarry on 12th May.

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, potentially provide a sound method for monitoring changes in the Skokholm population (see the 2013-2019 Seabird Reports for full details). Unfortunately the COVID-19 dictated Island closure meant that there were not sufficient staff to safely survey the boulder areas this season. A check of the boxes and accessible crevices used for productivity monitoring in recent years revealed incubating adults in the vast majority of usual sites; although the sample size is poor, there was nothing to suggest a major decline in numbers this year.

There is a clear need to discover what the birds which respond to playback during the annual monitoring are actually doing; due to the fact that the vast majority of responding birds are hidden, it is unclear how many of these (and indeed how many of the 1910 occupied sites predicted during the 2016 whole Island census) are actually breeding (as opposed to non-breeders moving around potential nest sites or diurnal refuges unsuitable for nesting). Previous attempts to use an endoscope in natural sites have failed to locate a sufficiently large sample size for monitoring purposes. One way to improve our knowledge is to encourage petrels to occupy accessible artificial 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 added in April 2017). Ten visits were made to this 'Petrel Station' between 26th June and 11th July when an MP3 playback census was conducted (this within the standard period used for the transect survey). The ten visits elicited calls from just

three boxes (including the two which were successful last year), with a mean of 1.1 responses per visit and a mean apparent response rate of 36.67% (which is higher than that seen typically). Confirmatory checks during the chick provisioning period revealed discrepancies between the playback results and the box contents. One of the boxes found to be active during the survey only contained a nest scrape, a further two boxes from which responses were not elicited contained nest scrapes and six additional boxes contained egg stage failures by silent pairs (four of the eggs were damaged and two had not developed, five of these being in boxes which failed at egg stage in 2019); this has obvious implications for the whole Island census as evidently some active sites were not detected over ten visits (which would perhaps suggest that the Skokholm population is larger than estimated in 2016). It should however be remembered that the Petrel Station is probably not yet representative of the Island as a whole, primarily as the majority of occupants are likely to be younger, inexperienced birds. This theory is supported by the productivity estimate; of eight boxes which definitely contained breeding attempts, only two young fledged (from the same two boxes from which young fledged last year). A productivity figure of 0.25 chicks per pair is well below what is expected on average (see below), as might be predicted for younger, less practiced pairs.

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 (this equalling that of 2018 and 2015 as the largest post-2012 sample, up on a mean of 16.3); the Petrel Station birds were again excluded as it was felt that the sample could be biased towards younger, less experienced individuals. 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. The first eggshell fragments indicative of hatched chicks are usually encountered towards the end of the transect survey period (between 29th June (in 2019) and 17th July (in 2016), with a mean of 5th July); given that this survey was postponed in 2020, it is unsurprising that no evidence of early chicks was found. Of the 20 monitored nests, two definitely failed at egg stage; one in an exposed crevice near the Petrel Station was caked in mud during wet weather and one in the Gantry was abandoned by 17th August. An additional six failed at either egg or small chick stage (but neither could be located) and three failed at chick stage (youngsters at the

Gantry and in the Knoll Wall went missing, whilst another was found dead below its Cottage Wall crevice). Only nine monitored pairs fledged young, the resulting productivity value of 0.45 fledglings per pair being the lowest of the last seven years (the 2014-2019 mean is 0.60, with a high of 0.74 last year and a low of 0.50 in 2017); it is unclear why productivity was so poor this year.

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 2018; 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 Wallsend and have not been seen again; although this may be due to chance, it is perhaps possible that young non-breeders return to sites close to their natal crevice, in this instance sites far enough from the South Haven MP3 lure that birds are not attracted. If the Quarry and Wallsend birds are removed from the equation, eight of 20 (40.0%) have been reencountered. If only the 2014 data is used, three of seven birds have survived for at least one year, 323 days since being ringed (42.9%). However, of the six chicks ringed in 2016, the seven ringed in 2017, the ten ringed in 2018 and the 23 ringed last year, only singles from 2016 and 2017 had been reencountered by the end of this year (one of which was mist netted on the nearby mainland).

On the night of 12th July a leucistic or progressively greying individual was taken from the South Haven mist net; the white feathering formed a thin breast band. This followed a bird on 2nd August last year which had white throat feathering and a thin white breast band and a bird taken on 25th July 2018 which had a white throat, a broken white breast band and a white nape patch. Of over 5000 birds handled since 2013, these are the only three to have shown 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).

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, 98 in 2017 (the only year on record in which Short-eared Owls have been proven to breed), 31 in 2018 and five last year; the majority of these were thought to be the victims of Short-eared Owls, usually due to the presence of feathers or pellets. There were only 16 Short-eared Owl bird-days logged this season, this the lowest tally of the last eight years (the mean during this period is 40.3 bird-days, with a high of 76 in 2017). The remains of only three Storm Petrels were located; adults were found in the Quarry on the 12th and 28th August, whilst the feathers of an unaged bird were near the Bluffs on 9th September. There were again no Little Owl records (the last was seen on 17th March 2018); this introduced species is a well-documented Storm Petrel predator, for example the 1936 Skokholm Bird Observatory Report includes details of a Little Owl nest containing the remains of nearly 200 petrels. In 2019 a House Mouse was watched via a live infrared camera feed as it entered Petrel Station burrow 64; it was

seen to walk to the end of the entrance tunnel but did not drop down into the chamber or interact with the resident Storm Petrel chick, indeed neither seemingly reacted to the other's presence. The six eggs abandoned in the Petrel Station this year were left in situ to see if they would be found by mice; all six were still present in December.

Adult Storm Petrels were lured to the traditional South Haven netting site on seven nights between 11th July and 13th September; this was six fewer nights than last year and the lowest total of the last eight years. The largest catch was of 129 birds on the night of 12th July; this was the lowest peak catch of recent years, down on the 169 of 2019, the 142 of 2018, the 252 of 2017 and the 247 of 2016. Of 468 adults handled in South Haven this year, 11.1% were already wearing a ring (the mean during the period 2013-2019 was 10.0%, with a high of 12.7% in 2017 and a low of 5.4% in 2014), there was a single retrap from 2013, 12 retraps from 2019 and 15 (3.21%) had been ringed elsewhere (the mean during the same period was 4.38%, with a high of 5.68% in 2013 and a low of 3.57% in 2018). As was the case on Skokholm, the COVID-19 pandemic will inevitably have reduced trapping effort at some sites; this probably goes some way to explaining why the proportion of birds ringed elsewhere was the lowest of the last eight years. Additional to the birds listed below, we received news of seven birds ringed at Wooltack Point (4km to the NNE) retrapped on Skokholm (with singles retrapped after 384, 383, 363, ten and two days and two birds retrapped the following day), one bird ringed on Skokholm and retrapped at Wooltack (after 342 days), two birds ringed on Skomer Island (4km to the NNW) retrapped on Skokholm (with singles retrapped after nine and two days) and eight birds ringed on Skokholm and retrapped on Skomer (after between 13 and 1459 days). Since ringing fully recommenced in 2013 we have now received news of 369 Storm Petrels either ringed on Skokholm and found elsewhere or ringed elsewhere and controlled on Skokholm; of these 232 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 2587601
Originally ringed as a juvenile, FRESHWATER WEST, PEMBROKESHIRE 27th October 2017
Recovered as an adult, SOUTH HAVEN, SKOKHOLM 13th July 2020
Distance travelled 16km at 291 degrees (WNW)
Days since ringed 990
Soon after fledging, this individual was attracted to lights at a Milford Haven oil refinery. Although we have amassed several recoveries of Manx Shearwaters released back to sea following similar misadventures, this is the first Storm Petrel we have shown to have successfully survived repatriation. There is clearly huge value in returning displaced seabirds to the coast.

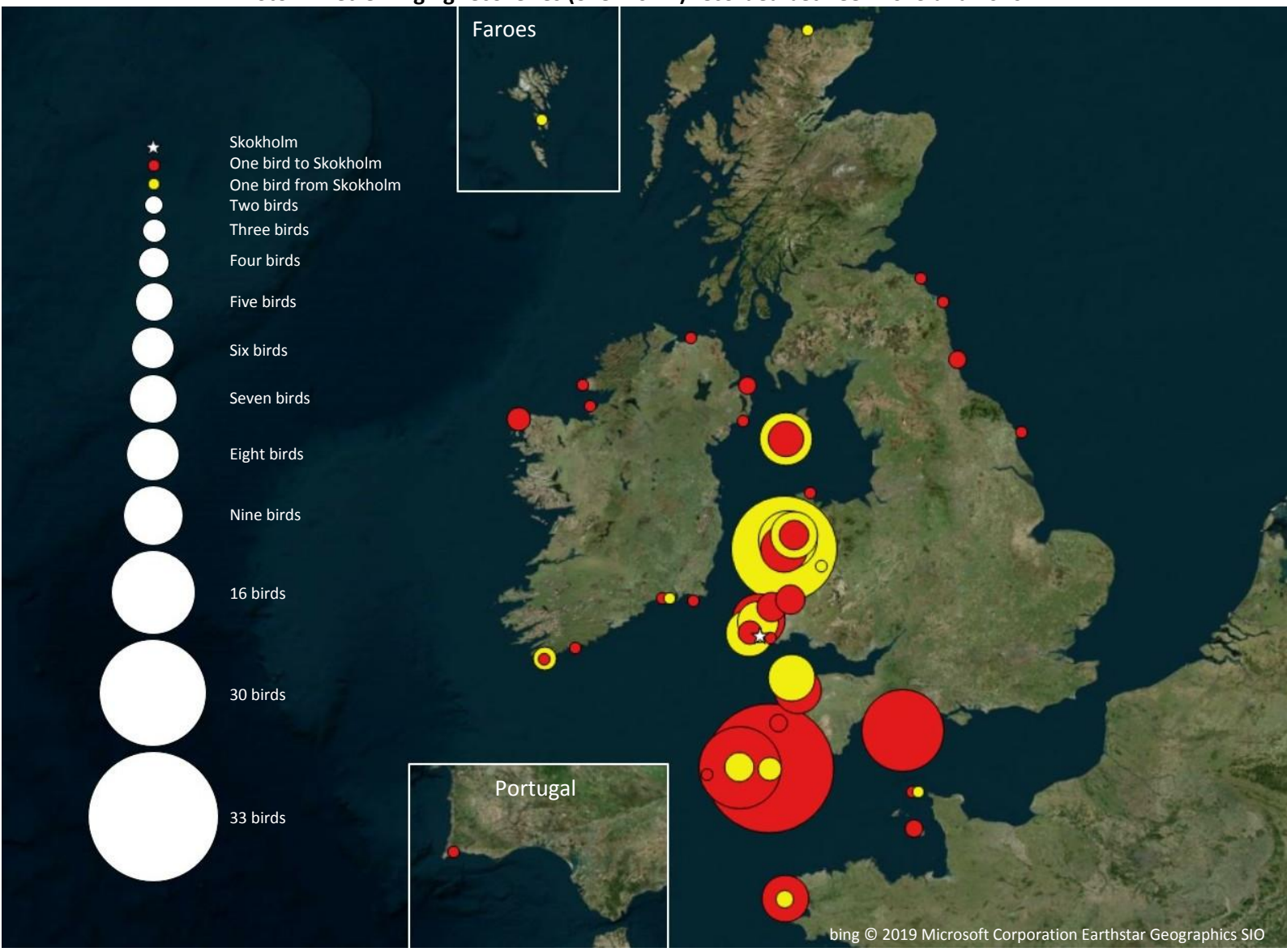
Ringing recovery 2649664
Originally ringed as an adult, PORTH YSGADEN, TUDWEILIOG, GWYNEDD 25th June 2020
Recovered as an adult, SOUTH HAVEN, SKOKHOLM 21st July 2020
Distance travelled 140km at 198 degrees (SSW)
Days since ringed 26
Additionally 2649666, ringed as an adult at Porth Ysgaden on 26th June 2020, was controlled in South Haven on 17th July after 21 days.

Ringing recovery 2683481
Originally ringed as an adult, GWENNAP HEAD, PORTHGWARRA, CORNWALL 26th July 2018
Recovered as an adult, SOUTH HAVEN, SKOKHOLM 13th July 2020
Distance travelled 188km at 9 degrees (N)
Days since ringed 718

Ringing recovery 2699104
Originally ringed as an adult, PORTLAND BILL, DORSET 6th July 2018

Recovered as an adult, SOUTH HAVEN, SKOKHOLM 12th July 2020
Distance travelled 238km at 304 degrees (NW)
Days since ringed 737
Additionally 2699139, ringed as an adult at Portland Bill on 18th June 2019, was controlled in South Haven on 13th July after 391 days.

Storm Petrel ringing recoveries (over 10km) recorded between 2013 and 2020.



Ringing recovery 2705614
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 1st August 2015
Recovered as an adult, BARDSEY ISLAND, GWYNEDD 29th June 2019 (sic)
Distance travelled 124km at 17 degrees (NNE)
Days since ringed 1428
Additionally 2722803, 2740294 and 2740793, ringed as adults in South Haven on the 21st and 22nd July and 25th August 2018, were controlled at Bardsey on 29th June 2019 (sic) after 343, 342 and 308 days respectively. 2740791, ringed as an adult in South Haven on 22nd August 2018, was controlled at Bardsey on 20th July after 698 days. 2740951 and 2741000, ringed as adults in South Haven on 23rd July 2019, were controlled at Bardsey on the 24th and 7th July after 367 and 350 days. 2746089, 2746380 and 2746432, ringed as adults in South Haven on the 16th and 28th July and 1st August 2019, were controlled at Bardsey on the 7th, 24th and 14th July after 357, 362 and 348 days. 2746453,

ringed as an adult in South Haven on 2nd August 2019, was controlled at Bardsey on 24th June after 327 days. 2746881 and 2746942, ringed as adults in South Haven on the 17th and 20th July 2020, were controlled at Bardsey on 8th August after 22 and 19 days. Finally 2746996, ringed as an adult in South Haven on 21st July 2020, was controlled at Bardsey on 24th July after 3 days.

Ringing recovery 2722803
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 21st July 2018
Previously recovered as an adult, BARDSEY ISLAND, GWYNEDD 29th June 2019
Recovered as an adult, PORTH IAGO, LLANGWNNADL, GWYNEDD 17th July 2020
Distance travelled 134km at 17 degrees (NNE)
Days since ringed 727
Additionally 2746089, ringed as an adult in South Haven on 16th July 2019 and previously controlled at Bardsey Island, Gwynedd on 7th July, was controlled at Porth Iago on 11th July after 361 days. 2746674 and 2746834, ringed as adults in South Haven on the 12th and 13th July 2020, were controlled at Porth Iago on 16th July after 4 and 3 days respectively.

Ringing recovery 2746598
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 26th August 2019
Previously recovered as an adult, BARDSEY ISLAND, GWYNEDD 24th June 2020
Previously recovered as an adult, PORTH IAGO, LLANGWNNADL, GWYNEDD 25th June 2020
Recovered as an adult, BARDSEY ISLAND, GWYNEDD 14th July 2020
Distance travelled 124km at 17 degrees (NNE)
Days since ringed 323
Whilst the majority of Storm Petrels controlled on Skokholm have been ringed to our south, primarily in Cornwall and Dorset, the majority of birds ringed on Skokholm are controlled to our north. Skokholm ringed birds have now been controlled at Bardsey Island on 30 occasions since 2013, with nine at Porth Ysgaden and eight at the Calf of Man being the next highest tallies.

Ringing recovery 2740571
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 4th August 2018
Recovered as an adult, PORTH YSGADEN, TUDWEILIOG, GWYNEDD 26th June 2020
Distance travelled 140km at 18 degrees (NNE)
Days since ringed 692
Additionally 2740737, ringed as an adult in South Haven on 9th August 2018, was controlled at Porth Ysgaden on 21st July after 712 days.

Ringing recovery 2746154
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 17th July 2019
Recovered as an adult, LUNDY ISLAND, DEVON 26th August 2020
Distance travelled 70km at 144 degrees (SE)
Days since ringed 406
Additionally 2746790, ringed as an adult in South Haven on 13th July 2020, was controlled at Lundy Island on the 11th and 27th August after 29 and 45 days.

Ringing recovery 2746205
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 17th July 2019
Recovered as an adult, CALF OF MAN, ISLE OF MAN 20th June 2020
Distance travelled 263km at 7 degrees (N)
Days since ringed 339

Ringing recovery 2746418
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 1st August 2019

Recovered as an adult, BURHOU ISLAND, ALDERNEY, CHANNEL ISLANDS 18th July 2020
Distance travelled 307km at 136 degrees (SE)
Days since ringed 352

Ringing recovery 2746717
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 12th July 2020
Recovered as an adult, GWENNAP HEAD, PORTHGWARRA, CORNWALL 11th August 2020
Distance travelled 188km at 189 degrees (S)
Days since ringed 30

Ringing recovery 2746924
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 17th July 2020
Recovered as an adult, ST JUSTINIAN, ST DAVIDS, PEMBROKESHIRE 11th August 2020
Distance travelled 21km at 354 degrees (N)
Days since ringed 25

Ringing recovery CIJ P11220
Originally ringed as an adult, PLEMONT POINT, JERSEY, CHANNEL ISLANDS 29th June 2019
Recovered as an adult, SOUTH HAVEN, SKOKHOLM 1st and 7th August 2019 (sic)
Distance travelled 348km at 322 degrees (NW)
Days since ringed 33 and 39
Although two birds have been exchanged with Alderney since 2013, this is the first Jersey ringed bird to be controlled on Skokholm.

Ringing recovery FRP SE36056
Originally ringed as an adult, LE CONQUET, FINISTÉRE, FRANCE 4th July 2019
Recovered as an adult, SOUTH HAVEN, SKOKHOLM 28th July 2019 (sic)
Distance travelled 375km at 355 degrees (N)
Days since ringed 24
This is the seventh 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 believed to support just under a thousand pairs which primarily nest in abandoned Rabbit burrows. Interestingly this nesting habitat was not found to be in use on Skokholm during the 2016 whole Island census (although in 2019 birds were found calling from a small area of burrows to the west of Dip Gully).

Fulmar *Fulmarus glacialis* **Aderyn-drycin y Graig**
Fairly Common Breeder first bred in 1967
1936-1976: 34 trapped, 2017-2019: 5 pulli trapped

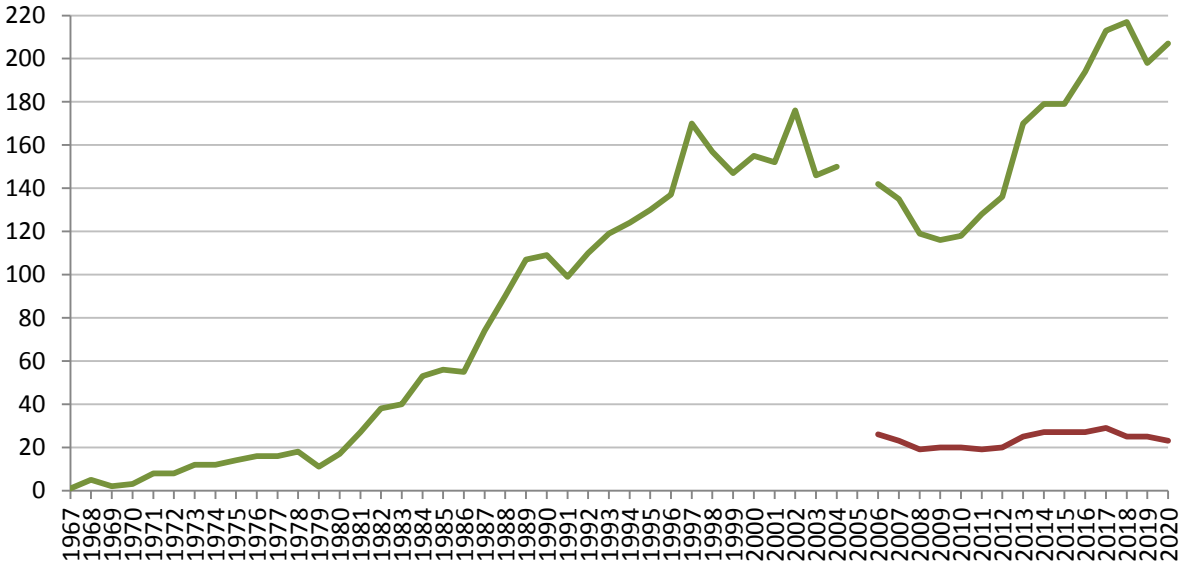
Rough weather and an unfavourable swell led to a late staff arrival, meaning that the early season colony attendance documented in recent years was not witnessed. Perhaps owing to the unsettled weather and gales earlier in the month, a 16th to 31st March daycount mean of 43.6 was the lowest of the last seven years, down on a 2013-2019 mean of 60.8 and a high of 85.0 logged in 2018. Birds were entirely absent from the cliffs on four dates during the period; between 2016 and 2019 the cliffs were empty for a mean of 1.5 days, with a high of three in 2018. Although there were fewer three-figure April daycounts than noted in recent years, a bird-days total of 2616 was up on a 2013-2019 mean of 2493.4 and a total of 222 on the 4th (207 of which were ashore), was the highest April daycount to date. There was a more obvious pre-laying exodus this year; the mean daycount during the period between the 3rd and 14th May was only 27.2, with a low of six on the 5th and a high of 44 on the 9th (there were 173 present by the 17th). The first egg to be seen was at North Gully on 16th May, this the same date as the first of last year but otherwise the earliest this decade; the 2013-

2019 first egg mean is 21st May, with the latest during that period logged on the 28th in 2014 (this following prolonged and severe storms during the preceding winter). Further eggs were seen at Little Bay Point, Peter's Bay and North Gully on the 17th.

The whole Island totals (apparently occupied sites), 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)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Island	128*	136	170*	179*	179*	194*	213*	217*	198*	207*
Plots	19	20	25	27	27	27	29	25	25	23
Range	(16-22)	(16-25)	(22-28)	(23-29)	(26-29)	(25-29)	(26-31)	(23-27)	(23-27)	(19-27)
±sd			2.07	1.79	1.14	1.26	2.00	1.26	1.35	2.27
Plot %	14.8	14.7	14.7	15.1	15.1	13.9	13.6	11.5	12.6	11.1

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

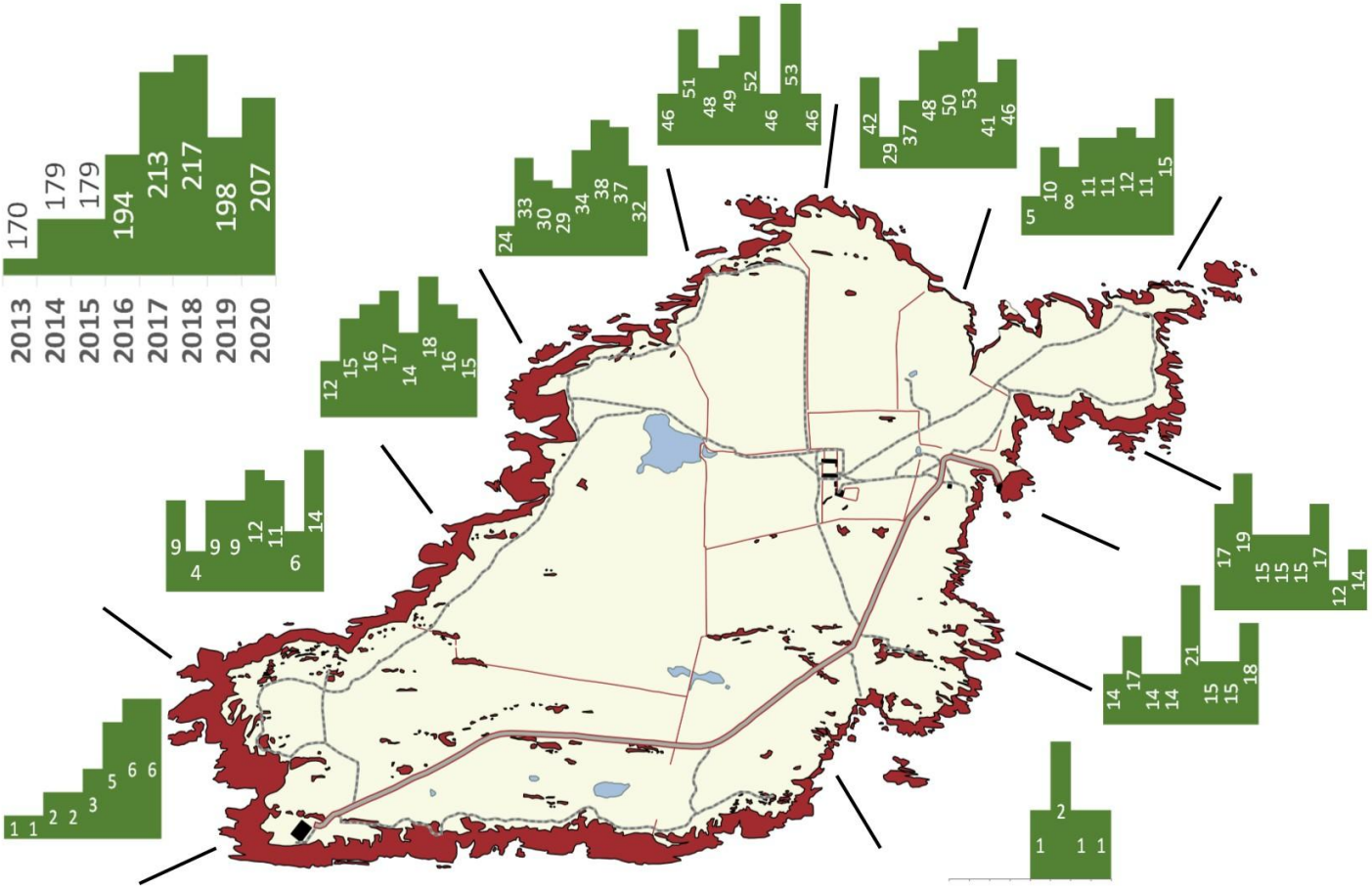


The six study plots counted annually since 2006 were visited on ten dates between 25th May and 9th June. Although this was a period dominated by calm and dry weather, gales on the 22nd and 23rd May (accompanied by nine, and occasionally 11, metre waves) had impacted the breeding auks and gulls; there was no evidence that Fulmars were affected, but it is possible that the higher standard deviation observed this year was due to the weather reducing breeding success and ledge attendance in some areas (the range of totals across the ten visits was the broadest since 2012). Up until the 2017 season only three of the six plots had contained Fulmars, however a hollow in the top third of the North Gully auk colony has occasionally been occupied in three of the last four years; an apparently incubating bird present on only two June dates this year did not change the overall mean. A 2020 average of 23 apparently occupied sites was two down on last year, six down on the 2017 record and the lowest total since 2012. The mean total at Little Bay remained at 14 for a third successive year, this a plot where the number of occupied ledges has declined from a high of 19 in 2013 to 18 in 2014 and 2017, 17 in 2015 and 16 in 2016; quite why the total has declined here is unclear, however given the close proximity of the nest ledges to each other, the intraspecific interactions noted in recent years may have had an impact (see below). The Middlerock mean dropped from six to five, and thus matched that logged in 2017 and 2015, whilst the Guillemot Cliff mean dropped to four, this down on the five observed in each year between 2014 and 2019.

The whole Island counts undertaken between 25th May and 9th June yielded an average of 207

apparently occupied sites, this a 4.5% increase on the 198 logged last year, the third highest tally to date and a total 14.3% up on the 2010-2019 mean (173.20 ±sd 35.12). Nevertheless the coastal sections between Purple Cove and Little Bay Point saw a decline in mean numbers; there were seven fewer occupied sites between Little Bay and Little Bay Point (this despite the fact that the plot count in this area was stable), five fewer occupied sites between the Jogs and the Dents and one less occupied site between Purple Cove and Twinlet (this despite the fact that the Twinlet plots had seen a drop of two). These declines were more than offset by an additional eight occupied sites in the region of the Bluffs, an additional five sites around Near and Far Bays and an additional four sites along the north coast of the Neck. The 2020 whole Island count includes approximately 30 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 declined to 11.1% this year; this is 22.4% down on the 2010-2019 mean (14.3% ±sd 1.5), the lowest recorded since the plots were begun and probably an indication that the study plots are not representative of the Island as a whole (due to a lack of space for expansion). The study plots are nevertheless still useful as they give an indication as to how the number of occupied ledges varies during the whole Island count period (and thus serve as a reminder that the population could be rather different to that predicted during a comparatively low number of visits, particularly this year when the range of plot counts was larger than usual).

The distribution of apparently occupied Fulmar sites 2013-2020.



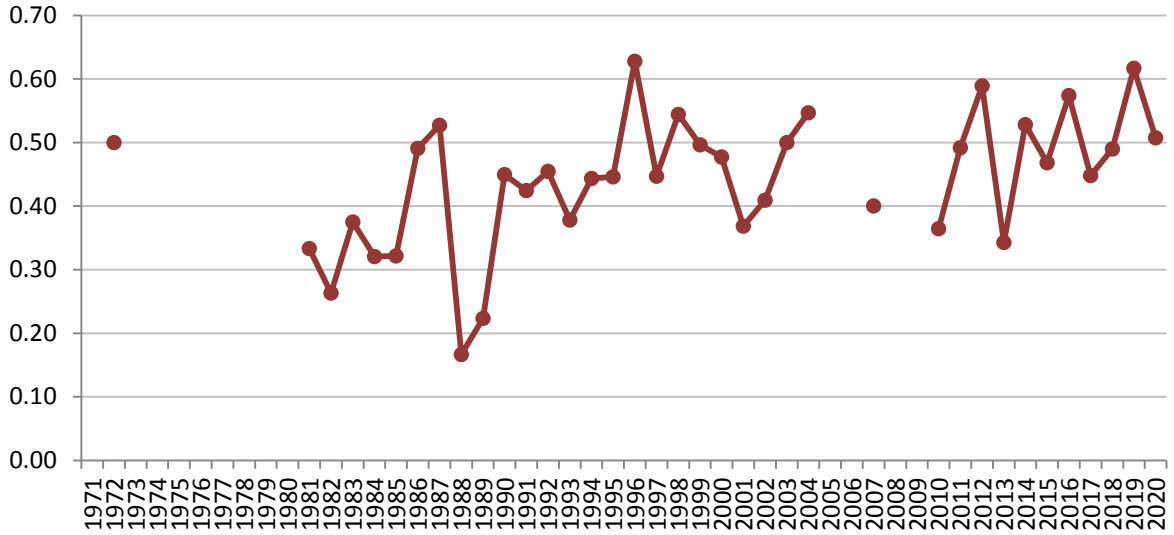
From 20th May, 65 incubating adults were selected for productivity monitoring (ten at Twinlet, ten at North Gully and the Dents, 14 in Little Bay, 12 on Little Bay Point, seven at Rat Bay and 12 at Peter's Bay); birds seen with eggs or those apparently incubating for ten consecutive days were included in

the sample (thus more birds were initially monitored but were soon discovered 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 five early egg stage failures, after approximately two, six, 12, 16 and 18 days, whilst two further attempts failed at egg stage after approximately 31 days and one failed after 40 days. An additional 21 failures became apparent at the time that the eggs of neighbouring pairs were hatching, however the nest sites were found to be empty; none of these sites were seen to contain abandoned eggs, hatched eggshell or dead chicks (the contents were thus removed by either the parents, by other Fulmars visiting abandoned ledges, by predators or by scavengers). There were three definite chick stage failures this year, although in each instance only hatched eggshell was recorded (chicks were not observed); chick stage failures became apparent after three, seven and 19 days, although it is possible (as was the case last year), that apparently brooding adults remained for some days after the loss. There were none of the large chick failures observed in 2014, 2015 and 2018.

Of the 65 monitored breeding attempts, 33 (50.77%) were successful; a productivity estimate of 0.51 fledglings per pair is 15.9% up on the post-1972 average of 0.44 ±se 0.02 and 4.1% up on the 2010-2019 average of 0.49 ±se 0.03, but 17.7% down on the 0.62 of last year (which was the second highest on record). The last seven years have seen above average productivity, with a 2013 estimate of 0.34 chicks per pair the last to fall below the mean. An above average productivity estimate, coupled with the third highest number of apparently occupied sites to date, leads to a predicted 106 Skokholm fledglings in 2020; this matches that of 2018 as the third highest total yet predicted (down on the 122 of last year and the 111 of 2016). Poor productivity at Peter's Bay in 2013, 2014, 2015, 2017 and 2018 influenced the overall figures 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), in 2015 it was 0.18 (compared with 0.47), in 2017 it was 0.31 (compared with 0.45) and in 2018 it was 0.36 (compared with 0.49). The 2016 season saw 0.54 fledglings per pair, a total virtually identical to the overall value of 0.57 and last year saw 0.60 fledglings per pair, a total virtually identical to the overall value of 0.62. Eight of the 12 pairs monitored at Peter's Bay failed this year, the productivity value of 0.33 chicks per pair again being down on that observed elsewhere; two failed after approximately 30 days, five failed at the time when neighbouring eggs were hatching (but no nest contents were observed) and one chick went missing after a week. The reason for this near annual discrepancy is still unclear, as is what linked the more successful 2016 and 2019 seasons; neither environmental

factors, predation pressure nor the behaviour of the birds themselves have been obviously different at this site (although interestingly the tiny Peter's Bay Guillemot population went extinct this year).

Fulmar productivity (total number of fledged chicks per monitored pair) for each year that it has been calculated between 1972 and 2020. The 1972-2020 mean is 0.44 ±se 0.02 fledglings per pair.



It is likely that the larger Fulmar population of recent years will have affected other species; observations during the last few years have included both adult and young Herring Gulls oiled by nesting Fulmars, adult Fulmars sat on Herring Gull nests, Razorbill adults and chicks evicted from ledges by prospecting birds, an oiled juvenile Peregrine and what was probably a Raven oiled so extensively that it led to the failure of a nest attempt. Intraspecific interactions have also been witnessed, with heavily oiled adults noted on occasion and at least two egg stage failures attributed to aggressive neighbours (in both cases eggs were lost prior to the whole Island census). Similar observations this year were of intraspecific oiling on 28th April and of one oiling loafing Guillemots at Little Bay on 27th May.

The first fledgling of the year had left its Little Bay natal ledge by 21st August, this the same date as the mean 2013-2019 first fledgling (the earliest during this period had departed on the 18th in 2019 and the latest on the 25th in 2013). The remaining 32 productivity plot fledglings departed over the following 14 days; the first 25% had fledged by 26th August (which matched the 2014-2019 mean), 50% had departed by 28th August (one day earlier than the 2014-2019 mean), 75% had departed by 30th August (three days earlier than the 2014-2019 mean) and the last had left by 4th September (two days earlier than the 2014-2019 mean, with the latest gone by the 10th in 2015). The number of birds around the cliffs again dropped rapidly as the fledglings departed, although there were highs of 84 on 31st August and 68 on 5th September. Daycounts between the 7th and 12th September ranged between 21 and 37, with two at Near Bay on the 10th the last to be seen ashore (this one day earlier than the 2014-2019 mean and five days earlier than the last of 2019 which was the latest to be seen ashore during that period). There followed daycounts of between one and 14 at sea on all but one date between the 13th and 20th and four on the 24th which were the last of the month.

Seawatching during October produced the second highest bird-days total on record; up to 12 birds on five dates between the 2nd and 7th, along with daily counts of up to 17 between the 25th and 30th, tallied 79 bird-days (the only higher total is the 185 of 2013 (when an unprecedented 155 were logged on the 30th), with 42 in 2017 the next highest October total). There were November records on all but three dates, although the number of birds present varied considerably; there were ten three-figure counts during the month (a new record), with highs of 165 on the 13th, 209 on the 22nd and 167 on the 30th (the maximum of which was the fourth highest November daycount, down on a

high of 283 logged on the 28th last year), but lows of between one and ten on five dates (in addition to the three days on which birds were absent). A total of 39 birds returned to the cliffs on 10th November, this six days later than the first of last autumn and the latest landfall since five returned on the same date in 2016 (the 2013-2019 mean return date is 7th November, with one ashore on the 11th in 2015 the latest during this period). There were birds ashore on 18 further November dates (one less than last year), including peaks of 101 on the 14th, 99 on the 16th and 153 on the 22nd (the latter down on a record 189 counted on the 28th last year). There were sightings on all but one December date prior to the departure of staff on the 7th, with highs of 147 on the 1st and 148 on the 3rd, a low of 15 on the 4th (along with the absence on the 5th) and birds ashore on six dates.

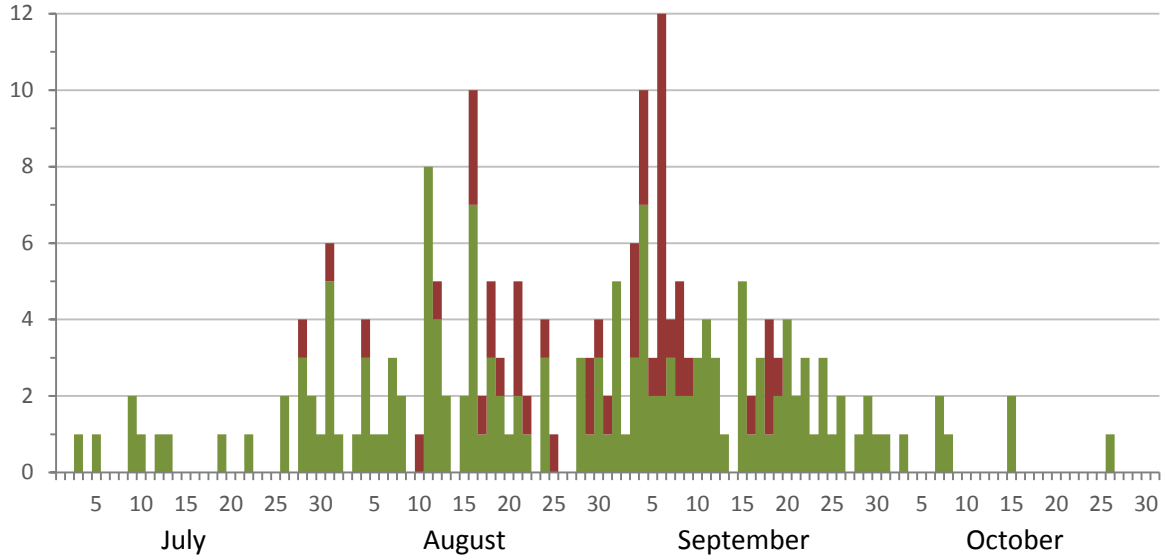
Sooty Shearwater *Ardenna grisea* **Aderyn Drycin Du**
Scarce recorded most autumns from July onwards and occasionally Uncommon
Earliest 3rd July 1968 (31st July 2020) **Latest** 26th October 1994 (24th August 2020)

One west off the Lighthouse at 1915hrs on the 31st was the first July sighting since one on the 27th in 2017 (below photograph); there have now been 24 July bird-days, five of which have been this century. The first of August sheared slowly west over a flat sea at 1945hrs on the 16th, whilst two went south before 0845hrs on the 21st; there have only been seven 21st century daycounts of more than one, four of which were logged in September 2011 (including an all-time high of ten on the 6th).

The last of the year went west off the Lighthouse at 1930hrs on 24th August. A 2020 bird-days total of five was down on the seven of last year, but up on a 2013-2019 mean of 3.0. This southern

hemisphere breeder remains a surprisingly scarce Skokholm species, with this year's records taking the 21st century total to just 55 bird-days, 26 of which have come in the last eight years.

The total number of Sooty Shearwater bird-days to have been logged on each autumn date. Records shaded maroon have been made since 2010.



Manx Shearwater *Puffinus puffinus* **Aderyn Drycin Manaw**

Very Abundant Breeder a 2018 census estimated 88,945 pairs (95% CI: 21,892). 2012-13 est. 63,980
731 trapped (including 118 pulli), 479 retrapped, 2 controls
1936-1976: 169,895 trapped, 2011-2019: 12,273 trapped, 5076 retrapped, 23 controls

A late staff return on 16th March meant that the shearwaters were back first this year; staff were greeted by a fresh corpse above the Dip and their caterwauling filled the night, although it was not until the 18th that birds were heard calling from burrows during the day. Numbers increased quickly but, as in the majority of previous years, seawatching during April resulted in some surprisingly small counts; peak daycounts of 2100 on the 24th and 1500 on the 26th were down on a 2012-2019 mean April high of 8049.1 and an impressive 21,600 logged during Storm Hannah on the 26th last year. May seawatching produced unremarkable highs of 6000 on the 7th and 8500 on the 22nd, whilst moderate southwesterlies on the 22nd and 27th June led to evening counts of 24,750 and 16,945 respectively; despite the peak being up on a 2012-2019 June mean of 17,833.9, it was down on a spectacular 72,000 logged on the 16th last year. Although four five-figure July daycounts matched 2019, peaks of 12,180 during a southwesterly gale on the 5th and 16,200 during moderate southwesterlies on the 7th were the lowest of the last six years, down on a 2012-2019 mean of 25,725.8 and a high of 45,016 logged in 2018. A near gale on 4th August resulted in a count of 28,800, calm conditions on the 16th saw a minimum of 18,608 shearing a glassy sea and a southerly gale on the 20th produced the biggest count of the year, with a remarkable 87,520 passing observers watching from the Lighthouse and Howard's End; the latter was the highest daycount to date (up on the record set last June), nevertheless more than twice this number are thought to be breeding on Skokholm and ten times this number are believed to be using the waters around the Pembrokeshire islands.

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 found within the burrows are ringed. Of 308 breeding adults bearing rings in 2019, 245 were found this year (79.55%); this was the third lowest next-year return rate of the last seven years, down on a 2014-2019 mean of 80.60%. However this figure is not an accurate estimate of 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 89.36% of birds were alive (see table below); the revised survival estimate includes a bird encountered this year which had not been seen since it was ringed in 2013. Two 2014 ringed breeders were encountered for the first time this year, taking the revised 2019 figure of 84.89% to 85.61%, and four 2016 ringed breeders were encountered for the first time, taking the revised total to 93.03% (the highest return rate yet seen in this study). There were 14 2018 ringed breeders seen this year which had not been found in 2019 (taking the return rate from 83.45% to 88.18%). Given that we are still encountering birds not seen for up to six years, it is likely that all of these figures will again be revised upwards in the future; nevertheless the 2014-2019 mean return rate of 87.50% is already fractionally up on that seen elsewhere.

The number of Manx Shearwaters breeding in the study plots which were encountered the following year and the number to have been found by 2020 (which were thus actually alive the following year).

	Birds found the next year		Birds found by 2020	
Birds breeding in 2019	245 of 308	79.55%		
Birds breeding in 2018	247 of 296	83.45%	261 of 296	88.18%
Birds breeding in 2017	236 of 309	76.38%	252 of 309	81.55%
Birds breeding in 2016	238 of 287	82.93%	267 of 287	93.03%
Birds breeding in 2015	230 of 283	81.27%	247 of 283	87.28%
Birds breeding in 2014	215 of 278	77.34%	238 of 278	85.61%
Birds breeding in 2013	116 of 141	82.27%	126 of 141	89.36%

There is a discrepancy in return rates dependent on the breeding success of the previous year; of 230 birds successful with their 2019 breeding attempt, 199 were found in 2020 (86.52%), whereas only 47 of 78 unsuccessful birds returned (60.26%). Of 70 birds which went missing in 2020, 38 (54.29%) had either failed with their 2019 breeding attempt or had been found without an egg in a burrow in which they had previously bred. Assuming that not all of the failures were due to the death of a bird, it could be concluded that some of the missing birds have rather opted for more suitable nesting sites. It was noted in 2017 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; although 16 of the missing birds have been found subsequently, the return rate of 2017 breeders remains the lowest of the last six years (81.55%). 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 16 of 81 marked birds were in the same burrow this year as that in which they bred in 2013 (19.8%), whereas in the more stable Quarry Track and Crab Bay colonies six of 18 birds (33.3%) and 19 of 40 birds (46.3%) were still

in their 2013 burrows respectively. 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.

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 difficult to examine in any detail as the British Trust for Ornithology changes its recording system from IPMR to DemOn (the latter of which still lacks the reporting capabilities of the former). Of the 8979 birds ringed along the transect between 2013 and 2020 (3641 of which were ringed as fledglings), 2161 have been retrapped or found dead on Skokholm subsequently (with these recaptured individuals accounting for 3598 separate handlings). On the night of 15th September, staff ringing along the transect (near Cutting Rocks) encountered the fledgling shown in the photograph below; a quantitative melanin reduction had caused 'dilution', the reduced number or size of melanin granules resulting in the black areas of plumage becoming a washed out grey. A similar bird was photographed on the Calf of Man in 2016 (Flood and Fisher, 2020), although the feet and bill of that individual were unaffected (whereas the Skokholm bird had pale pink bare parts).

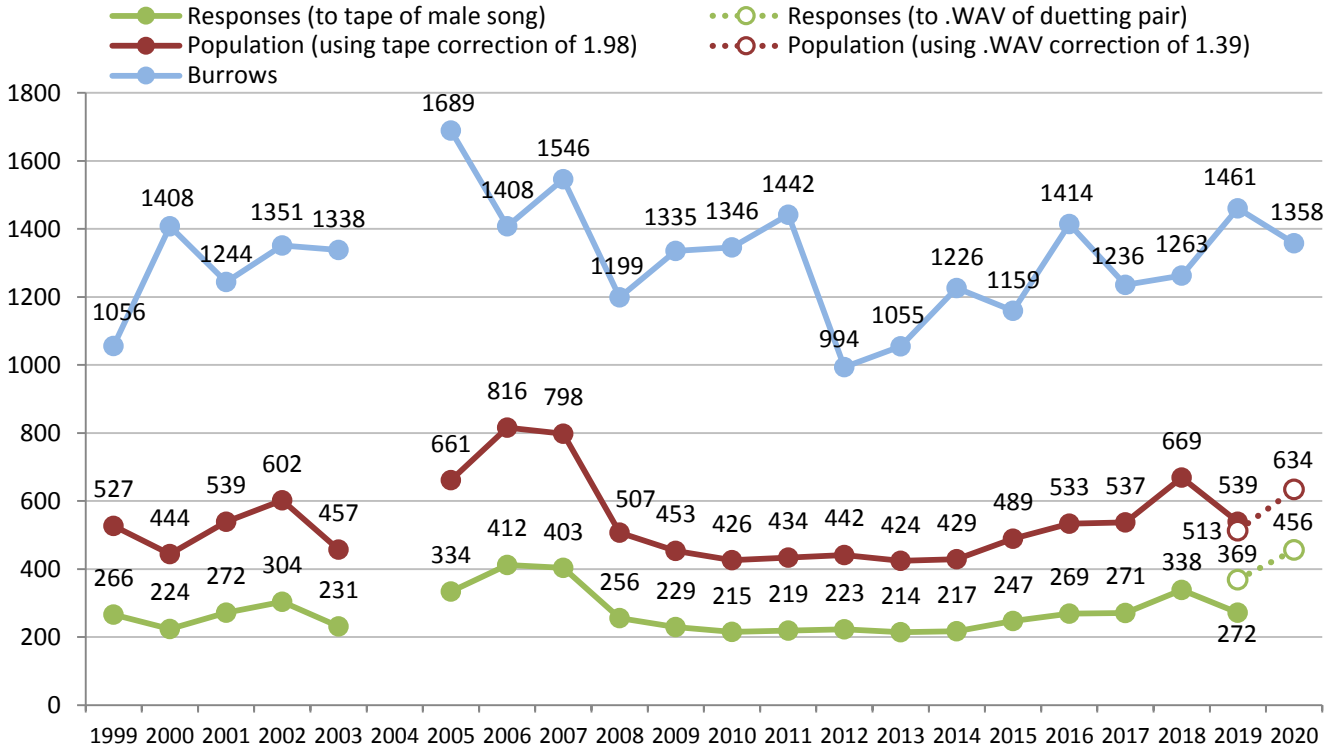
The study burrows facilitate an accurate assessment of breeding success on Skokholm. There were 135 burrows at the Lighthouse occupied by a pair which produced an egg, ten burrows contained an egg along the Quarry Track and 23 pairs produced an egg inland of Crab Bay. There were thus 168 burrows this year from which productivity could be assessed (a new high, up on the 159 of 2017 and 2019). Of these 20 definitely failed at egg stage, eight of which were damaged, five of which were found cold and seven of which went missing (including one half-sized egg); in two instances failure was probably brought about when burrows were usurped by second pairs. An additional 20 pairs failed at egg or very small chick stage (but neither eggs nor dead chicks were found) and one chick was known to have died during hatching. There were 12 chick stage failures, with five recently hatched chicks going missing and one being found dead, five larger chicks going missing (after their

wing chords had reached 32mm, 35mm, 132mm, 152mm and 195mm) and one chick with a wing chord of 34mm being found dead; the missing chicks were perhaps taken by Great Black-backed Gulls, although in only one instance had a hole been excavated to allow access to the nest chamber. Ad hoc observations again suggested an increase in the number of Great Black-backed Gulls digging out chicks elsewhere, indeed it seemed likely that a small number of birds were specialising in this form of hunting (although they were not ringed, making it impossible to confirm individuals, they worked the same areas of burrows from day to day). 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 115 chicks which reached this size in 2020. Productivity was thus 0.68 fledging-sized chicks per breeding pair (68.45% of pairs produced a fledging-sized chick); this matched the lowest productivity estimates since the 0.63 of 2014 and was down on a 2013-2019 mean of 0.71 ±se 0.02 (the peak during this period was the 0.80 observed in 2017). 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 Gulls (and to a lesser extent corvids) as they exercise their flight muscles and make their first flights. Having said that, only one of the 115 fledglings ringed in the study plots was found eaten this year (one of 115 was found in 2019, none of 114 were found in 2018 and two of 135 were found eaten in 2017). The latest of the study plot chicks had attained a wing chord of 213mm by 15th September; this was one of two eggs laid after 1st June, the date by which we typically expect all eggs to have been produced (the second late attempt failed at egg stage).

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 size, however only seven plots have been studied for a full 21 years. On each annual visit the number of burrows within the area is counted, as is 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 latest whole Island census utilised a .WAV recording of a duetting pair (as opposed to the male only cassette tape) as it has been shown that a dual-sex recording achieves a higher and less variable response rate (Brown and Eagle, 2018; Perkins *et al*., 2017). Bearing this in mind, along with the fact that the cassettes and playback devices are becoming harder to maintain and replace, it was decided in 2019 that it was time to begin the process of changing the annual plot methodology from the use of cassettes to the use of .WAV playback. This changeover will occur over the course of several years to ensure that the data collected over the previous 20 years remains comparable with that collected in the future. However COVID-19 dictated staffing shortages meant that there was not time to conduct both a tape and a .WAV playback census this year; it was thus decided that only the .WAV recording would be used as this would preserve the life of the cassettes and maximise the number of times that both techniques could be used in the same years.

The total number of burrows, responses (to tape 1999-2019 and to .WAV 2019-2020) and the corrected population estimates for the 7000m² sampled annually since 1999.



This year saw each of the nine plots visited between 28th May and 13th June. The 7000m² (seven plots) monitored since 1999 contained 103 fewer burrows than last year, although the total was the third highest of the last nine years and 3.8% up on the 1999-2019 mean (1308.50 ±sd 171.30). It is likely that this reflects a genuine change in numbers as opposed to counting inaccuracies; two separate visits to all nine plots in 2019 produced exceedingly similar burrow counts each time, with the mean difference between visits being 4.56 burrows, the largest difference between visits being 11 burrows and the overall totals differing by just nine (1992 burrows on one visit and 2001 on the next). A 2020 drop in the number of burrows was also seen at the plot started in 2006, where there were 30 fewer, and at the plot started in 2015, where there were 19 fewer. It is not only digging by Manx Shearwaters which alters the number of burrows present; the weather may both close burrows and cause additional entrance holes to open (with both very dry and very wet periods shaping the landscape), whilst digging by Rabbits, Great Black-backed Gulls and in some areas by Puffins will also affect burrow counts.

Despite the drop in burrow numbers since 2019, an additional 87 responses were elicited in the original 7000m^2 using the .WAV recording (an increase of 23.6%). This was the result of a drop of one response in one plot, an increase of between seven and 13 responses in five plots and an increase of 33 responses in the Spy Rock plot (the latter a site which has seen a steady increase in the predicted population since 1999). Using the Skokholm specific .WAV correction of 1.39 predicts that there were 634 occupied burrows across the seven plots (see graph above). Although any comparison with the population predicted using the male only tape playback should clearly be a cautious one, it would appear that there has not been a significant decline; indeed the 2019 .WAV population estimate was below the tape estimate, perhaps giving us some confidence that we are not overestimating the population when using the .WAV correction. The 1000m^2 plot visited since 2006 produced two more responses than last year. The 730 occupied burrows predicted across the 8000m^2 using the .WAV recording was up on the 606 of last year and the 2006-2019 tape playback mean of 611.36 ±sd 147.22, indeed it was a total only down on those of 2006, 2007 and 2018 (although this again relies on a cautious comparison of .WAV and tape playback results). There were ten fewer responses to the .WAV recording at the Table plot first visited in 2015, the predicted population being the lowest of the last six years (one down on that predicted in 2016). Nevertheless it would appear that the Skokholm 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 date highlights the degree of error in these numbers (see Brown and Eagle, 2013, 2014 and 2019). That the number of pairs producing eggs in the accessible study burrows is also rather constant supports the conclusion that the population is stable (see above).

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	2019	2020
869	954	620	525	499	495	501	521	477	533	588	584	739	655	730

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 corpses would be impacting the species reliant on 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 five, 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 in tightly inverted corpses). Although the vast majority of Manx Shearwater kills are made by Great Black-backed Gulls, a small number are also taken by Peregrines and Ravens (a Sparrowhawk eating the head of a puffinosised youngster in 2019 had perhaps also made the kill).

The number of adult and juvenile Manx Shearwater corpses found each year since 2014, along with the number of untouched puffinosised bodies.

	2014	2015	2016	2017	2018	2019	2020
Adults	2931	2702	2299	2071	2228	1618	3008
Juveniles	1287	1324	1398	1289	971	1043	970
Puffinosis	53	97	85	89	71	46	113
Total	**4271**	**4123**	**3782**	**3449**	**3270**	**2707**	**4091**

As might be expected with a larger Great Black-backed Gull breeding population, the number of corpses marked over the last seven years has been the most ever. However the average number of corpses per Great Black-backed Gull pair was only 49.3 in 2020; this was lower than in all years except the last four, 1970 and 1959 (there have been highs of 318.8 in 1977, 280.3 in 1968 and 182.0 in 1978). One possible explanation for this reduction in kills per pair is that the breeding gulls were

routinely disturbed between 1949 and 1985 which, whilst reducing the number of breeding pairs, probably inflated the non-breeding flock (which would still be taking shearwaters). There was a significant increase in the number of adult corpses found this year; a total of 3008 was 85.9% up on that logged in 2019 and the highest yet recorded. Perhaps the reduced human presence brought about by the COVID-19 closure meant that there was less nocturnal disturbance (particularly along the ringing transect), allowing the Great Black-backed Gulls to hunt for longer. It is often suggested that the majority of these predated shearwaters are younger, less experienced non-breeders, those which spend longer on the surface as they prospect for burrows and mates. However the 151 ringed birds found predated in 2020 do little to support this theory (see second table below); 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 most eaten birds 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 influencing hunting, the availability of food away from the Island and perhaps the size of the Rabbit population (Rabbits being the other main prey item on Skokholm). The prevalence of puffinosis may well be affecting juvenile losses (see below).

The number of Manx Shearwater corpses found between 1957 and 1983 from Gynn (1984) plus data from 1984 to 1991 and 2014 to 2020. The number of Great Black-backed Gull breeding pairs is also included for each year.

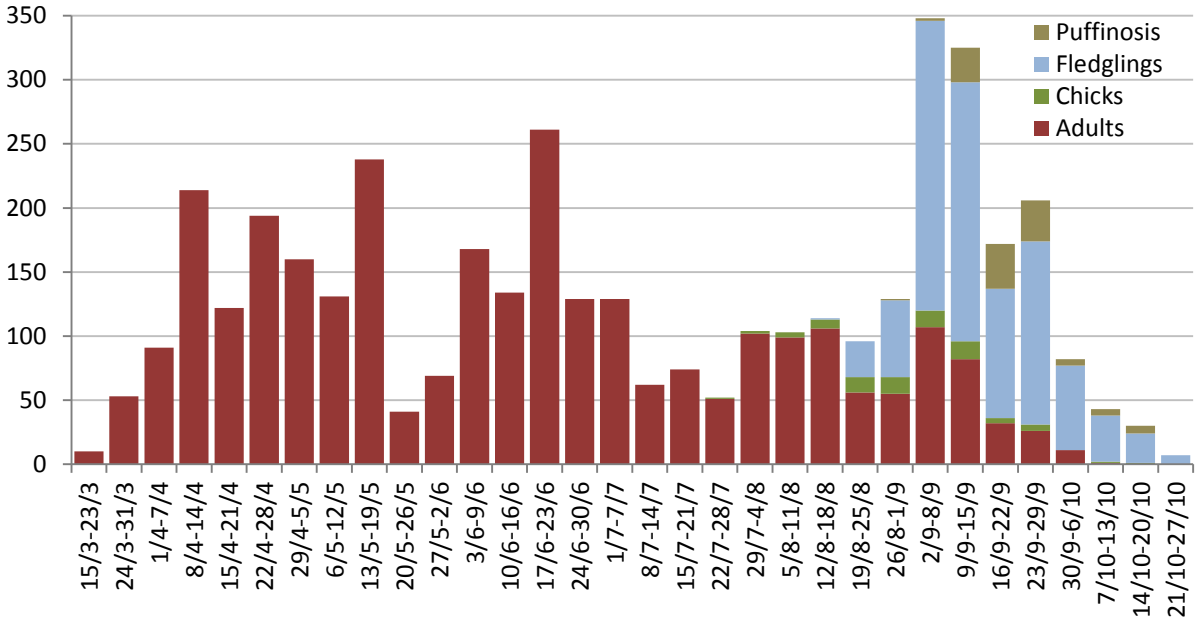
	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Corpses	2465	1886	924	1354	1089	640	688	1059	857	946	816
GBBGU	27	30	30	10	12	5	7	12	8	10	10
	1968	**1969**	**1970**	**1971**	**1972**	**1973**	**1974**	**1975**	**1976**	**1977**	**1978**
Corpses	841	829	304	606	1350	1082	869	1051	1266	1913	1820
GBBGU	3	14	11	16	12	12	7	7	7	6	10
	1979	**1980**	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**
Corpses	1153	1024	1080	1479	1373	1316	1571	1068	1759	1760	1694
GBBGU	10	10	11	16	11	14	11	10	11	12	15
	1990	**1991**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**		
Corpses	1915	2703	4271	4123	3782	3449	3270	2707	4091		
GBBGU	16	20	84	83	93	93	93	86	83		

When the 151 marked adults found eaten in 2020 were ringed. Note that the pre-2013 bird was a control ringed elsewhere and that intensive ringing on Skokholm recommenced in 2013.

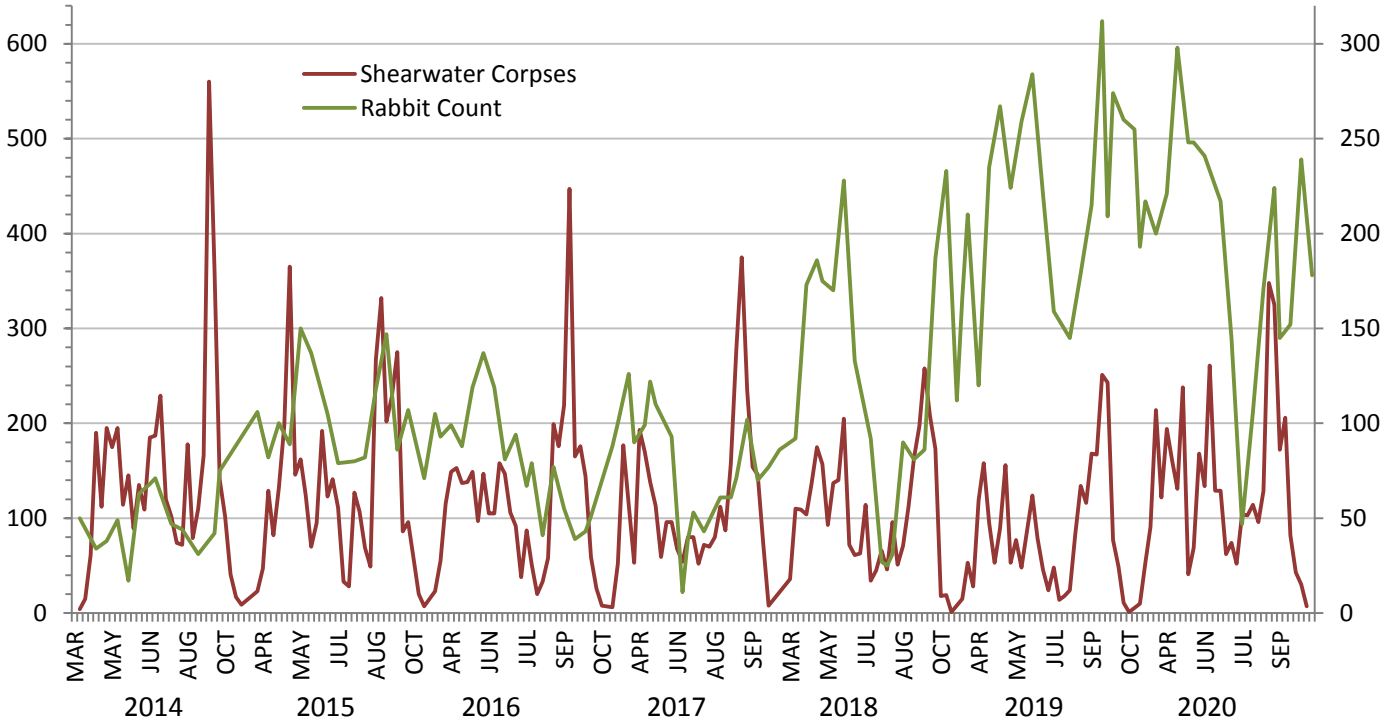
Adult 2007	Adult 2013	Fledged 2013	Adult 2014	Fledged 2014	Adult 2015	Adult 2016	Fledged 2016	Adult 2017	Fledged 2017	Adult 2018	Fledged 2018	Adult 2019	Fledged 2020
1	21	2	26	3	22	17	4	12	1	18	1	18	5

The data from the last seven years lends some support to the theory that Rabbit numbers influence Manx Shearwater predation (by providing an alternative food source for the gulls), with the North Plain Rabbit count being considerably lower in 2014, when shearwater mortality was at its highest, and progressively higher during 2018 and 2019, the period during which fewer shearwater carcasses were located (see second graph below). However the 2020 data does not fit this pattern, with the highest number of adult Manx Shearwater corpses being found in a year with a high Rabbit population (the mean North Plain Rabbit count was the second highest of the last seven years, only down on that of 2019). 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. It will be interesting to see if the next crash in Rabbit numbers coincides with an increase in Manx Shearwater carcasses.

The number of corpses found during each week from 15th March until 27th October 2020.



The total number of Manx Shearwater carcasses found each week 2014-2020 and the number of Rabbits counted in the North Plain census plot during the same period (secondary axis).



The first fledgling had departed on 18th August, the same date on which the first three were found in 2019 and four days earlier than the 2013-2019 first fledgling date mean (the 2019 birds were the earliest during this period and two on the 27th in 2018 were the latest). The first fledgling showing signs of puffinosis was at Isthmian Heath on the 29th, four days later than the first infected individual to be found 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 and intact during the last seven years has ranged between 46 and 113 (see above table); unlike predated birds, which are usually taken to open areas, puffinosised birds may die deep in the Bracken (meaning that

corpses in fragile areas of dense vegetation are probably going 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. An additional route, which ran from North Pond Wall and west over Western Plain before cutting in at the Bluffs, was walked on eight different nights between the 2nd-3rd and 21st-22nd to assess a more exposed, less Bracken covered area (see top map below).

The number of fledgling Manx Shearwaters encountered along the transect between 2020 and 2015, the number which showed signs of puffinosis and the percentage of encountered birds made up of those showing signs.

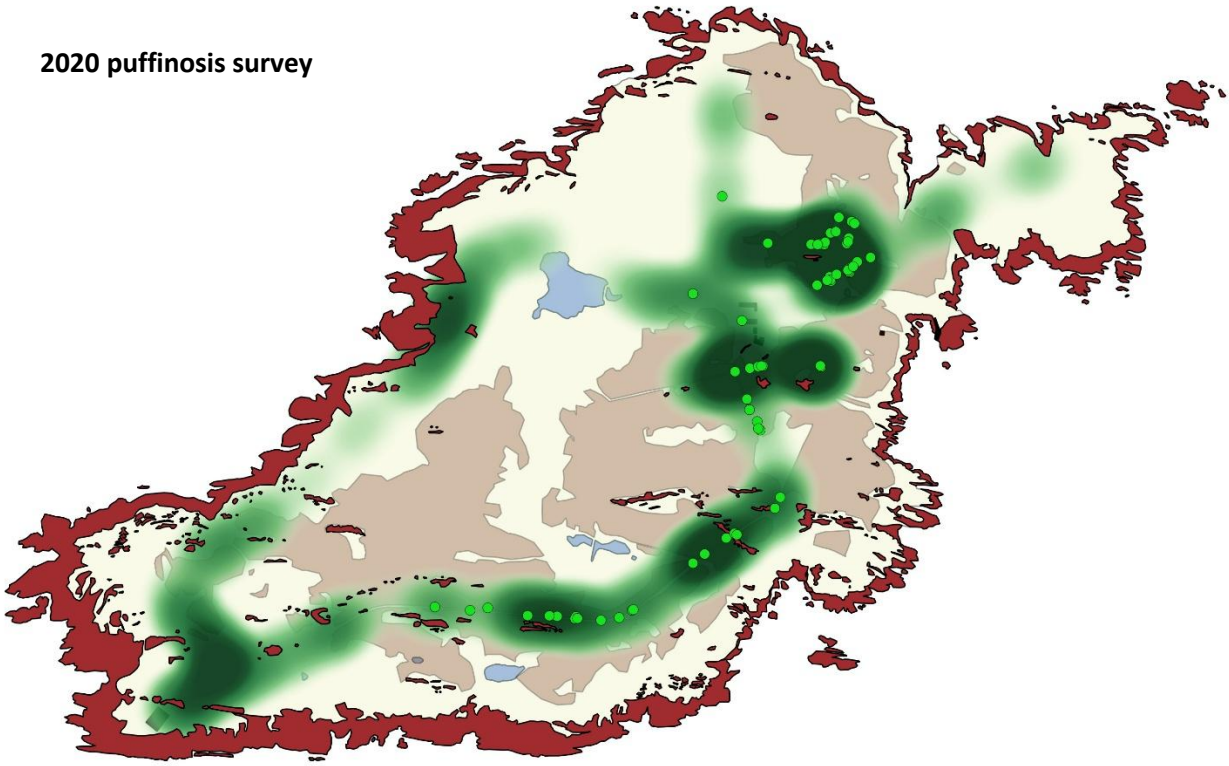
2020	1st-2nd	4th-5th	7th-8th	11th-12th	13th-14th	16th-17th	18th-19th	20th-21st	Total
Birds	52	101	201	235	118	111	68	55	941
Puffinosised	1	5	2	23	14	14	15	10	84
% Puffinosised	1.9	5.0	1.0	9.8	11.9	12.6	22.1	18.2	8.9
2019	1st-2nd	4th-5th	7th-8th	11th-12th	13th-14th	16th-17th	18th-19th	20th-21st	
Birds	120	182	100	70	55	81	34	49	691
Puffinosised	6	2	11	16	9	9	6	6	65
% Puffinosised	5.0	1.1	11.0	22.9	16.4	11.1	17.6	12.2	9.4
2018	1st-2nd	4th-5th	7th-8th	9th-10th	12th-13th	15th-16th	18th-19th	21st-22nd	
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 number of 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 250 more fledglings encountered this year than in 2019, with a total of 941 being 21.2% up on the 2015-2019 mean (776.20 ±sd 204.75). Although the count of apparently infected birds was 19 up on last year, the percentage of birds showing signs was down and the second lowest to date.

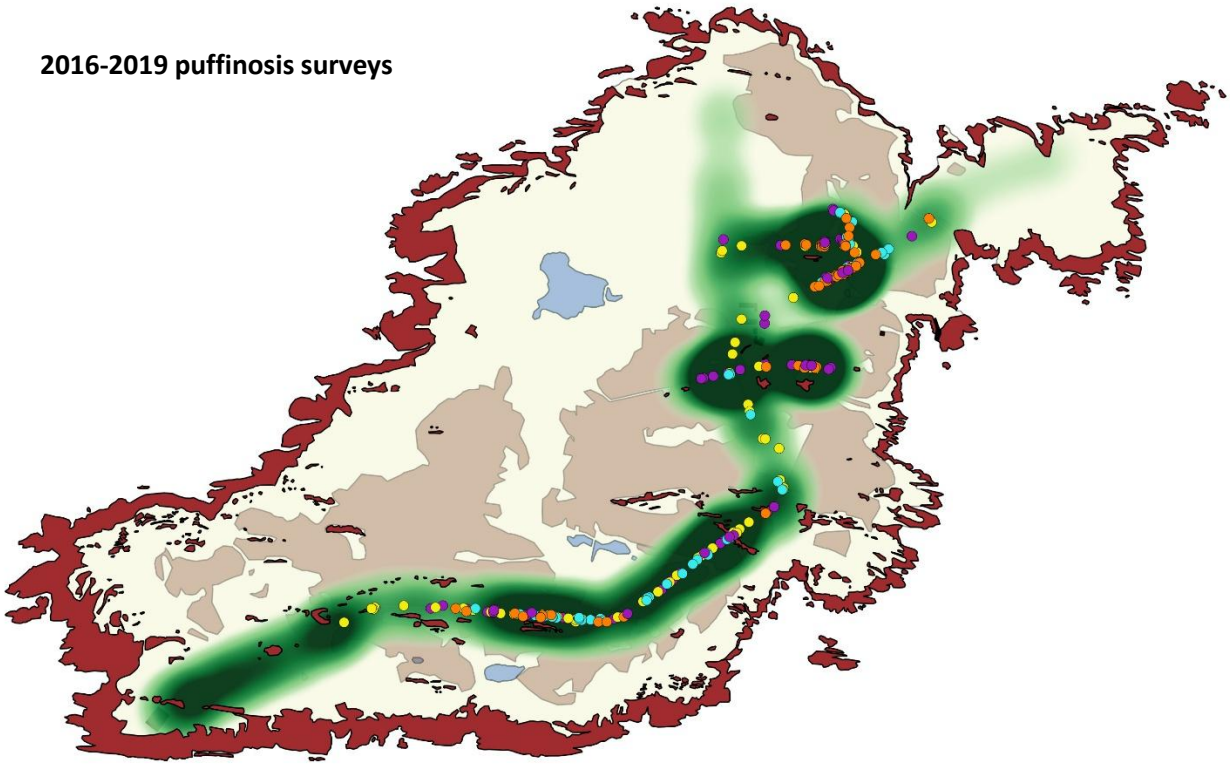
As in previous years, puffinosised birds were primarily distributed in the wetter areas of Skokholm, away from more exposed aspects which also typically lack Bracken. Indeed the new northerly route, which produced 270 fledglings over the eight nights, only held one bird showing signs of puffinosis (0.4%); the infected bird was along North Pond Wall, close to the Farm where a small number of similar birds have been seen previously (see below two maps). Given that there is seemingly a link between wetter, poorly drained areas and diseased birds, one possible explanation for the lower proportion of puffinosised individuals encountered during the last three years is that they all proved to be comparatively dry breeding seasons.

The 2020 and 2016-2019 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, lime in 2020, blue in 2019, yellow in 2018, orange in 2017 and purple in 2016. The 2018 Bracken distribution is also shown. The northern footpath between Middle Heath and the Table was only surveyed this year.

2020 puffinosis survey



2016-2019 puffinosis surveys



That the proportion of infected birds was lowest in 2018 and 2020, the same two years which have seen the lowest two totals of predated juveniles, is intriguing (see above); it is quite probable that puffinosised birds are easier for Great Black-backed Gulls to catch, potentially 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 six year study, was not significantly higher than in 2016 and 2017 when the proportion of puffinosised birds was lower.

September seawatch counts peaked at 10,970 on the 1st and 2905 on the 7th, the former being the second highest September daycount to date (only down on the 20,115 logged on the 8th in 2018). The last three grounded adults to be encountered along the transect were ringed on 9th September, nine days earlier than the last of 2019 and 13 days earlier than the last of 2018 (although a presumed adult was calling on the evening of the 20th). The last three-figure seawatching total was the 181 logged on 13th September, this also the last night of the year during which 50 fledglings could be found along the ringing transect. There followed daily records to the end of the month, with seawatching counts peaking at 63 on the 24th and the nocturnal ringing total dropping to 24 by the night of the 17th, six by the night of the 18th and four by the night of the 20th. There were daily sightings at sea during the first week of October, with a peak of 51 on the 5th which was the second highest October daycount to date (only down on the 83 seen on the same date in 2014) and two on the 7th which were the last live birds logged during the month. Up to four juveniles were seen on two October nights to the 4th, at least three (presumed) adults were calling overhead on the 5th and freshly eaten fledglings were encountered on the 7th and 15th (the latter seven days earlier than the last live fledgling recorded in 2019). In November there were up to two seen at sea on three dates to the 7th, at least two flying birds calling after dark on the 8th, at least three doing likewise on the 9th, six shearing into 50mph southwesterlies on the 14th, two in Broad Sound the following day and one south past the west end of Broad Sound on the 24th which was the last of the year; there have only been November records in 11 years since 1927, including six of the last seven, whilst the only later sighting is of a single logged on the 26th in 1991.

Ringing recovery EA46764
Originally ringed as a juvenile, MANX SHEARWATER TRANSECT, SKOKHOLM 9th September 2020
Recovered as a juvenile, MARLOES SANDS, PEMBROKESHIRE 13th September 2020
Finding condition Dead on beach (fresh, headless)
Distance travelled 5km at 69 degrees (ENE)
Days since ringed 4

Ringing recovery EA46879
Originally ringed as a juvenile, MANX SHEARWATER TRANSECT, SKOKHOLM 10th September 2020
Recovered as a juvenile, SAUNDERSFOOT, PEMBROKESHIRE 12th September 2020
Finding condition Alive in road, released to sea unharmed
Distance travelled 41km at 91 degrees (E)
Days since ringed 2
Ringing recoveries have shown that disorientated youngsters which inadvertently fledge towards the mainland can go on to reach maturity, if returned to the sea unharmed. Unfortunately, as highlighted by EA46764 above, grounded birds need to be found quickly. Of 640 fledglings ringed on Skokholm in 2020, the above two were the only birds to be found on the mainland (one of 1215 fledglings was found in 2019 and two of 1498 were found in 2018 (all three were returned to sea)).

Ringing recovery EX74428
Originally ringed as an adult, LUNDY ISLAND, DEVON 6th June 2013
Previously recovered as an adult, MANX SHEARWATER TRANSECT, SKOKHOLM 19th May 2018
Recovered as an adult, MANX SHEARWATER TRANSECT, SKOKHOLM 28th May 2020

Finding condition Dead, eaten by Great Black-backed Gull
Distance travelled 73km at 325 degrees (NW)
Days since ringed 2548

Ringing recovery EZ53576
Originally ringed as an adult, SOUTH HAVEN, SKOKHOLM 6th August 2017
Previously recovered as an adult, SOUTH HAVEN, SKOKHOLM 31st July 2019
Recovered as an adult, BARRA DO SAI, ITAPOA, SANTA CATARINA, BRAZIL 26th September 2020
Finding condition Dead on beach (fresh, seemingly starved)
Distance travelled 9632km at 207 degrees (SSW)
Days since ringed 1147

Ringing recovery FB29118
Originally ringed as an adult, BARDSEY ISLAND, GWYNEDD 20th July 2007
Recovered as an adult, SKOKHOLM 2nd June 2020
Finding condition Dead, eaten by Great Black-backed Gull
Distance travelled 122km at 196 degrees (SSW)
Days since ringed 4701
A bird which survived a Bardsey Lighthouse attraction.

Ringing recovery FB42623
Originally ringed as an adult, MANX SHEARWATER TRANSECT, SKOKHOLM 6th July 2013
Recovered as an adult, JARDIM BEIRA-MAR, PERUÍBE, SÃO PAULO, BRAZIL 23rd September 2020
Finding condition Dead on beach (fresh)
Distance travelled 9388km at 206 degrees (SSW)
Days since ringed 2636
There have been 13 Skokholm ringed Manx Shearwaters found dead in South America since 2013. There was one in September 2014, two in November 2015, two in September and one in October 2016, one in September and one in October 2017, one in November 2018, one in March and one in November 2019 and two in September this year. They have all been found in Brazil, bar the November 2018 casualty found in Uruguay. Three have died in their first winter, one in its second winter, one in at least its third winter, four in at least their fourth winter, one in at least its fifth winter, two in at least their sixth winter and one in at least its tenth winter (the above bird).

Balearic Shearwater *Puffinus mauretanicus* **Aderyn Drycin y Baleares**
Scarce to Uncommon first recorded in 1960
Earliest 15th May 1997 (28th September 2020) **Latest** 14th November 2019

Three on 28th September, including one which briefly sat on the sea off the Lighthouse, were the only Balearic Shearwaters seen this year; this was the latest autumn record since two on 4th October in 2014. Three have been logged on ten previous dates and there have been four higher daycounts, most recently with four and five logged in September 2016 and with a maximum of ten on 14th September 2011. An annual bird-days total of three was four down on that of last year and the lowest tally of the last seven years, down on a 2013-2019 mean of 7.0 and a record 29 in 2011.

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

Considering that approximately 36,011 pairs are present on Grassholm (JNCC, 2015), only 14km to our west and the third largest Atlantic gannetry, it is perhaps a surprise that the number seen here is so small; indeed the record Skokholm daycount is only 2144, this logged on 16th August 2013. However 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). The number of Gannets logged this year was unsurprisingly down (an inevitable consequence of having only two observers for much of the season), with a cumulative year total of 10,147 bird-days being the lowest since 2012 (down on the 15,495 of last year and a record 20,558 logged in 2018). Numbers did however follow the same general pattern as seen in previous years, with counts steadily increasing until an early autumn high; as in 2019, the 2020 peak was earlier, with the two largest daycounts coming in August. Four of the five peak daycounts, namely 280 on the 22nd, 307 on the 23rd, 364 on the 25th and 456 on 26th August, occurred on days with winds gusting force seven or above, however the 330 logged on 1st September passed on a day of light southeasterlies. Recent years have seen an increase in the number of birds either resting on the cliffs or flying over the Island, with a record 2019 season seeing four birds ashore and five flyovers. There were no birds found on land this year, but flyovers were over the Helipad on 10th July and the 5th and 11th September, whilst one went southeast over Home Meadow on 26th August. Although they did not cross the Island, 195 seemingly disorientating birds were circling close in at the Lighthouse during thick fog on 18th June.

The total number of Gannet bird-days logged each month, along with the maximum monthly daycount and the date on which the 2020 peak was recorded. Counts from 2016 to 2019 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	99	416	445	665	1387	3584	2662	670	182
2019	207	505	1048	1084	1687	6002	3911	865	159
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
2020	27	92	83	195	177	456	330	128	49
2019	31	69	150	145	212	704	633	207	41
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
	18th	7th	31st	18th	18th	26th	1st	2nd	15th

Cormorant *Phalacrocorax carbo* **Mulfran**
Common Visitor particularly in late August and September, but has never bred

Although Cormorants were again common around Skokholm, with the majority of non-passage sightings being of birds on the Stack, between Mad Bay and North Haven and in Crab Bay, a much reduced observer presence led to a substantial decline in the number of records, primarily due to a

reduction in the number of visits to the area of the Neck which overlooks the Stack. An annual bird-days total of 372 was the lowest since 2012, down on a 2013-2019 mean of 607.7 and a record 867 logged last year. As is typically the case, spring passage was not as pronounced as that which is observed in autumn, indeed there were only nine days when birds were obviously on the move and highs of just five north on 20th March and three west on 2nd April.

The total number of Cormorant bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2020 peak was recorded. Counts from 2016 to 2019 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	21	18	20	26	22	69	146	33	7
2019	33	67	99	44	105	158	258	67	33
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
2020	7	4	3	3	4	15	35	7	2
2019	6	5	18	5	11	12	36	21	8
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
	20th	2nd	19th	3 dates	25th	26th	9th	5th	3rd

There were 13 dates between July and September when birds were noted high over the Island, this four fewer than last year (the 2013-2019 mean is 16.3, with a high of 21 dates in 2015). As previously noted by both Betts (1992) and Thompson (2007), the vast majority of passage birds were again heading in a southeasterly direction. The largest movements again occurred during September, with 35 on the 9th (made up of five groups of up to 20), 17 on the 16th (when an additional seven were ashore) and 13 on the 25th (none of the 15 logged on 26th August were moving, although nine were together below the Lighthouse cliffs); the peak daycount was down on that of six post-2000 dates, including 36 on 17th September last year, 57 on 13th September 2016 and all-time highs of 97 on 28th September 2013 and 107 on 12th September 2003. The majority of birds seemingly head inland for the winter months, indeed there were only seven bird-days logged throughout November, however one was still at the Devil's Teeth on 2nd December and a flock of nine went southeast four days later (the latter more than doubling the previous maximum December daycount).

Shag *Phalacrocorax aristotelis* **Mulfran Werdd**
Common Resident and Irregular Scarce Breeder last attempted to breed in 2013
2018: 1 control

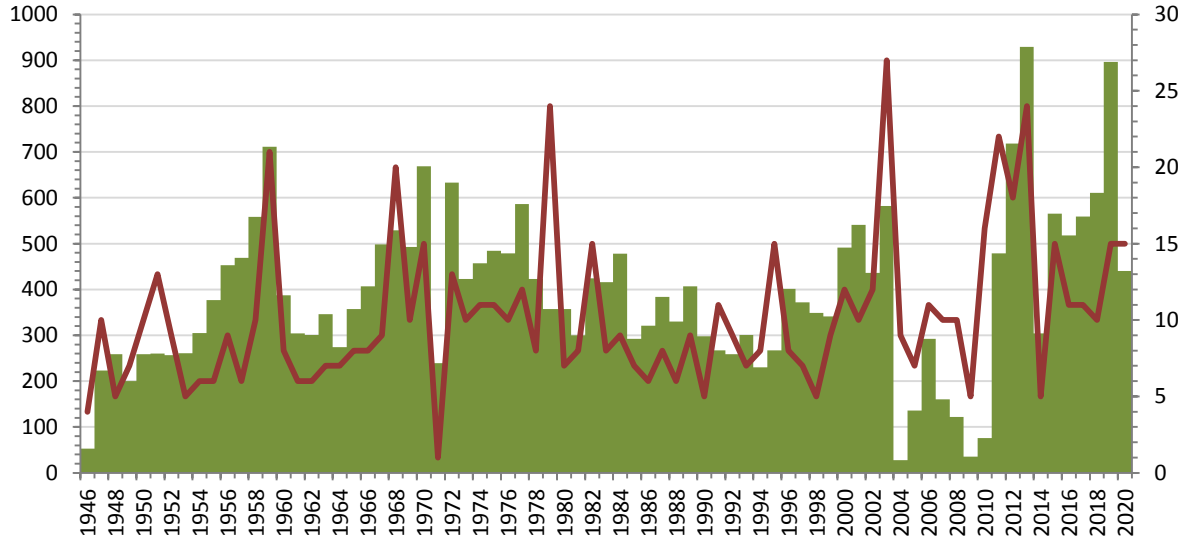
Shag numbers were heavily impacted by prolonged and severe storms in the winter of 2013-2014, with the 2014 bird-days total being 67.3% down on the record set the previous year. The first half of 2015 provided little evidence of a comeback, indeed counts during March, April and June 2015 were even lower than in 2014, however a significant increase in numbers that autumn reflected a better than average breeding season at the Middleholm colony. Counts between 2016 and 2018 were stable, with the maximum daycount not exceeding 11 (the high in the year before the crash was 24) and the annual bird-day totals ranging from 516 to 611 (these still well down on a 2013 tally of 929). Pleasingly the totals logged in seven months between March and November last year were the highest they had been since before 2014, indeed the May and November tallies were the highest ever. The bird-day totals in each month between April and September this year were the lowest of the last five years, although this probably reflects a reduced number of visits to the area of the Neck which overlooks the Stack (where the majority of Shags are usually found); this conclusion is supported to an extent by the peak daycounts which were rather typical of recent years, indeed a

2020 high of 15 on 3rd August (when eight were on Crab Bay Rocks and seven were on the Stack) matched that of last year and 2015 as the highest of the last seven years. Not all birds seen around Skokholm are associated with the Middleholm colony; a juvenile found in the Lime Kiln in November 2018 had been ringed on Ynys Gwylan-Fawr, Gwynedd and a bird with a green ring was found in May last year (although the latter was too distant for the inscription to be read). 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; Shags last bred successfully in 1987 when a pair fledged two young. An exceedingly unusual 2020 record was of one which flew over the middle of the Island, from Twinlet to Peter's Bay, on 30th October.

The total number of Shag bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2020 peak was recorded. Counts from 2016 to 2019 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	18	30	22	19	45	75	74	96	56
2019	29	89	150	32	82	152	168	102	88
2018	18	50	100	40	55	130	124	55	39
2017	12	64	69	24	61	108	125	79	17
2016	5	67	74	28	57	114	83	57	31
2020	4	5	4	6	7	15	11	9	5
2019	3	9	9	3	9	15	13	12	8
2018	4	5	10	5	8	9	9	5	6
2017	2	7	11	3	6	10	9	6	5
2016	1	6	5	4	7	11	7	4	4
	25th	7th	17th	24th	19th	3rd	24th	18th	8th & 22nd

The total number of Shag bird-days logged in each year since 1946 (green), along with the peak daycount recorded in each of those years (secondary axis).



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

A single north on 20th April was the first pre-June sighting since two were present in April 2016. Two harassed by gulls on the 13th made this the eighth consecutive June with a record, although one west along the South Coast on the 16th was the only other sighting during the month; the 2013-2019 June bird-days mean is 5.6, with a high of 14 logged in 2017 (which included a daycount of eight, the fourth highest to date behind ten in August 1981, nine in August 1990 and 11 in September 2000).

Singles on three July dates from the 20th led to a total which matched that of last year and the 2013-2019 mean, but which was well down on highs of 18 in 1987 and 16 in 1989. There were sightings on four August dates, with a juvenile stood above the Jogs on the 9th, two east the following day and further singles over on the 14th and 30th; a bird-days total of five was down on a 2013-2019 August mean of 6.7 and highs of 26 in 1981, 20 in 1990 and 17 last year. September proved more productive, with records on eight dates including daycounts of three on the 1st, 10th and 16th, four on the 5th and five on the 19th which took the bird-days total to 21; although daycounts of five were also recorded in 2015 and 2016, and that high of 11 was logged in 2000, the bird-days total was a new September record, up on the 16 of 2014. Singles on the 8th and 14th October were the last of the year; there have now been 56 bird-days logged in October, 23 of which have been in the last eight years. A cumulative 2020 total of 35 bird-days matched that of last year as the sixth highest yet recorded, down on the 37 of 2017 and highs of 42 in 1981 and 41 in 1988.

Great White Egret *Ardea alba* **Crëyr Mawr Gwyn**
Vagrant only one previous record

One, which arrived from the northeast at dusk on 15th October, spent a short time at North Pond before it was flushed north by Canada Geese (GE, RDB). This was the second for Skokholm following a flyover on 5th July last year. The first for Pembrokeshire was not logged until 12th April 1988, this a bird found near St. Davids (Donovan and Rees, 1994). The next was a colour ringed bird at Newport in August 2003 and the third a bird at Strumble Head in September 2006, the latter arriving in the year after this species was dropped from the list assessed by the British Birds Rarities Committee.

Following a further single in 2008, there have been annual Pembrokeshire records since 2011 including ten sightings of up to four birds in 2018 and five singles in 2019; this increase in records has been mirrored elsewhere in Wales, meaning that Great White Egret no longer fits the assessment criteria of the Welsh Birds Rarities Committee either.

Little Egret *Egretta garzetta* **Crëyr Bach**
Rare 28 previous records, usually of singles but with eight together on 25th September 2014

One which circled the Island on 24th June was the first since 7th July 2018. There followed singles at South Pond on 20th July and at North Pond on 4th November and 1st December, the latter the first December record for Skokholm. An annual bird-days total of four matched that of 2016 and 2017 as the second highest to date, a tally only down on the ten of 2014 (which included a record daycount of eight, this one of only five sightings of multiple birds). The first for Skokholm arrived on 18th May 1983 and the second on 10th October 1993, whilst all subsequent records have occurred since 1996. Little Egrets have now been seen in every month between March and December inclusive, with two records in April, five in May, three in June, ten in July, four in August and two in September, October and November (all tallying 44 bird-days).

Osprey *Pandion haliaetus* **Gwalch y Pysgod**
Rare singles in the Septembers of 1966 and 1988 and 14 records from 1992 including six in spring
Earliest 2nd April 2012 (11th April 2020) **Latest** 21st September 1996 (1st September 2020)

One north on 11th April was the first spring sighting since one on 24th May 2016 (GE, RDB). A juvenile, which flew low over the Farm and North Pond on 1st September, departed to the southwest (OP *et al*.); this was the first autumn bird since 2nd September 2018 and the tenth to be seen in this month. Seven of 18 Skokholm records have been logged 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, 2013-2019: 9 trapped, 1 retrapped

Singles on four March dates between the 23rd and 31st were seen to be female on three occasions and were perhaps all the same individual. The only other spring sighting was of an unsexed bird on 9th April which took the spring bird-days total to five; the spring tally was the highest since the eight

of 2016 and matched the 2013-2019 mean, but was well down on highs of 37 in 1993 and 26 in 2000. A female on 13th August arrived on the same day as the first of last autumn, this one day earlier than the 2013-2019 mean and ten days earlier than the firsts of 2017 and 2018. Singles on ten further dates to the 30th were seen to be female on seven occasions, whilst a juvenile male and a female were present on the last day of the month. Numbers peaked in September for an eighth consecutive year, albeit only marginally; singles on 14 dates to the 27th were sexed as female on five occasions and as male on three occasions. On 1st September one was watched as it pursued prey through the vegetation at North Pond; this was the second year running in which Sparrowhawk have been seen hunting 'on foot'. A female on the 1st and a single on the 9th were the only October records, the wet and blustery conditions prevalent subsequently perhaps being enough to deter birds from crossing Broad Sound; there have been later sightings in each of the previous nine years. An autumn bird-days total of 29 was down on a 2013-2019 mean of 40.7, although this was a period which contained the four highest autumn totals to date (with 41 bird-days in 2016, 44 in 2014 and 2019 and 66 in 2015). Given the mobile and often secretive nature of this species, daycounts of multiple individuals are usually due to differences in the age or sex of the birds concerned; rarely is it possible to prove the presence of two birds of the same age and sex, an uncertainty which no doubt leads to undercounting.

Marsh Harrier *Circus aeruginosus* **Bod y Gwerni**
Scarce recorded in every month from March to November, but with only one adult male
Earliest 10th March 2015 (21st April 2020) **Latest** 4th November 2018 (14th September 2020)

A subadult male, which drifted west then east on 21st April, was only the third definite male to be logged on Skokholm following birds in the springs of 1987 and 2001; a silhouetted bird which flew west then north the following day could not be confirmed as the same individual. There have been 25 previous spring bird-days, 12 of which have been logged this century. A cream crown heading for the mainland on 14th September was the only other sighting. Three 2020 bird-days was down on the record of 13 set in 2018, but matched a 2010-2019 mean of 3.1. There have now been sightings in 23 years, including eight of the last ten and totalling at least 39 birds, however probable repeat visits by cream crowns lingering at nearby Marloes Mere have made an accurate count of individuals difficult.

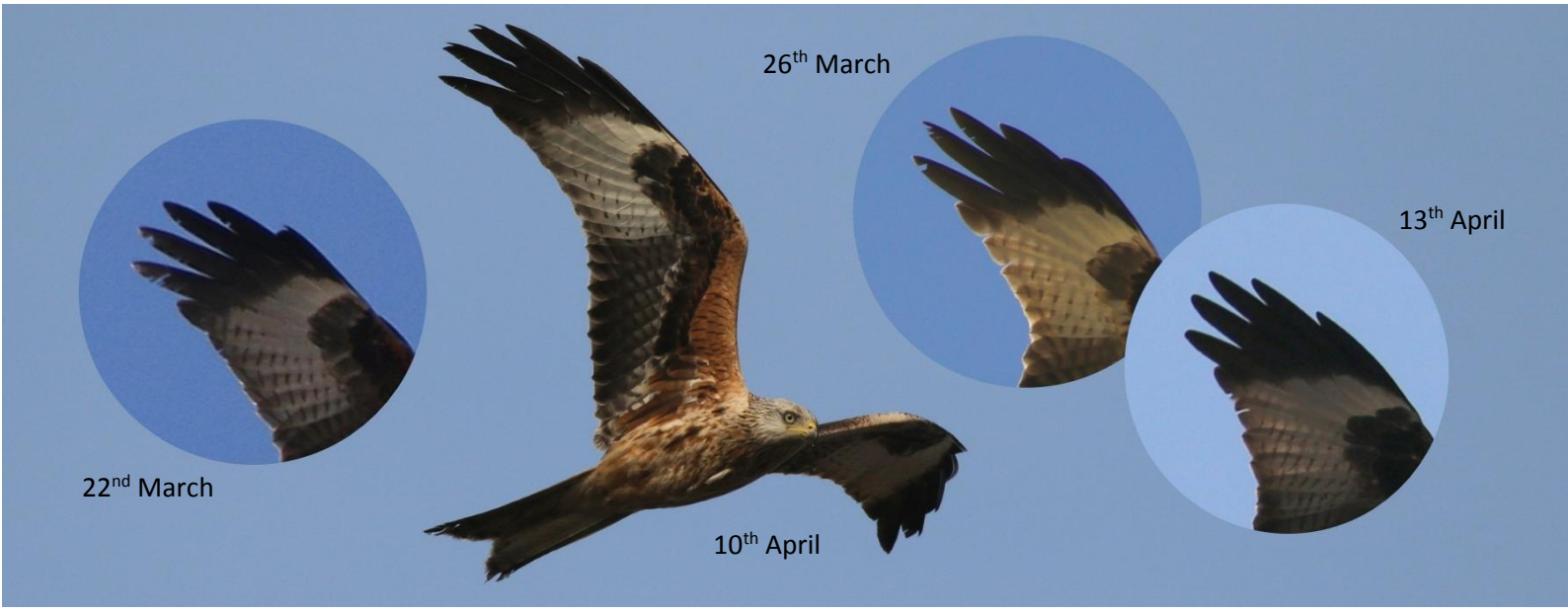
Hen Harrier *Circus cyaneus* **Bod Tinwen**
Scarce Winter Visitor with no records between 2004 and 2011 inclusive
Earliest 5th September 2012 (11th October 2020) **Latest** 21st April 2019 (22nd March 2020)

Winter visits on 22nd January and 6th February encountered a ringtail on the former date. A ringtail on 20th March was perhaps the first-winter male seen well at North Pond two days later; there have now been birds in 12 springs, with seven of ten March bird-days logged since 2016 and eight of 12

April bird-days logged in the same period. A first-winter over the Bog on the afternoon of 11th October was probably the bird seen on each of the following two days; although there have been 41 earlier autumn bird-days, including 30 since 2017, this was three days earlier than the mean 2013-2019 first autumn bird. The only November sightings were of a ringtail on the 16th, 19th, 20th and 23rd, whilst calm conditions on 7th December allowed for both a staff departure and a ringtail to return. Although a 2020 bird-days total of 11 was the tenth highest to date, it was the lowest of the last five years, down on a 2013-2019 mean of 21.3 and a high of 46 logged in 2018.

Red Kite *Milvus milvus* **Barcud Coch**
Rare approximately 15 previous records of up to two birds, but becoming Scarce

The first of an unprecedented year spent 30 minutes touring the Island on 22nd March, this three days earlier than the firsts of 2019 and 2018. One over the Farm on 26th March was presumed to be one of the two which went over together an hour later; this was just the second Skokholm record of multiple birds following two on 28th September 2018. A single east then west along the South Coast cliffs on the 28th was the last of the month. There were four singles logged in April, with one grounded at the South Pond Lower Drain on the 10th, one over Crab Bay and the Bluffs on the 13th, one grounded at Winter Pond on the 15th and one over the Bog, Bluffs and South Coast on the 27th. An analysis of primary wear showed that individuals on the 22nd and 26th March and the 10th, 13th and 15th April were all different. One over North Pond on the morning of the 29th was the first May record for Skokholm and the ninth bird-day of spring 2020; there had only been seven previous spring bird-days, all logged in either the March or April of five years since 2012. Given the increase in spring records, it was perhaps surprising that there was no autumn sighting for just the second time in six years. 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
1936-1976: 11 trapped, 2013-2018: 8 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. There were six spring dates when the

daycount exceeded the two Skokholm breeders (one fewer than last year but four more than in 2018); three were together over the Table on 19th March, four were together over Spy Rock on 30th March and three were noted on four dates between 3rd April and 4th May, although only on the 14th did they circle together. The peak spring daycount was down on the five of last year, but otherwise matched that of 2016 as the highest since the six of 2015; the latter equalled the highest spring daycount since 1956, albeit being well down on highs of ten in May 1955 and 12 in April 1940. For a second year, the rocky shelf which held the nest in each year between 2013 and 2018 was eschewed in favour of a narrower ledge on a taller section of near-vertical cliff. The three eggs hatched, although at some point between the 4th and 17th June one of the chicks went missing. Two young had fledged by 1st July and were both still being provisioned with Rabbit by a parent on 15th August. It was suggested in the 2019 Annual Report that the switch in nest site was perhaps brought about by a different adult being part of the pair and that the change had been a successful one; although down on the three fledglings of that year, 2020 productivity was again up on that observed at the former site (although the Wreck Cove pair managed to fledge young in each year between 2013 and 2018, only in 2015, when two fledged, did they produced anything more than a singleton). Whereas there are typically more autumn daycounts in excess of the Skokholm breeders and their offspring than are logged in spring, the only such record this year was of six together over the South Coast on 10th September. Although the mean autumn daycount was only 1.4, the four Skokholm birds were logged on four further dates to 27th November.

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

It proved to be the first year since 2012 without a March or April record, with feathers found near the South Pond Lower Drain on 7th May being the first indication of a presence. Further fresh feathers were in the Lighthouse Manx Shearwater plot on the 14th and at Frank's Point on the 19th, whilst one flushed from near North Pond on 31st May was the first sighting of the year. An adult was again near North Pond the following day, whilst feathers along the Lighthouse Track on the 9th and in the Quarry on the 16th and 18th June were the only other breeding season records. Breeding was obvious in the spring of 2017 as the pair aggressively pursued other birds passing close to their nest; 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 vole-free Skokholm. An adult at South Pond on 1st August was the first of the autumn, this being the

only year since 2014 without a July sighting. The next was not logged until 3rd September, although a feather had been found on the Lighthouse Track the previous day. There were October singles over the Bog on the 4th, at South Pond on the 6th and at North Pond on the 24th. One was around the Farm buildings at dusk on 26th November and one calling near the Lighthouse at 2315hrs three days later was the last of the year. A 2020 bird-days total of 16 was nine down on that of last year and the lowest tally since 2012, well down on a 2013-2019 mean of 40.3 and highs of 72 in 1989, 59 in 2015 and 76 in 2017. A reduced owl presence no doubt benefited Skokholm's breeding Storm Petrels, indeed only three petrel corpses were found this year (the lowest total of the last eight years, massively down on the 98 located in the year that Short-eared Owls bred).

Great Spotted Woodpecker *Dendrocopos major* **Cnocell Fraith Fwyaf**
Vagrant only four previous records
2018: 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, perhaps most importantly, the winter provisioning of bird food. In Wales there was a 159% increase in the breeding population between 1995 and 2008 (Baillie *et al*., 2010).

This 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 Great Spotted Woodpeckers are now expected annually. Although Skokholm records have also followed the trend, this has remained a rare visitor,

perhaps in part due to the longer sea crossing required to reach the Island or the fact that it does not lie at the tip of a peninsula. Indeed a female which frequented the area around the Farm buildings and the Well on 15th October was just the fifth for Skokholm (GE, RDB); the only other records are of singles on 27th September and 12th October 2010, on 20th September 2011 and on 7th October 2018. Damage found at the base of the Well willows suggested that the 2020 individual may have been attempting to extract Lunar Hornet Moth larvae.

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 the most productive year since 1998 for a species which often breeds on the nearby mainland but which is yet to nest on Skokholm. However a female over South Haven on 17th May was the latest spring arrival since 2009 and there was no June sighting for the first time since 2015. The only July records were of singles on the 9th and 16th, a bird-days total of two being the lowest of the last four Julys and well down on highs of 22 in 2002 and 19 in 2018. Numbers increased in August, with sightings on 12 dates from the 8th including two birds logged on four occasions; a bird-days total of 16 was the highest since the 27 of 2015 and the second highest August tally this century, albeit being well down on highs of 52 in 1989 and 47 in 1995.

As is typically the case, counts again rose in September, with daily sightings of up to two birds taking the monthly total to 40; there have been 17 higher September tallies, with a 21st century high of 52 in 2014 and all-time highs of 73 in 1975 and 69 in 1992. Albeit only just, counts peaked in October for the sixth time in eight years, this quite the contrast to last year when only a single male was logged; sightings on 26 dates included three on the 12th and 14th and 13 daycounts of two which took the bird-days total to 43. Although down on two of the last five years, including a 21st century high of 51 in 2016, the October bird-days total was the eighth highest to date (a maximum of 70 was logged in 1975). Although an observer presence throughout the month will have potentially increased the total in relation to years with an earlier staff departure, up to two birds noted on all but two November dates led to a bird-days total of 33, the highest yet recorded in this month (up on a previous high of 27 in 1997 and a blank 2019, both these years seeing coverage for the whole month). Daily December sightings to the departure of staff on the 7th were all of singles bar two on the 6th. A total of 143 bird-days were thus logged in 2020, this up on a 2013-2019 mean of 98.29 ±sd 26.61 and the eighth highest tally to date (down on peaks of 211 in 1973, 152 in 1974, 180 in 1975 and 199 in 1989). The largest Skokholm daycounts remain 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

A first-year male and a first-year female potentially accounted for records of singles on ten March dates from the arrival of staff on the 16th and the two birds logged on the 27th; despite the latest staff return of the last eight years, a bird-days total of 12 equalled the eighth highest March tally (albeit being down on four of the last seven years and a high of 25 in 1959). Sightings on 11 April dates to the 14th were, bar the two logged on the 7th, all of singles and were again of a first-year male and a first-year female, whilst a single on the 18th and a female on the 22nd were the last of spring; an April bird-days total of 14 was the lowest of the last four years, down on a 2013-2019 mean of 17.9 and all-time highs of 27 in 1972 and 30 in 2018 and 2019. There have been later spring sightings in each year since 2014 (when the last was on 20th April), indeed there have been May records in four of the last seven years including three bird-days in 2019 and a high of eight in 2017.

It proved the third successive year without an August record, the first of autumn not arriving until 27th September (two days later than the first of last year, three days later than the first of 2018 and 11 days later than the 2013-2019 mean). A further single on the 29th was perhaps the same female. Records on 24 October dates included sightings of what was potentially the same female on 12 dates to the 16th, three on the 17th (two females and a first-winter male), two on the 18th and 21st and further singles on nine dates which took the bird-days total to 28; the total matched that of October 2017 as the sixth highest to be logged in any calendar month, only down on the 29 of May 1968, the 30 of October 1967, April 2018 and April 2019 and the 38 of October last year. Daycounts of three have only been noted on 11 previous occasions (including on five dates last October and on five dates in 2017), whilst a record four were seen on 7th October 1968 and 23rd October 2018. A first-winter male and an unaged female perhaps accounted for sightings on 15 November dates which tallied 17 bird-days; the only higher November totals are the 18 of 2017 and 2019. A first-winter male on 3rd December was the last to be seen prior to the departure of staff. Four of the five highest annual bird-day totals have come in the last four years; a 2020 tally of 74 was down on the 118 of 1968, the 105 of 2017, the 84 of 2018 and the 104 of last year.

Hobby *Falco subbuteo* **Hebog yr Ehedydd**
Rare recorded in each month between April and October
Earliest 23rd April 2019 (9th May 2020) **Latest** 9th October 2012 (1st June 2020)

An adult heading east along the North Coast at 0830hrs on 9th May seemingly departed for the mainland, however what may have been the same individual went west over Boundary Hill at 1900hrs (RDB, GE). One was flushed from the Table on the morning of 29th May (RDB) and another went east over the Bluffs on 1st June (RDB, GE). There have been sightings in 15 previous years, all but three of which have occurred since 1986 (the further singles logged in 1959, 1975 and 1982). Prior to this year there had been two records in April, six in May, three in June, one in July, four in both August and September and one in October; all sightings were of singles and all were noted on just one date with the exception of a (presumed) two-day stay logged in June 2003 and a bird present on the 4th, 5th, 8th and 9th October 2012.

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

Although the only adults confirmed during the 2020 breeding season were the pair which nested on an inaccessible (and hidden) ledge towards the top of Near Bay, additional birds were logged on 26 occasions between 23rd March and 27th June. Unsexed immatures were seen on seven dates, the adult male gave chase to a second unaged male on 6th April and 14th May and immature males were present on four dates from 14th April. Immature females, logged on 13 dates from 23rd March, included a colour ringed individual seen to take Puffins at Crab Bay on both the 29th and 30th May (below photograph and inset of ring detail); she had been ringed as a chick in south Devon in 2018 (inset below) and had not been seen since she reached independence. It has been postulated in recent reports that an increase in the number of Peregrines present on Skokholm may be impacting productivity by increasing the time that the breeding birds spend away from the nest; this was particularly the case between 2015 and 2017 as an unprecedented second pair prospected and later attempted to breed. Although only one pair have bred in each year since 2017, they are regularly seen attending to visiting birds, a distraction which may leave their nest vulnerable. It is nevertheless unclear why the 2020 breeding attempt failed; the female was exceedingly vocal around the nest on each date between the 9th and 11th May, after which there was no apparent activity at the site.

Sightings on 14 July dates were all of singles bar the two seen on the 2nd, however at least five different individuals were present during the period including birds again taking Puffins in Crab Bay on the 21st and 22nd and the first juvenile of the year on the 31st (a male at the Lighthouse which was 26 days earlier than the first incoming juvenile of last year, but seven days later than the first of 2018); a bird-days total of 15 was the lowest July tally of the last decade, well down on all-time highs of 111 in 2011 and 92 in 2013. August was similarly quiet, with at least three individuals accounting

for records of singles on 12 dates; the August bird-days total was the lowest since 2010, down on all-time highs of 63 in 1993 and 61 in 2016. An immature female on 11th September and a juvenile male on 14th October were the only subsequent sightings which could not be attributed to the breeding pair. There were singles logged on 14 September dates and two birds noted on an additional ten, taking the tally to 34; although down on a 2013-2019 bird-days mean of 46.6, this period did include the three highest September tallies to date (including a peak of 60 in 2016). Up to two birds seen on 17 dates led to an October total of 19, this down on a 2013-2019 mean of 34.7 which again includes all-time highs of 56 in 2015 and 53 in 2016. The female was last seen on 20th October, whilst an adult male was logged on nine further occasions between 22nd October and 1st December (although there were just four sightings in November).

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	2019	2020
Pairs	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1
Site	NH	Bl	SC	SC	Bl	Bl	Bl	Bl	Bl	Bl	Bl	Bl SC	NB SC	Bl	Bl	NB
Fledglings	0	2	1	2	1	0	4	2	3	0	0	1	1	0	0	0

Ringing recovery Blue darvic with black SG
Originally ringed as a 24 day old female, SOUTHDOWN CLIFF, BRIXHAM, DEVON 4th June 2018
Recovered as a second-summer female, CRAB BAY, SKOKHOLM 29th and 30th May 2020
Finding condition Colour ring read in field
Distance travelled 193km at 318 degrees (NW)
Days since ringed 726 and 727

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

Winter visits on 22nd January and 6th February encountered four birds on the former date. Spring survey work revealed three breeding pairs for the first time since 2013 and for just the third time on record. A Steep Bay pair were nest building on 23rd March and incubation changeovers were witnessed during April, a Peter's Bay pair were nest building on 30th March and nest lining the

following day and a Dip Gully pair were seen mating on 3rd April and changing over on incubation duties on 2nd May. There were only nine dates between March and June on which it was apparent that birds were present in addition to the six Skokholm breeders, with one extra bird logged on three dates in June, two extra birds present on one date in March, one date in May and three dates in June and three extra birds noted on 28th June. Although the behaviour of the adults suggested that young were out of the nest on the 15th, it was not until 16th June that the Steep Bay pair were seen with two fledglings and not until the 22nd that four fledglings were confirmed; fledglings were first seen at this site on 17th June in 2019 and 2016, on 14th June in 2017 and on 8th July in 2018 (the latter following a bitter early spring). The Peter's Bay pair had fledged two by 24th June, these the first to fledge from the Neck. The Dip Gully pair were alarming at the nest site on 4th June, however there was no indication that any young fledged; this was the second year of the last three in which a pair at this site has been unsuccessful (there were no young observed in 2018, whilst fledglings were first seen on 26th June last year, on the 16th in 2017 and on the 17th in 2016). A total of six 2020 fledglings was one up on last year and the second highest total yet recorded (only down on the eight of 2017), however a productivity figure of 2.0 fledglings per pair was the second lowest of the last five years (albeit being up on a 2004-2019 mean of 1.76 ±se 0.25).

The number of Chough pairs, the total number of fledged young and productivity 2004-2020.

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	1	1	2	2	2	2	2	3	3	2	2	2	2	2	2	3
2	3	1	5	4	3	2	4	0	2	3	2	5	8	2	5	6
2.0	3.0	1.0	2.5	2.0	1.5	1.0	2.0	0.0	0.7	1.5	1.0	2.5	4.0	1.0	2.5	2.0

Birds from the three Skokholm territories were regularly seen together during July and August, with July daycounts averaging 6.5 and peaking at 11 on the 1st and 7th and August daycounts averaging 7.1 and peaking at 12 on the 6th and 9th and 14 on the 15th (the latter the only date during the period when Chough from elsewhere must have been present). September proved the busiest month of the year for the first time since 2015, with 13 daycounts of ten or more and highs of 12 on the 9th and 16th, a minimum of 22 together on the 17th, 13 on the 26th and 14 on the 29th; there have been

higher September daycounts in just two previous years, with peaks of 32 in 1965 and 26 in 2007 (22 were also seen in 2017), indeed there have only been higher daycounts in five previous months (with peaks of 24 in May 2017, 30 in August 2017 and 25 in October 2018 in addition to the September maxima). A juvenile trapped in the Library mist net on 22nd September was the second to be ringed on the Island following a bird in 1964; it was seen in the vicinity of the Farm on three further dates to 1st October and was almost certainly the ringed juvenile present at North Gully on 8th November. Although there have been higher daycounts in six previous Octobers, including three of the last seven, highs of 13 on the 5th and 15 on the 8th contributed to a bird-days tally of 231; the total was the highest to be logged in October, up on the 186 of last year and a previous high of 193 in 2018. November was similarly productive, with 11 daycounts in excess of the six breeders, peaks of 11 on the 1st and 18th and a bird-days total of 172; the peak was down on highs of 13 logged in 2018 and 2019, but the bird-days total was the highest November tally to date (up on the 144 of last year). Daily December sightings until the departure of staff on the 7th peaked at eight on the 1st and 2nd.

Jackdaw *Coloeus monedula* **Jac-y-Do**
Uncommon Breeder and Fairly Common Visitor
27 trapped, 6 retrapped
1936-1976: 83 trapped, 2011-2019: 108 trapped, 24 retrapped

The number of Jackdaw breeding on Skokholm has always proven difficult to assess due to semi-colonial nesting, their secretive habits and hidden nests. 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 22 pairs during the period 2011 to 2019. This year saw a minimum of 25 pairs, with the majority nesting colonially in the crevices and burrows of South Haven (8) and the Quarry (8), but with further pairs again in Rat Bay (1), Peter's Bay (1), Hog Bay (2), Crab Bay (1) and near Little Bay Point (4). Daycounts suggested that there were more birds present during the breeding season than were proven to be nesting, although regular movements from the mainland were again noted and perhaps accounted for some of the larger totals. There were two birds retrapped during the breeding season which had been ringed in previous years, most notably EY86651 which was ringed as a juvenile on 13th June 2014 and retrapped on 11th June after 2191 days; the current British longevity record stands at 6231 days (17 years, 22 days). Additionally EA12482, ringed as an adult on 25th July 2019, was retrapped on 15th June.

The total number of Jackdaw bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2020 peak was recorded. Counts from 2016 to 2019 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	838	1663	1272	2037	1156	1177	271	1031	397
2019	874	1201	1279	1716	1869	1313	301	1382	254
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
2020	89	103	66	116	70	141	44	162	74
2019	115	66	62	107	148	95	48	381	94
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
	17th	6th	2nd & 29th	20th	28th	11th	21st	15th	26th

A late return of staff led to a comparatively low March bird-days total, however daycounts in excess of the 89 logged on the 17th have only been noted in seven previous Marches (including five of the

last seven, with a high of 115 in 2019). Pairs were seen collecting nest material from 29th March (two days later than last year), however two were still nest lining in South Haven on 26th April and a pair were still nest building at Little Bay Point on 7th May. Perhaps unsurprisingly given the increase in the breeding population, the April total was the highest to date (Jackdaw were only logged as being 'present' on the majority of dates during the 1970s when record numbers were breeding); a peak daycount of 103 on the 6th was the second highest to be logged in this month, only down on the 104 of 2018. There were further April highs of 98 on the 16th and 93 on the 23rd, however no more than 66 were logged on each date between 27th April and 2nd June, this a typical drop in numbers which coincides with the incubation period. Chicks were first heard in Rat Bay on 17th May, this on the same date as the first of last year, one day earlier than the first of 2018 and up to seven days earlier than in each of the three years prior to that. The first fledgling was near the Lime Kiln on 5th June, this four days earlier than the first of last year; fledging dates are remarkably consistent, with the first logged on the 8th in 2015, 2016 and 2018 and on the 9th in 2017 and 2019.

It again proved impossible to confirm the number of fledglings present in the mobile and nervous post-breeding flocks, although minimum counts of 22 between South Haven and the Well, ten between Little Bay Point and Crab Bay and two at the Quarry were made; the total was the highest since the 37 of 2014, up on a 2014-2019 mean of 28.50 ±sd 4.72. There were five June daycounts between the 2nd and 26th in excess of 90, with highs of 111 on the 2nd and 116 on the 20th; the latter was the second highest June daycount, only down on the 134 of 2015. A July bird-days total of 1156 and a peak daycount of 70 were both the lowest of the last seven years, perhaps suggesting that some birds made an early departure. However there were August highs of 106 on the 1st and 141 on the 11th prior to the customary exodus for the mainland, the latter only down on the 178 logged in August 2013. With the exception of 31 on the 31st, no more than seven were seen on each day between 19th August and 17th September (a period which included 12 dates without a sighting). Subsequent arrivals were sporadic, with three further September dates, 18 October and 19 November dates when five or fewer birds were present (including 33 blank days), but with calm morning highs in October of 162 on the 15th, 143 on the 16th and 130 on the 22nd and in November of 63 on the 6th and 74 on the 26th; the peak autumn daycount was the second lowest of the last eight years, down on a 2013-2019 mean of 204.57 ±sd 79.46 (a period which included 381 on 20th October 2019, a count only down on the 500 of 24th October 1993).

Rook *Corvus frugilegus* **Ydfran**
Scarce daycounts of up to 25 in 67 previous springs and of up to 21 in 34 previous autumns

Two west on 8th April soon returned east at a much greater height than that at which they arrived, these 11 days earlier than the first of last spring. Groups of two and four on 19th April led to the

highest spring daycount since seven were logged in April 1991 and the sixth highest spring daycount to date. There have now been April sightings in 27 years, including four of the last five. One which flew west then east on the 23rd was the first September sighting since 2001 and the earliest autumn record since five on the 22nd in 1981. Singles went over on the 1st, 15th and 22nd October, whilst one fed with Crows at North Plain on the 18th; the October bird-days total was one down on that of last year but the tenth highest on record. With the exception of the 45 bird-days logged in 2017 (which included an individual logged on 41 dates between 4th April and 16th May eventually eaten by a Great Black-backed Gull), a 2020 bird-days total of 13 equalled that of 2003 as the highest since 2002; there have been 20 totals up on that of this year, 14 of which were logged prior to 1961.

Carrion Crow *Corvus corone* **Brân Dyddyn**
Uncommon Breeder and Uncommon Visitor
1 trapped
1936-1976: 152 trapped, 2013-2019: 11 pulli trapped, 1 retrapped

There were nine nesting pairs mapped this season, one fewer than in 2019 and 2018, the same as in 2017 and 2016 and one more than in each year between 2013 and 2015. There were thus more pairs than in all but four 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 Wardens' Rest, on the Bluffs, in Peter's Bay, near Theatre Cove, on the Hills and east of the Dip, whilst sites at the Dents and in Obione Bay were similar to those used in 2018 and a site on Rat Island was used for the first time in at least a decade. Pairs were lost from Purple Cove, Little Bay, opposite the Devil's Teeth and to the west of Frank's Point. Dead adults were found on 16th March and 7th April, whilst on 23rd March three pinned and plucked the throat of one which eventually escaped (albeit in a poor condition). Between one and eight birds additional to the Skokholm breeders were present on one date in March and on ten dates in April, with April daycount highs of 26 on the 4th, 25 on the 7th and 24 on the 9th. Additionally one watched flying towards Grassholm on 27th March and five arriving together from the mainland on 16th May were perhaps not breeding on Skokholm. The peak spring daycount equalled that of 2015 as the lowest of the last six years, these down on a spring record of 34 logged last year. The first fledglings of the year were at the Hills on 14th May, although it was not until 31st July that the last departed its nest near Wardens' Rest. The pairs to the east of the Dip and at the Dents fledged three, the pairs at the Bluffs and the Hills fledged two and the pairs near Wardens' Rest and on Rat Island fledged one. Of the three remaining nests, only that at Obione Bay was seen to contain a chick. The resulting productivity value of 1.33 fledglings per pair was the highest since the 1.78 of 2016 and up on a 2013-2019 mean of 1.10 ±se 0.18. Interestingly the two lowest productivity figures of the last seven years (0.70 in 2019 and 0.60 in 2018) occurred in the two years when more pairs nested.

Following an August high of 27 on the 30th, there were 17 daycounts between 6th September and 25th November in excess of the 30 Skokholm birds; Crows were regularly seen commuting to and from the mainland during the autumn, leading to daycount highs in September of 40 on the 6th and 35 on the 29th, in October of 44 on the 16th, 48 on the 18th and 49 on the 22nd and in November of 37 on the 7th and 38 on the 10th. The peak, all confirmed synchronously and including murders of 33 over the Bluffs and 11 on North Plain, was a new daycount record, up on the 48 logged on 9th November 2014. A dead bird at the Bluffs on 31st October was a typical first-winter casualty.

Hooded Crow *Corvus cornix* **Brân Lwyd**
Rare records in 13 years totalling 24 bird-days, with one in 2018 the only autumn sighting

The only record this year was of one at the Table and then the Lighthouse on 8th April (GE, RDB). Of the 23 previous spring bird-days, 14 have been logged in April, including the first for Skokholm in

1939, six between 2015 and 2019 and two together in 1982 which remains the only record of multiple birds. There have now been sightings in four consecutive years (and in five of the last six years), a regularity of occurrence not logged previously; indeed 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.

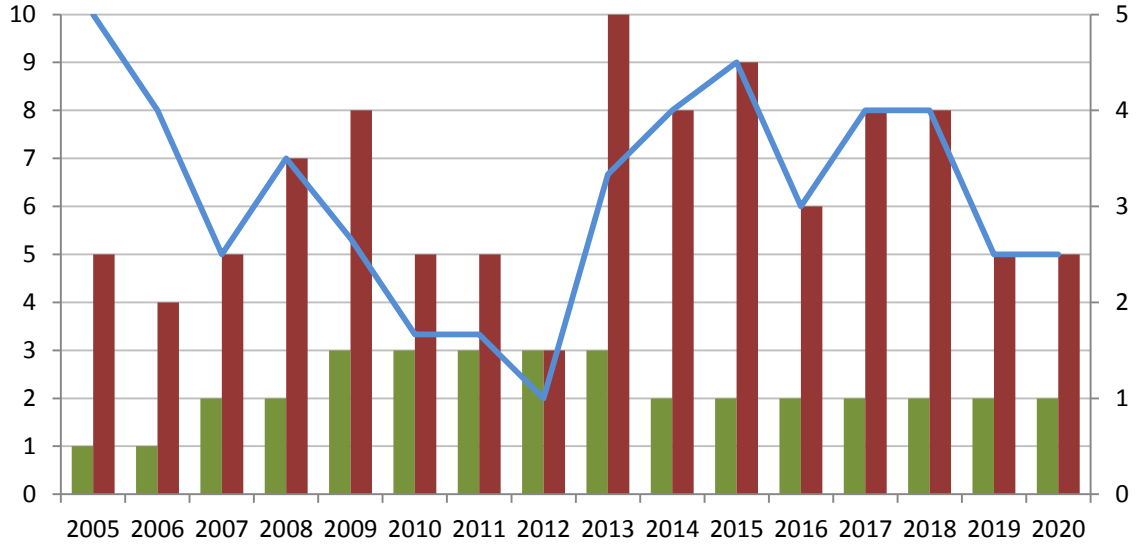
Raven *Corvus corax* **Cigfran**
Scarce Breeder and Uncommon Visitor
1936-1976: 67 trapped

Two pairs attempted to breed for a seventh consecutive year, both on the same ledges initially occupied in 2019; the west facing crevice on the eastern side of Steep Bay (abandoned after a chick stage failure last year) 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 15th in which two or more pairs have bred (see graph below). The only spring records of birds additional to the Skokholm breeders were of two chased by both pairs on 19th March, a single confronted by the Neck pair on 29th March and of two on 3rd April which were met by both guard birds. The Steep Bay pair had fledged two by 17th May, these the latest first fledglings of the last eight years and 12 days later than the 2013-2019 first fledgling mean (the earliest during this period were logged on 30th April in 2014 and 2015 and the latest on 12th May last year); the pair which utilised the same site in 2019 failed to fledge young having constructed three separate nests (with further nests at North Gully and on the west face of Steep Bay) and produced two separate clutches. The North Haven pair had young out of the nest on 23rd May, however it was not until the following day that three fledglings were confirmed; the pair which occupied this site in 2019 fledged five. An average of 2.5 fledged young per breeding pair equalled that of last year as the lowest to be recorded since 2012 (when three pairs only managed to fledge three), and matched 2007 as the poorest productivity recorded in a year when two pairs attempted to breed. Mean productivity between 2009 and 2013, when three pairs nested on Skokholm, was 2.07, with 1.67 or fewer fledglings per pair being logged in three of those years; it is tempting to conclude that a higher density of breeding birds may impact productivity.

One of the three North Haven fledglings was not seen again, although the remaining four youngsters were encountered regularly during June and July. A group of nine heading east on 12th July included four that landed on the Little Neck which were perhaps Skokholm birds. Members of the two family

groups were regularly seen together from 17th July, making it difficult to detect further visitors from elsewhere, however there were daycounts of nine on 10th August, 19 on 28th August and ten on 23rd September when extra birds were apparent (additionally groups of up to four were seen commuting to and from the mainland, although these may have been Skokholm birds). The 28th August count was the highest since 19th September 2017 (when 19 were also logged) and otherwise the highest since 25 on 1st September 2016; there have been 17 daycounts up on the 2020 peak (seven of which were logged in 2005), all occurring in September and with 35 on the 22nd in 1983, 33 on the 19th in 2005 and 50 on the 14th in 2008 the maxima. No more than four were seen each day from 27th September, with the two pairs regularly gathering on North Plain for bouts of posturing and territorial display.

The number of Raven breeding pairs (green) and the number of fledged young between 2005 and 2020, along with productivity (blue and secondary axis).



Coal Tit *Periparus ater* **Titw Penddu**

Rare recorded in 19 previous years, with larger arrivals often resulting in birds lingering
1936-1976: 10 trapped, 2015: 22 trapped, 7 retrapped

One which briefly alighted on a rock near Wallsend, as it journeyed from the Tabernacle to Fossil Bay on the morning of 28th March, was the first sighting since 2015 and the first spring bird since one

logged on 11 dates between the 17th and 28th March 1992 (RDB). The only other spring record is of a single seen at Peter's Bay on 1st March 1931 which was probably the bird present near the Devil's Teeth five days later. Sightings in 17 previous autumns, all logged between 23rd September and 4th December, peaked at 68 bird-days in 1957 (when the maximum daycount was ten), 44 in 1985 (with a daycount of 17), 24 in 1988 (with a daycount of 20), 53 in 1991 (with a daycount of 15) and 53 in 2015 (with a record daycount of 37 on 3rd October). Of the 299 autumn bird-days, 276 have been recorded in October including 230 in the five years listed above.

Blue Tit *Cyanistes caeruleus* **Titw Tomos Las**

Scarce records in 44 previous years, typically of singles or small groups but with up to 50 on occasion
1 trapped
1936-1976: 186 trapped, 2017: 1 trapped

A first-winter found at the Well on the morning of 14th October was later trapped in the Heligoland there (GE, RDB); this was the first since a first-winter on 27th October 2017. Blue Tit sightings have become a rare event on Skokholm, with the 2017 bird the only other record since one on 27th October 2011; following the first Island sighting (of six together on 16th October 1948), there has been just one longer period without a bird (that between 27th October 2003 and 12th October 2010).

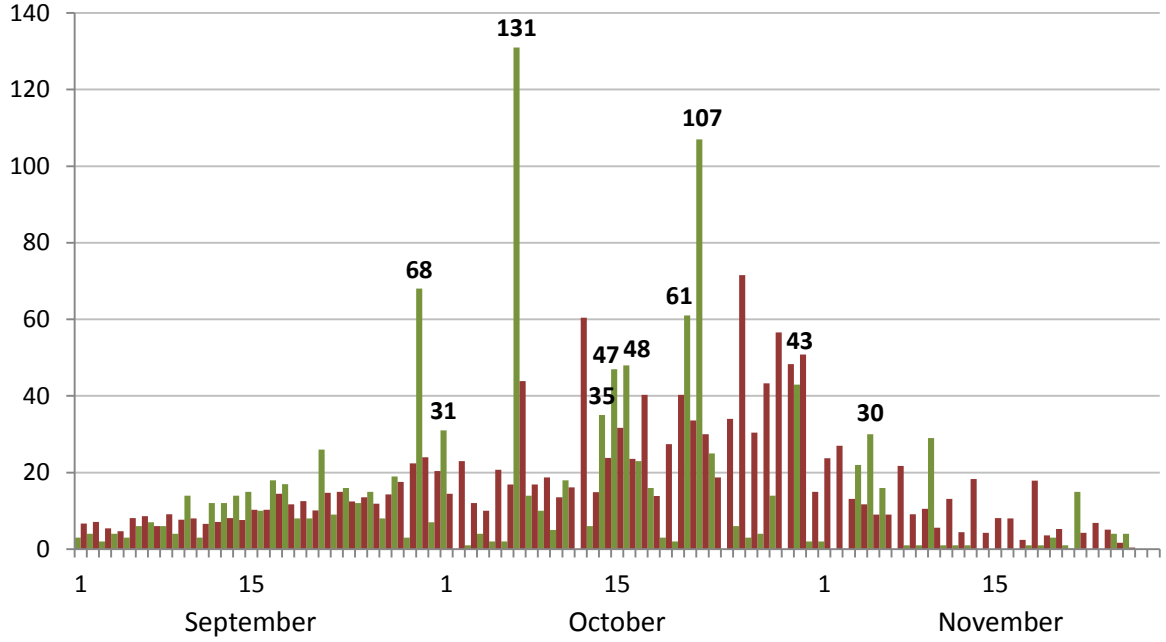
There have been no observations between 12th April and 10th September, with 1036 of 1737 bird-days being logged in October (including record daycounts of 50 on the 16th in 1957 and on the 17th in 1964). A winter wardening presence would perhaps increase the number logged; there were regular

records during the Decembers of 1997, 2000 and 2001, in the January of 1998 and in the Februarys of those years plus 1958, 1965 and 2003, although the provisioning of peanuts in November almost certainly encouraged individuals to linger in some instances.

Skylark *Alauda arvensis* **Ehedydd**
Uncommon Breeder and Common Visitor
1936-1976: 299 trapped, 2015-2019: 17 trapped (including 4 pulli), 3 retrapped

Winter visits on 22nd January and 6th February encountered five birds on the former date. There was again little evidence of a spring passage, with maximum daycounts of 16 in March, 15 in April and 15 in May being down on last year and attributable to the Skokholm breeders. A total of 14 territorial males registered regularly during April and May matched that of last year, but was five fewer than recorded in 2018, seven fewer than in 2017 and two fewer than in 2016. The number of territories mapped between 2002 and 2015 was lower, ranging between three and 12, however numbers were previously higher, with between 16 and 29 mapped between 1978 and 1996, 38 mapped in 1971 and a high of 48 logged in 1966. Adults were collecting food from 7th May, this 21 days earlier than the first food delivery witnessed in 2019, whilst the first fledgling was seen near the Bluffs on 9th June, this 13 days earlier than the first of last year but three days later than the first of 2018. Given the number of overlapping territories and the secretive nesting habits of this species, it again proved impossible to accurately assess productivity, however young were noted at eight sites (as was the case last year). The number of birds logged each day declined during the post-breeding moult, with no more than ten noted on each date between 12th July and 9th September.

The number of Skylark logged on each day of autumn (green) compared with the 2013-2019 average. 2020 daycounts of 30 and above are labelled.



Given that no more than 18 had been logged during the first 20 days of the month, a total of 26 on 21st September perhaps included birds arriving from elsewhere (although the Skokholm breeders and their offspring could account for the tally). The first definite arrival of the autumn was logged on the 29th when a minimum of 68 included a flock of 37 in Gull Field; this was the highest September daycount on record, up on highs of 59 in 1959, 56 in 2013 and 58 in 2018. There were ten or fewer noted on 17 October dates (15 dates last year and 14 dates in 2018), including four days from the 2nd without a sighting (there were six blank days from the 4th last year). The first substantial passage of the season, and what proved to be the highest daycount of the year, came on 7th October when a

minimum of 131 included 76 heading north over the Farm; although the peak October daycounts between 2014 and 2019 were all up on that of this year, ranging between 162 and 292, this was the sixth largest daycount to have been recorded this early in the month (with the early October highs being of 250 on the 3rd in 1952, 301 on the 7th in 1959 and 231 on the 7th in 2018). The all-time daycount highs, all logged in October, are of 1200 on the 21st in 1956, 601 on the 15th in 1959 and 700 on the 20th in 1988. There were further October highs of 61 on the 21st and 107 the following day, but no more than 43 during the last nine days of the month, this the period in which Skylark passage has recently peaked (see above chart). The 2020 October bird-days total was 663, this down on the 2013-2019 October mean of 914.7 and the lowest tally of the last seven years. There were sightings on all but 13 November dates, with highs of 30 on the 5th and 29 on the 10th, however, with the exception of 15 on the 22nd, no more than four were seen from the 11th and none were seen at all between the 27th and the departure of staff on 7th December.

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 (17th March 2020) **Latest** 25th October 1997 and 1971 (1st October 2020)
1 trapped
1936-1976: 8 trapped, 2018-2019: 11 trapped

Four together over South Haven on 17th March were two days earlier than the first of last year, seven days earlier than the 2013-2019 first bird mean and, equal with one in 2014, the earliest since two on 8th March 2000 (which remain the earliest to date); the only other earlier records are of singles on the 10th in 1983 and on the 11th in 1997. Two north on the 24th took the March bird-days total to six, a tally well down on the 40 of last year (the only higher March bird-days total is the 41 of 1965). Records on 11 April dates were all of eight or less bar highs of 17 on the 25th and 12 on the 26th which took the bird-days total to 59; the peak daycount was down on a 2013-2019 mean of 22.7 and all-time highs of 250 in 1954 and 200 in 1990, whilst the bird-days total was down on a 2013-2019 mean of 81.1 and highs of 380 in 1951, 313 in 1952 and 327 in 1954. There were sightings on eight May dates between the 4th and 15th, with highs of seven on the 5th and eight on the 15th, whilst a single on the 25th was the last of the spring, taking the May bird-days total to 32; although up on two of the previous seven years, the bird-days total was down on a 2013-2019 May mean of 56.6, a high during that period of 144 in 2018 and all-time highs of 792 in 1948, 544 in 1959 and 570 in 1989 (which included a record spring daycount of 400). There was no June sighting for the first time since 2016; there have only been 27 June bird-days this century and 327 since 1929.

A rather typical July showing saw two present on the 29th and seven on the 31st; there have only been eight totals of more than 30 in July, with record highs of 94 in 2016 and 211 in 2017. August

started quietly, with two on the 9th, a single on the 16th and three on the 17th, however counts of seven on the 28th and 31st and 36 on the 30th took the bird-days total to 56; although the peak August daycount was the fourth highest this century (down on a high of 235 logged in 2018), the bird-days total was down on a 2013-2019 mean of 92.0 and all-time highs of 472 in 1969 and 309 in 2018. Conversely the September bird-days total of 120 was up on a 2013-2019 mean of 101.3, perhaps suggesting a later passage this year; sightings on 12 dates included highs of 44 on the 9th, 13 on the 18th and 21 on the 29th. Two on 1st October were the last of the year, these two days later than the last of 2019 and the latest birds since three on the 2nd in 2016; there have been 220 later bird-days, 161 of which were logged prior to 1969 and 208 of which were last century.

The total number of Sand Martin bird-days logged each month (2019 to 2017 in parenthesis), along with the maximum monthly daycount (2019 to 2017 in parenthesis) and the date on which the 2020 peak was recorded.

March	April	May	June	July	August	September	October
6	59	32	0	9	56	120	2
(40, 0, 9)	(118, 61, 189)	(37, 144, 40)	(2, 7, 2)	(4, 14, 211)	(27, 309, 125)	(191, 72, 109)	(0, 0, 0)
4	17	8	0	7	36	44	2
(13, 0, 2)	(34, 14, 73)	(19, 57, 9)	(1, 6, 2)	(2, 9, 185)	(9, 235, 64)	(108, 51, 27)	(0, 0, 0)
17th	25th	15th		31st	30th	9th	1st

Swallow *Hirundo rustica* **Gwennol**

Scarce Breeder and Very Abundant Migrant

Earliest 11th March 2000 (1st April 2020) **Latest** 28th November 1932 (7th November 2020)

231 trapped (including 9 pulli), 6 retrapped, 1 control

1936-1976: 238 trapped, 2011-2019: 725 trapped (including 104 pulli), 90 retrapped, 11 controls

One over the Farm, early on the afternoon of 1st April, was eight days later than the first of last year and three days later than the 2013-2019 first bird mean (the latest during this period were three on 11th April in 2013 and the earliest two on 12th March in 2017). There followed sightings on all but three April dates, with highs of 48 on the 19th, 78 on the 22nd and 47 on the 23rd which took the bird-days total to 433; the peak daycount was down on a 2013-2019 mean of 143.1, a high during that period of 198 in 2014 and all-time highs of 1000 in 1953 and 1990, whilst the bird-days total was down on a 2013-2019 April mean of 827.0, a recent high of 1184 in 2017 and an all-time high of 1943 in 1953. One was inspecting a traditional nest site on 19th April (a ledge hidden behind the Courtyard Sycamore, suggesting that the prospecting individual was aware of its presence), however it was not until 20th May that birds were seen to be collecting nest material (this the same date as the first of last year and nine days earlier than in 2018). Five pairs took up residence, this the same number as in 2019 and 2013, one more than in six of the last ten years, one down on 2015 and two down on the 2007 record. It proved the poorest May of the last nine years, with highs of 40 on the 2nd, 43 on the 4th and 17th and 47 on the 7th taking the monthly bird-days total to 658; the mean 2013-2019 peak May daycount is 303.3 (with a high of 861 last year) and the mean 2013-2019 bird-days total is 1475.4 (with a high of 2457 in 2016). The highest May daycounts are of 2000 in 1953, 3000 in 1989 and 1500 in 1997 and the highest May bird-days totals are 2671 in 1948, 4185 in 1953 and 5574 in 1989. There were ten June daycounts in excess of the ten Skokholm breeders, with a high of 19 logged on the 2nd. Only one returning bird was encountered this year; AJH1020, a female ringed as an adult on 18th June 2019, was retrapped in the Library mist net on 13th August.

A pair at the Lighthouse Smoke Room were nest building from 20th May, however the nest was missing by the 26th. It was probably the same pair which were taking nest material into one of the ventilation ducts on the south side of the Lighthouse between the 9th and 12th June, however this site was soon abandoned in favour of a return to the Smoke Room where three eggs were being incubated by 7th July; although one of the eggs had gone missing by the 15th, two had hatched by

24th July and both young had fledged by 11th August. A nest in the wood store at the Farm was not seen to contain eggs, however the adults were watched dive-bombing Jackdaws on 28th May, after which the site was abandoned. This was probably the pair subsequently seen below the eaves to the north of the Wheelhouse and which were nest lining there on 5th June. The Wheelhouse pair were provisioning young by 22nd June and fledged three by 21st July. A pair on one of the purpose built ledges in the Red Hut gas store had two eggs by 30th May, however the nest was missing by 4th June; this was the second consecutive year in which an early nest at this site has been destroyed, probably by Jackdaws. It was quite possibly this pair which relocated to the nest boxes installed on the Orchid Bog Hide last autumn; a nest in the westerly box contained a single egg on 11th June, but this was soon abandoned (a later examination revealed the eggshell to be exceedingly thin). The easterly box at Orchid Bog was subsequently occupied, this containing a nest with four eggs on 20th July; all four hatched and four had fledged by 16th August. A pair at the purpose built box on North Pond Hide had constructed a nest by 7th June, however this was not lined and only a single bird lingered. The fifth 2020 pair eventually constructed a nest under the Central Block porch near Chain Locker; although there were five eggs on 28th June, only one hatched, this fledging on 29th July (a check of the abandoned nest revealed three undeveloped eggs). Two pairs made second attempts after fledging young. The Wheelhouse pair occupied the same site during August but abandoned the nest by 6th September; they had not been seen to provision chicks. The Central Block pair had built a second nest under the same porch by 9th August; two eggs were present on 14th August and two young had fledged by 18th September, the fledglings still being fed away from the nest until the 28th. The five pairs thus fledged 12 young, four fewer than were fledged by five pairs last year. The resulting productivity value of 2.40 fledged young per pair was the lowest since the 2.00 of 2014 and down on the 2013-2019 mean of 3.53 ±se 0.39 (the high during this period was 5.75 in 2016).

Although 12 together over the Farm on 25th July perhaps included birds from elsewhere, the first definite passage of autumn was not noted until the 29th when 32 were logged. A July bird-days total of 311 was the lowest of the last seven years. There were eight August daycounts in excess of 42, with highs of 113 on the 13th, 69 on the 17th and 79 on the 30th taking the bird-days total to 862; there have been higher August daycounts in nine previous years (with a peak of 478 in 2018), and higher bird-days totals in four years (with 1062 in 2016 and 1343 in 2018 the maxima). There were 25 or fewer noted on nine September dates, including a low of just two on the 11th, but 14 counts of at least three-figures including highs of 979 on the 9th, 878 on the 21st, 734 on the 27th and 1127 on the 29th; the peak daycount was the second lowest of the last nine Septembers, well down on the all-time records of 12,000 and 12,979 logged in 2014 and 2017 respectively. The September bird-days total of 6797 was the third lowest of the last nine years, 47.1% down on a 2013-2019 mean of

12,838.6 and well down on highs of 18,664 in 1993, 30,693 in 2014 and 18,018 in 2017. Sightings on 22 October dates included highs of 736 on the 1st, 724 on the 3rd and 168 on the 7th which took the bird-days total to 2180; although down on the 1105 of last year, there have only been higher daycounts in nine previous Octobers (with a peak of 2500 in 1952), whilst the bird-days total was more than double a 2013-2019 October mean of 903.6 and the seventh highest to date (down on a high of 4047 logged in 1998). One south over the Farm, early on the afternoon of 7th November, was the first November bird since nine were logged on the 4th in 2013 and only the 18th to be seen in this month; the only later birds are singles on the 28th in 1932, the 20th in 1994 and the 14th in 2001.

The total number of Swallow bird-days logged each month, along with the maximum monthly daycount and the date on which the 2020 peak was recorded. Counts from 2019 to 2015 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	0	433	658	280	311	862	6797	2180	1
2019	44	1023	1794	237	360	649	5565	1898	0
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
2020	0	78	47	19	32	113	1127	736	1
2019	34	193	861	12	29	160	1164	1105	0
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
		22nd	7th	2nd	29th	13th	29th	1st	7th

Ringing recovery AKA3650
Originally ringed as an adult, SKOMER ISLAND, PEMBROKESHIRE 10th June 2019
Recovered as an adult, COURTYARD NET, SKOKHOLM 15th June 2020
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 371

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 (3rd April 2020) **Latest** 29th October 1975 (22nd October 2020)
1 trapped
1936-1976: 17 trapped, 2015-2019: 13 trapped

One high over Home Meadow on 3rd April was two days later than the first five of last year, but five days earlier than the 2013-2019 first bird mean; there have been 23 earlier bird-days, including 14 in March. Records on 15 further April dates were all of three or less bar 11 on the 22nd and six on the 26th; although massively down on a spring daycount record of 330 logged in April 1948, there have only been higher daycounts in nine Aprils (including four of the last five). An April bird-days total of 38 was down on a 2013-2019 mean of 60.6, but up on the post-1927 mean of 18.3. There were sightings on all but four May dates, with highs of 23 on the 4th and 84 on the 5th contributing to a total of 206 bird-days; the peak daycount was the fourth highest to be made in May, down on highs of 100 in 1948, 150 in 1989 and 119 in 2016, whilst the total was the seventh highest in this month (albeit being down on three of the last four years and a 2013-2019 mean of 208.7). Although one was singing at the Farm on 8th May, no birds were seen at the Lighthouse nest boxes this year; these woodcrete cups, installed in the autumn of 2014, are yet to be used. June proved typically quiet, with two on the 2nd and singles on five further dates to the 25th being the only birds logged.

Six on the 29th took the 21st century July total to 60 and the all-time July total to 224. Although there were only sightings on five August dates, highs of nine on the 13th and 12 on the 31st led to a bird-days total of 28; there have been four higher August daycounts (three of which have been logged since 2013, including a high of 15 in that year) and one higher August total (the 51 of 2015). Autumn passage again peaked in September, with records on 13 dates from the 6th, highs of 17 on the 21st, 42 on the 27th and 120 on the 29th and a bird-days total of 230; both the peak daycount and bird-days total were down on those of 11 previous Septembers, with the 2013-2019 mean peak count being 205.4 and the monthly mean during the same period being 341.3 (the all-time records occurred in 2013 when a daycount of 710 took the total to 782). Sightings on eight October dates to the 22nd included highs of 40 on the 1st and 112 on the 3rd (with a near gale northwesterly on the latter date grounding 30 birds at Peter's Bay and smaller numbers along the South Coast); the October daycount maximum was only down on the 200 of 1939, the 250 of 1952 and the 120 of 1958, whilst a bird-days total of 179 was only down on the 207 of 1939 and the 276 of 1952. There have been eight later bird-days, four of which have been noted since 2014.

Cetti's Warbler *Cettia cetti* **Telor Cetti**
Vagrant two previous records
1 trapped, 2 retrapped

One found at the Well on 17th October was just the third for Skokholm following singles logged on 9th September 1986 and 30th September 1987 (RDB, GE). A close examination of photographs revealed it to be the same individual trapped there on the 21st and retrapped in the Library mist net on the 22nd. There were further sightings at the Well on the 23rd and 25th and it was vocal in Well Stream on the 28th and 29th prior to being retrapped on the 30th (when it was found to have increased from 11.0g to 12.4g). Further sightings on the 1st and 2nd November were the last. This species was first seen in Pembrokeshire in January 1979, although it was not until April 1983 that breeding was suspected (Donovan and Rees, 1994). Cetti's Warbler have since become regular at several suitable locations during the breeding season, particularly in the vicinity of the Teifi Marshes, between Angle and

Pwllcrochan and at various south coast sites between Castlemartin and Tenby, however the populations are occasionally extirpated by harsh winters (Haycock, 2020).

Wood Warbler *Phylloscopus sibilatrix* **Telor y Coed**
Rare Migrant recorded in 23 previous years
Earliest 7th April 1977 **Latest** 20th September 1991 (6th August 2020)
1 trapped
1936-1976: 5 trapped

A juvenile trapped at the Well on 6th August was the first since one on the same date in 2003 (RDB, GE). Of the 39 bird-days logged prior to this year, 17 have been in August (with singles in 16 years since 1961, one of which lingered for two days) and ten have been in September (with six individuals in five years, three of which lingered for up to three days). Singles in 1977 and 1988 account for the three April bird-days and eight individuals were probably responsible for the nine May bird-days logged in five years between 1979 and 1991.

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 (**18th September 2020**) **Latest** 3rd November 2017 (18th October 2020)
4 trapped
1959-1976: 2 trapped, 2013-2019: 16 trapped, 3 retrapped

A first-winter found at the Well on 18th September was trapped later that day (GE *et al*.); this was the earliest Yellow-browed Warbler to be seen on Skokholm, five days earlier than one in 2015 and 24 days earlier than the 2013-2019 first bird mean. An unringed bird was trapped in the same area two days later. A third September individual was trapped at the Cottage on the 29th; there have only been two previous September records, with a single in 1988 in addition to the 2015 bird. An unringed bird was in the Bracken near Sugar's Delight on 2nd October, another was in the Bracken near the Pedestal on the afternoon of the 12th and the last of the year was trapped in the Wheelhouse Heligoland on the 18th; there have been eight later bird-days, including just one November sighting. Six birds in an autumn was a new Skokholm record, a total up on the five of 2016 and the four of 2013 and 2015. Although clearly still a Skokholm scarcity, there have now been 25 individuals in eight years; the increase in numbers is primarily due to continued breeding range expansion to the west of the Ural Mountains, this mirroring an increase in the number wintering in western Europe. Nevertheless there have still only been approximately 43 Skokholm individuals since the first for Wales found in 1959, although recent ringing has shown that records on consecutive dates, assumed in the past to be the same individual, may have actually referred to more than one bird.

Willow Warbler *Phylloscopus trochilus* **Telor yr Helyg**
Abundant Migrant although only Common in some years
Earliest 13th March 2007 (24th March 2020) **Latest** 31st October 1954 (**10th November 2020**)
479 trapped, 63 retrapped
1936-1976: 11,665 trapped, 2011-2019: 5334 trapped, 675 retrapped, 10 controls

One above South Haven on 24th March was the first of the year, this two days earlier than the first of last year and six days earlier than the 2013-2019 first bird mean; there have only been 22 earlier bird-days, with five on the 23rd in 2017 the most recent. An analysis of the digitised Birdlog data reveals that the first individual of spring is arriving significantly earlier than it did only six decades ago (see chart below). The only other March sightings were of two on the 25th and a single the following day. Records on all but two April dates included 14 counts of fewer than ten, but highs of 54 on the 13th, 33 on the 16th and 37 on the 17th; although both the peak spring daycount and an

April bird-days total of 411 were up on those of 2019, they were otherwise the lowest for a decade, down on a 2011-2019 April bird-days mean of 661.2 and a mean peak daycount during the same period of 136.0. Half of the birds counted in spring had gone through by 17th April, this three days earlier than last year and the earliest since 2015 (when the median spring bird went through on the 15th); an analysis of the Birdlog data suggests that the median spring bird is passing through earlier than it did in the early post-War years. Individuals resembling *P. t. acredula* were logged on the 11th and 16th April, however subspecific identification of extralimital races is considered problematic (Sokolovskis *et al*., 2019); a confirmed example of *P. t. acredula* is yet to occur in Wales (Thorpe and Stratford, 2020). Sightings on all but one May date to the 13th, including peak daycounts of 11 on the 3rd and ten on the 9th, were followed by two on the 20th and singles on the 21st and 26th (the latter a female which had seemingly concluded a 2020 breeding attempt); the peak May daycount was down on a 2012-2019 mean of 32.9 and a bird-days total of 65 was the lowest of the last nine years (the 2012-2019 May mean is 134.3). A worn bird present on the 4th and 5th, along with two on the 19th, took the June bird-days total to four; although down on all-time June highs of 26 in 2013 and 17 in 2019, the bird-days total almost matched the 21st century mean. As noted in the previous seven reports, the vast majority of spring birds moved through quickly; of 199 ringed during the period, only one was retrapped subsequently (a bird ringed on 20th May still present the following day).

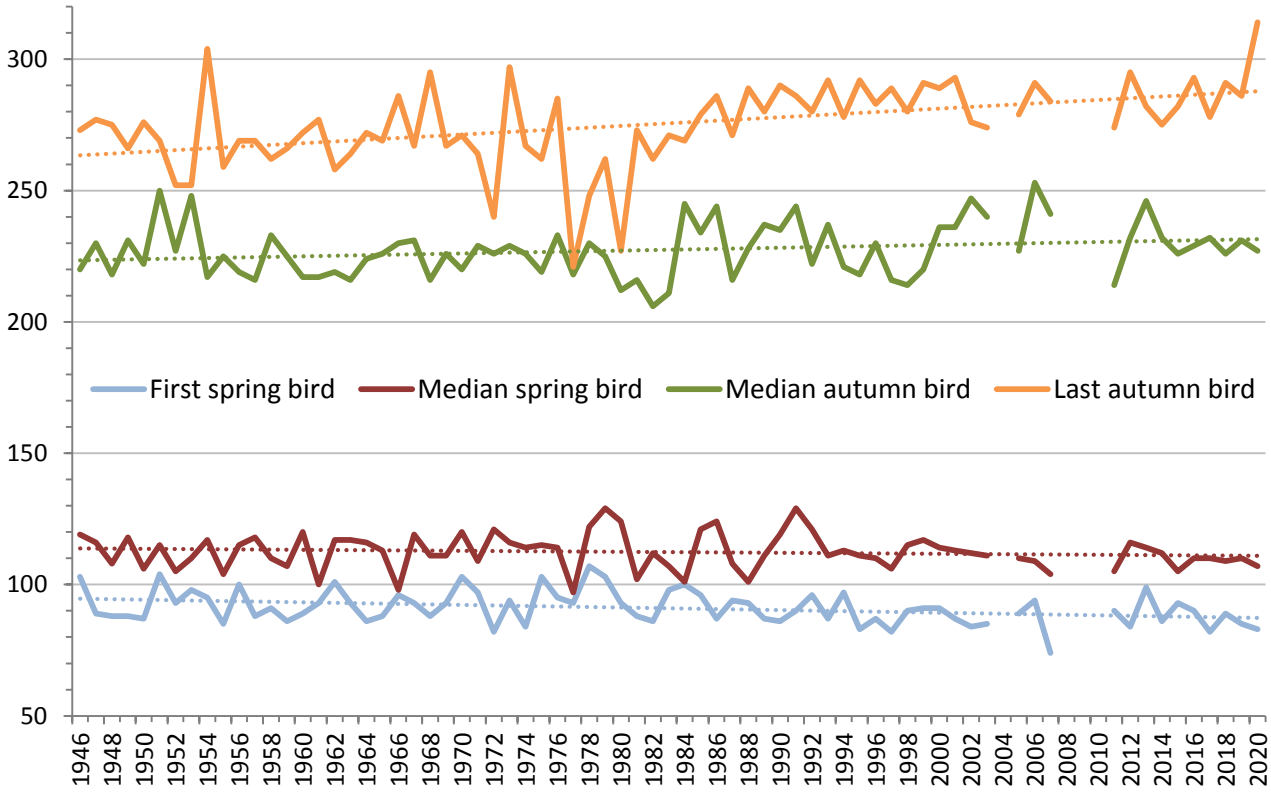
The total number of Willow Warbler bird-days logged each month, along with the maximum monthly daycount and the date on which the 2020 peak was recorded. Counts from 2019 to 2016 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	4	411	65	4	168	614	118	27	7
2019	23	322	101	17	105	312	173	14	0
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
2020	2	54	11	2	24	113	10	2	1
2019	8	38	32	4	31	32	29	3	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
	25th	13th	3rd	19th	20th	6th	3 dates	4 dates	7 dates

Two adults were trapped on 11th July and the first juvenile of the year was present the following day; the juvenile was two days later than the first of last year, but one day earlier than the 2013-2019 first juvenile mean (the earliest during this period was noted on 4th July in 2017). Birds were logged on all but two subsequent July dates, with highs of 24 on the 20th and 20 on the 24th taking the total to 168; the maximum daycount was the lowest of the last three Julys and down on a 2013-2019 mean of 31.7 (the high during that period being 101 in 2014), however the bird-days total was the highest since the 457 of 2014 and the seventh highest July tally. There were records on all but one August date; a southwesterly storm on the 25th was probably responsible for the first August day without a Willow Warbler sighting since the 22nd in 2013. Despite 13 daycounts of fewer than ten (there were 22 such counts last year), August highs of 113 on the 6th, 78 on the 15th, 69 on the 16th and 45 on the 19th led to a bird-days total of 614; the peak daycount matched that of 2015 as the 22nd highest to be noted in August (the 21 higher tallies being logged in 12 previous years), whilst the bird-days total was the tenth highest in August, down on a recent high of 785 in 2018 and a record 3938 in 1948 (which included a record-equalling daycount of 3000). There were September birds on all but four dates, with highs of ten on the 10th, 17th and 20th taking the total to 118; the peak September daycount equalled that of 2017 as the lowest since the seven of 2012, whilst the total was down on a 2013-2019 mean of 226.3 and on that of 16 previous Septembers (including highs of 828 in 1951, 475 in 1953 and 550 in 2014). A juvenile ringed on 30th August was probably the bird

seen on 18 October dates to the 26th, additional singles were near the Devil's Teeth on the 12th and in the Bog on the 14th and an adult female trapped on the 21st was likely that seen on six further October dates; an October bird-days total of 27 was only down on the 53 of 2006. The late adult, which had arrested its wing moult, was seen on seven November dates to the 10th, this the first Skokholm record in this month; its weight, which was 7.3g on 21st October, had reached 9.4g prior to its departure. The median autumn passage bird went through on 15th August, four days earlier than that of last year but one day later than that of 2018; during the last seven years the median autumn bird has been recorded in a seven day period between the 14th and 20th. The Birdlog data reveals that the median autumn Willow Warbler is passing 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 (see below chart). As was noted in the previous seven seasons, autumn birds frequently lingered for longer periods; of 280 ringed during the autumn, 13 were present for a further day or two, three were present three days later, three were present five or six days later, two were present nine days later and additional singles lingered for 16, 18, 20 and 41 days after ringing.

The number of days into the year that the first and last Willow Warblers were logged 1946-2020 and the number of days after which the median spring and autumn birds went through.



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 (17th March 2020) **Latest** 14th December 2000 (6th December 2020)
165 trapped, 71 retrapped, 1 control
1936-1976: 2565 trapped, 2011-2019: 2338 trapped, 924 retrapped, 14 controls

Although there is a possibility that early birds may have come and gone prior to the arrival of staff on 16th March, the two present at the Well on the 17th were three days earlier than the first of last year (albeit five days later than the 2013-2019 first bird mean). There followed daily March sightings from the 20th, with highs of 22 on the 24th and eight on the 25th and 27th; there have only been six

higher March daycounts, including one of 29 last year and four of up to 60 in 1989, however a bird-days total of 73 was down on a 2013-2019 March mean of 85.4 and all-time highs of 207 in 1989 and 195 last year. Daily April sightings were all of eight or less bar daycounts of ten on the 9th and 14 on the 13th which took the total to 138; the peak daycount was the lowest of the last ten Aprils, down on a 2013-2019 mean of 42.6 and an all-time high of 94 in 2018, whilst the total (albeit being the 14th highest April tally to date) was the lowest of the last nine years and down on a 2013-2019 mean of 297.3 and all-time highs of 369 in 2015 and 575 in 2018. A *P. c. tristis* trapped on 11th April (below photograph) became the second Skokholm spring record to be confirmed via mitochondrial DNA analysis (following one present between the 28th and 31st May 2017); although Siberian Chiffchaff have been noted in several autumns, with sightings in each of the last seven years and with three logged in 2018, the only other Skokholm records to be confirmed via DNA analysis were trapped on 2nd November 2014, 22nd October and 1st November 2015 and 15th November 2016.

Sightings on all but one May date included highs of six on the 4th and 8th and eight on the 10th, although no more than four were seen each day from the 11th (including male KYP550 which lingered from 4th April to 5th September and male KYP700 which lingered from 20th April to 22nd May); the peak May daycount was the lowest since 2012 and down on a 2013-2019 mean of 15.7, whilst a bird-days total of 100 was the lowest since 2013 and down on a 2013-2019 mean of 174.1 (this a period which has seen the five highest May tallies to date, including a record 307 in 2018). Sightings of up to four birds on all but two June dates to the 14th included eight different adults trapped and ringed, whilst the first two juveniles of the year were trapped on the 15th and only the lingering male was seen from the 19th onwards; despite the spring presence of two territorial males, there was no indication that the two early juveniles were the product of a Skokholm breeding attempt. A recent increase in spring numbers, coupled with maturing Well vegetation, has however led to breeding; in 2014 a pair lingered between May and October but were not successful with any nest attempt, in 2015 a pair successfully fledged at least one, in 2017 a bird observed nest building was not known to progress beyond that stage and in May 2018 birds were building in two locations (although there was no indication that either attempt produced young).

The lingering male, which was in primary moult throughout the month, was probably responsible for sightings of singles on 17 July dates, although a second bird (without a tail) was also present on the 16th and a juvenile was logged on the 25th. Likewise KYP550 was probably the same lone individual noted on 19 August dates (and which was again singing regularly from the 23rd), although it was

joined by two additional birds on the 24th and five additional birds (an adult and four juveniles) on the 31st; the peak daycount equalled the fifth highest to be made in August (the highs being 25 in 1952 and 17 in 2017). Chiffchaff were noted on all but two September dates, although it was not until five on the 10th that a daycount of more than one was logged, whilst 17 on the 17th and 20 on the 18th and 20th were the only daycounts of more than ten; the peak daycount was down on a 2013-2019 September mean of 63.9 (this a period which included all-time highs of 128 in 2013 and 133 in 2014), whilst a bird-days total of 140 was the lowest since 2016, down on a 2013-2019 mean of 263.3 (this a period which included six of the eight highest September tallies and an all-time high of 482 in 2014). Two (silent) birds resembling *P. c. tristis* were present on 24th September, one of which was trapped, however DNA analysis is not currently a priority for autumn individuals. Counts on 26 October dates were all of five or less bar nine on the 12th and seven on the 18th; although down on a 2013-2019 October mean of 30.0, the peak daycount matched that of last year, whilst a bird-days total of 66 was the lowest since 2012 and down on a 2013-2019 mean of 208.9 (this a period which included the four highest October tallies, with a peak of 307 in 2014). An adult present between 15th October and 6th December and a juvenile present between 5th November and 1st December accounted for the majority of November sightings, although an additional bird was present on three dates (including a Danish control on the 26th) and two additional birds were present on the 19th and 25th; a bird-days total of 47 was the fourth highest November tally, down on 109 in 2014, 112 in 2015 and 48 in 2018. The two lingering birds accounted for seven December bird-days to the 6th; singles on the 1st in 1998 and on the 2nd and 14th in 2000 are the only other sightings in this month, although (given the increase in the number of birds overwintering in Wales), it would seem likely that an absence of staff during the winter months will have resulted in birds going unrecorded.

The total number of Chiffchaff bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2020 peak was recorded. Counts from 2019 to 2016 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	73	138	100	44	19	28	140	66	47
2019	195	226	107	20	7	16	251	113	3
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
2020	22	14	8	4	2	6	20	9	4
2019	29	21	16	3	2	4	65	9	1
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
	24th	13th	10th	1st & 7th	16th	31st	18th & 20th	12th	19th & 25th

Ringing recovery DKC R77016
Originally ringed as an adult, GEDSER FUGLESTATION, STORSTRØM, DENMARK 12th April 2020
Recovered as an adult, WELL 9 MIST NET, SKOKHOLM 26th November 2020
Distance travelled 1192km at 255 degrees (WSW)
Days since ringed 228
This was a striking looking Chiffchaff which appeared a close match for a Scandinavian breeding *P. c. abietinus*, however DNA analysis of a dropped feather revealed it to be a nominate bird.

Ringing recovery POL X63325
Originally ringed as a juvenile, CHARRITO-SILVES, FARO, PORTUGAL 4th October 2018
Recovered as a first-summer, WELL HELIGOLAND, SKOKHOLM 12th April 2019 (sic)
Distance travelled 1634km at 9 degrees (N)
Days since ringed 190

Although ringed in Portugal as an Iberian Chiffchaff, a close inspection of the moult state and plumage revealed this individual to be *P. c. collybita* (photographs taken at the time encouraged the BTO to update their database to reflect this).

Greenish Warbler *Phylloscopus trochiloides* **Telor Gwyrdd**
Vagrant seven previous records
Earliest 31st May 2019 (23rd June 2020) **Latest** 31st August 1960, 1961 and 1976
1 trapped
1936-1976: 3 trapped, 2013-2019: 2 trapped

One found in the Courtyard on 23rd June was subsequently trapped in the Cottage Heligoland, this 23 days later than one trapped in the same Heligoland last year (RDB, GE). The first three Skokholm birds were all found in autumn, coincidentally all being present on the same date; they were logged on 31st August 1960, the 30th and 31st August 1961 and on 31st August 1976. The latter five records have all occurred in spring, with birds present on 23rd June 1997 (the same date as this year's individual), the 4th and 5th June 2003 and 18th June 2013 in addition to those seen in 2019 and 2020.

Sedge Warbler *Acrocephalus schoenobaenus* **Telor yr Hesg**
Common Migrant and Uncommon Breeder previously a Scarce Breeder
Earliest 6th April 1961 and 2005 (11th April 2020) **Latest** 2nd November 2019 (14th September 2020)
73 trapped, 43 retrapped, 1 control
1936-1976: 1977 trapped, 2011-2019: 1255 trapped, 663 retrapped, 15 controls

One singing at the Well on 11th April was one day later than the first of last year, but four days earlier than the 2013-2019 first bird mean; there have only been four earlier individuals, with singles on the 6th and 10th in 1961 and one present for three days from the 6th in 2005 (in addition to last year's bird). Sightings on 15 further April dates were all of four or less bar nine on the 26th (which included one ringed at Lands End in the July of 2018); there have been 15 higher April daycounts, however a bird-days total of 41 was only down on the 46 recorded in the Aprils of 2011 and 2014. Although birds were seen on each May date, daycount highs of 12 on the 8th and 24th took the total to just 214; both the peak daycount and bird-days total were the lowest in May since 2012, down on respective 2013-2019 means of 23.6 and 323.0 (the 365 bird-days logged last year was the third highest May total behind the 575 of 1953 and the 376 of 1967). There were eight ringed birds which were known to return this year; three ringed as juveniles in 2019 had survived their first winter, one ringed as a juvenile in 2018 had survived a second winter, one ringed as an adult in 2019 had survived at least two winters, one ringed as a juvenile in 2017 had survived three winters (ringed at the Well and retrapped opposite the Library having not been encountered in 2018 or 2019) and two males ringed at the Well as adults in 2017 were again there after surviving at least four winters.

The number of Sedge Warbler breeding pairs 2004-2020.

2004	2005	2006	2007	2008-09	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
5	7	3	4	-	4	13	4	8	9	7	11	13	15	15	15

There were a minimum of 15 breeding territories, this equalling the record tallies of 2018 and 2019; six territories included areas of fresh water, whilst pairs at the Hills, Boundary Hill, the Top Tank, the Knoll, to the south of Home Meadow, above Smiths Bay, on Isthmian Heath, around the Red Hut and south of South Pond occupied drier areas. Birds were first watched nest lining at the Well on 18th May (two days earlier than in 2019), adults were first seen to be provisioning chicks at the same site on 15th June (five days earlier than in 2019) and the first two fledglings were there on 23rd June; the first fledglings were logged on 5th July last year, on 26th June in 2018 and on 1st July in 2017. Productivity proved impossible to calculate, primarily due to youngsters frequenting dense cover, closely positioned territories and the early arrival of fledglings from elsewhere, whilst a COVID-19

dictated reduction in trapping effort meant that the total of five juveniles ringed during July was not comparable with previous years (the 2013-2019 mean is 42.6, with a high of 68 in 2018 and a low of 20 in 2013). Skokholm breeders were still feeding young to the south of the Knoll on 19th August, this the same date as that on which the last observed food delivery of 2018 was logged (but 11 days earlier than the last of 2019). Although the appearance of birds in unusual locations and a steady turnover of unringed individuals were indicative of an autumn passage, peak daycounts of 16 on the 6th and 14 on the 7th were the lowest of the last five Augusts; an August bird-days total of 213 was the lowest of the last eight years, down on a 2013-2019 mean of 275.6 and an all-time record of 409 logged in 2018. Sightings on ten September dates were all of four or less, with a bird-days total of 27 being the second lowest of the last eight years (down on a 2013-2019 mean of 45.9 and an all-time high of 75 in 2013). One on 14th September was the last of the year; there have been 447 later bird-days, including 34 in October and one present on the 1st and 2nd November last year which is the latest to date. There were 50 juveniles ringed during the autumn, this 51 fewer than last year and a total well down on a 2013-2019 mean of 106.1 (a high of 199 was recorded in 2018).

Ringing recovery AFD1249
Originally ringed as a juvenile, NANJIZAL, LANDS END, CORNWALL 7th July 2018
Recovered as an adult, LIBRARY NET, SKOKHOLM 26th April 2020
Distance travelled 186km at 10 degrees (N)
Days since ringed 659

Ringing recovery AJH1101
Originally ringed as a juvenile, WELL HELIGOLAND, SKOKHOLM 19th July 2019
Recovered as an adult, SKOMER ISLAND, PEMBROKESHIRE 21st May and 24th June 2020
Finding condition Intentionally taken
Distance travelled 4km at 343 degrees (NNW)
Days since ringed 307 and 341

Ringing recovery AJH1306
Originally ringed as a juvenile, REEDBED NET, SKOKHOLM 27th August 2019
Recovered as an adult, SKOMER ISLAND, PEMBROKESHIRE 21st May 2020
Subsequently recovered as an adult male, WELL HELIGOLAND, SKOKHOLM 1st June 2020
Finding condition Intentionally taken
Distance travelled 4km at 343 degrees (NNW)
Days since ringed 268

Ringing recovery ATJ2381
Originally ringed as an adult, WHEELHOUSE HELIGOLAND, SKOKHOLM 10th May 2020
Recovered as an adult, TIDMOOR, THE FLEET, DORSET 22nd and 23rd July 2020
Finding condition Intentionally taken
Distance travelled 229km at 122 degrees (ESE)
Days since ringed 73 and 74

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 (25th April 2020) **Latest** 30th October 1997 (21st October 2020)
5 trapped
1936-1976: 15 trapped, 2011-2019: 80 trapped (including 4 pulli), 52 retrapped, 2 controls

The first of the year was logged on 25th April, this five days earlier than the first of last year and three days earlier than the 2013-2019 first bird mean; there have been nine earlier bird-days, five of which were noted in 2018. The only May sightings were of one at the Farm on the 6th, one singing at North

Pond on the 7th, one ringed at the Wheelhouse on the 8th, an unringed bird at the Well on the 18th and two on 20th; although there have only been four higher May tallies, with peaks of 42 in 2017 and 13 last year, a 2020 bird-days total of six was the lowest of the last five Mays. One singing at the Well on 1st June had seemingly attracted the attention of a second bird, although disappointingly there were no further sightings until August; a June bird-days total of two was the lowest of the last five years, down on highs of 30 in 2016 (when Reed Warbler bred for the first time) and 25 in 2017 (when the 2016 male lingered at the Well). A juvenile trapped on 31st August made this the 20th year with a sighting in this month, although there had been earlier autumn birds in eight of the previous nine years. A juvenile at the Bluffs on the 13th was the only September observation; there have been higher September totals in 22 previous years, including each of the last nine, with a 2013-2019 September bird-days mean of 11.1 and a peak of 16 logged in 2016, 2018 and 2019. A juvenile mist netted at the Well on 21st October was the last of the year; there have been 17 previous October bird-days, including two last year, whilst one on the 24th and 25th in 1968 and one on the 30th in 1997 are the only later sightings. Although four of the five highest autumn bird-days totals have come in the last five years (including all-time highs of 97 in 2016 and 51 in 2017), a 2020 autumn total of three was the lowest since 2010.

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 2020) **Latest** 12th October 1955 (19th September 2020)
1 trapped, 1 retrapped
1936-1976: 37 trapped, 2011-2018: 5 trapped, 2 retrapped

One present in the lee of Migration Rocks on 2nd September was sheltering from a lashing drizzle (BD, RDB *et al*.); this was the first since one found on the same date in 2018 (which lingered until the 5th). A different, paler and less worn bird was trapped in the Library mist net on 10th September (WJ *et al*.); this individual was seen between the Well and the Knoll on six further dates to the 19th.

Following the first for Skokholm in October 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 of 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), one on 15th May 2015 and one present between 28th September and 8th October in 2017.

Grasshopper Warbler *Locustella naevia* **Troellwr Bach**
Uncommon Migrant occasionally absent in autumn
Earliest 30th March 1981 (19th April 2020) **Latest** 7th November 1968 (19th September 2020)
1 trapped
1936-1976: 298 trapped, 2011-2019: 60 trapped

The first of the year was at the Well on 19th April, this one day earlier than the first of 2019 and on the same date as the 2013-2019 first bird mean (the firsts of 2014, 2017 and 2018 were also on the 19th); there have been 103 earlier bird-days, including one in March. One trapped in the Wheelhouse mist net on the 23rd and one at East Bog on the 26th were the only other April sightings; an April bird-days total of three was down on a 2013-2019 mean of 8.6, this a period which included a 21st century high of 25 in 2017 (the all-time April highs are 68 in 1966, 80 in 1967 and 60 in 1971). One along the eastern path to the South Coast on 1st May was the last of the spring; a lone May bird-day matched that of 2016 and 2017 as the lowest tally since a blank 2012 (there were record May counts of 73 in 1960, 38 in 1967 and 54 in 1970, whilst the post-1991 high is of ten in 2001). The only autumn record was of what was presumed to be the same individual at North Pond on the 18th and 19th September; the 2013-2019 autumn bird-days average is 2.6, a mean down on totals of between eight and 39 logged in six autumns (all between 1960 and 1971) and well down on a remarkable 99 found in the autumn of 1970.

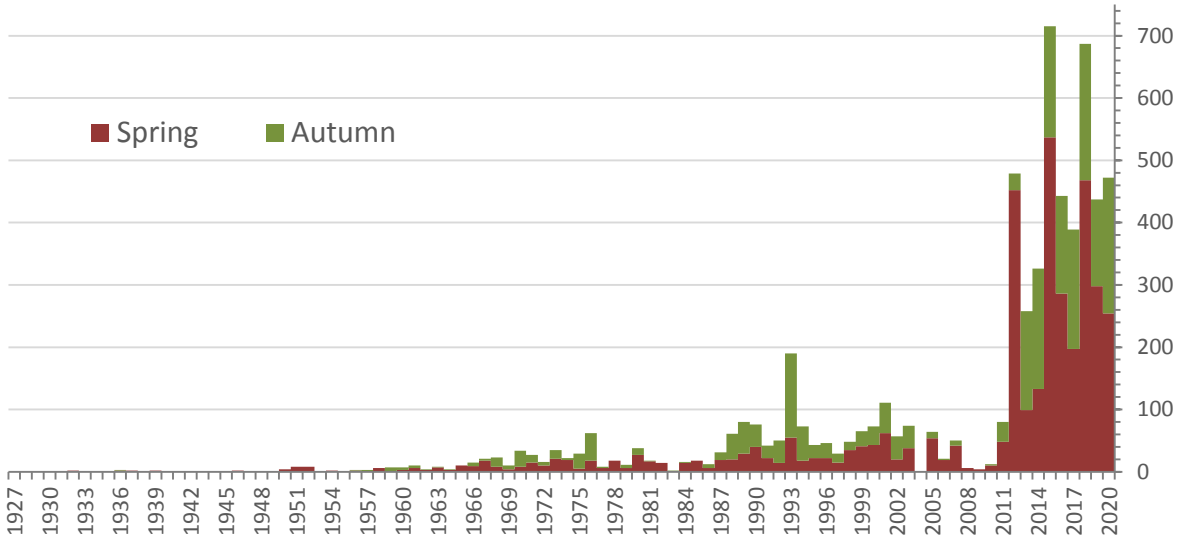
Blackcap *Sylvia atricapilla* **Telor Penddu**
Common but recorded by both Thompson and Betts as Uncommon and Scarce prior to the 1960s
Earliest 9th March 1997 (19th March 2020) **Latest** 2nd December 1996 (13th November 2020)
215 trapped, 24 retrapped, 1 control
1936-1976: 211 trapped, 2011-2019: 1517 trapped, 222 retrapped, 2 controls

A male at Boundary Hill on 19th March was three days earlier than the first of last year and ten days earlier than the 2013-2019 first bird mean; there have only been two earlier spring records, with singles logged on the 9th in 1997 and on the 15th in 2012. Two females on the 22nd, lone males on the 26th and 27th and three on the 28th took the March tally to eight; prior to last year there had only been 26 March bird-days (with a high of six in 2012) and a peak March daycount of three (also in 2012), although 2019 saw a daycount of eight take the total to 14. Following a male in the Courtyard on the 4th, there were sightings on all but one April date between the 7th and 28th, with highs of 13 on the 11th, 32 on the 13th and 19 on the 19th taking the bird-days total to 189; both the peak daycount and bird-days total were down on respective 2013-2019 April means of 63.4 and 226.0, although there have only been ten higher daycounts and four higher totals in this month (a daycount of 164 in 2018 was the highest to be logged in any month, whilst 469 in April 2015 is the highest bird-days total in any month). Daycounts of up to five on 19 dates took the May bird-days total to 38, this the seventh highest May tally but the third lowest of the last nine years. Different singles on four dates to the 8th, daily sightings of up to four birds between the 12th and 16th and a male on the 25th led to a June bird-days total of 19; the peak daycount equalled the June record set in 2013 and 2015, whilst the total was a new June high. A juvenile ringed on 16th June was the earliest to be recorded on Skokholm; the only previous June juveniles were logged on the 20th in 2014 and on the 27th last year. As noted for other species, Blackcaps typically moved through quickly during spring; of 117 ringed during the period, four birds were retrapped the following day and one was retrapped two days later (six of 121 lingered for up to six days last year).

A juvenile ringed on the 29th was the sole July sighting; although there have only been 50 previous July bird-days, records in all but one year since 2011 have totalled 39. August was typically quiet,

with an adult female on the 17th and different juveniles on the 28th and 29th the only birds logged; sightings in ten previous Augusts totalled 27 bird-days, with a high of six in 2011. It proved the most productive September to date, with records on all but three dates from the 5th and highs of eight on the 22nd, 34 on the 25th and ten on the 26th taking the total to 115 (which matched the total number of September bird-days logged between 1936 and 2001 inclusive); a daycount of 21 in 2017 and a total of 84 last year were the previous September highs. October was surprisingly quiet for a second consecutive year, with daycounts of up to seven on all but one date to the 18th, nine on the 21st, a single on the 30th and two on the 31st leading to a total of 76; although up on the 42 of last year, the bird-days total was otherwise the lowest since 2012 (down on a 2013-2019 October mean of 94.9 and a record 127 logged in 2018). Four different individuals accounted for daycounts of up to two on each November date to the 13th, the bird-days total of 23 only being down on the 24 of 1993; there have been 40 later bird-days. Although late (and possibly even overwintering) birds could be going undetected due to an absence of staff in the winter months, there were no 2020 sightings between 14th November and 7th December; a male on the 1st and 2nd in 1996 remains the only December record. Of 98 birds ringed during the autumn, four were present the following day, three were present for two more days and singles were present for three, four, five and six further days.

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



The total number of Blackcap bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2020 peak was recorded. Counts from 2019 to 2016 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	8	189	38	19	1	3	115	76	23
2019	14	236	42	6	5	1	84	42	7
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
2020	3	32	5	4	1	1	34	9	2
2019	8	35	19	2	1	1	12	13	3
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
	28th	13th	4th & 10th	15th	29th	3 dates	25th	21st	10 dates

Ringing recovery FRP 8903410
Originally ringed as a first-winter male, LA TRIMOUILLE, SAINTE-SOLINE, FRANCE 3rd September 2020

Recovered as a first-winter male, COURTYARD MIST NET, SKOKHOLM 15th October 2020
Distance travelled 721km at 328 degrees (NNW)
Days since ringed 42
The rise in the number of Blackcaps wintering in Britain has been linked to an increase in both winter temperatures and the availability of supplementary food at garden bird feeders (Plummer *et al*., 2015). The majority of wintering birds have proven to be from central Europe, indeed this control is from quite far south for a potential British winterer.

Garden Warbler *Sylvia borin* **Telor yr Ardd**
Uncommon Migrant although Scarce between 2005 and 2012, in 2017 and in 2018
Earliest 6th April 1966 (24th April 2020) **Latest** 2nd November 1968 (18th October 2020)
3 trapped
1936-1976: 172 trapped, 2013-2019: 26 trapped, 6 retrapped

One in the Elder at Boundary Hill on 24th April was nine days earlier than the 2013-2019 first bird mean and the earliest spring arrival since one on the same date in 2015; there have been 25 earlier bird-days, 12 of which were logged in 1966 and six of which were in 1983. One trapped in the Courtyard on the 26th was the only other April sighting, a bird-days total of two equalling the sixth highest tally in this month and taking the all-time April bird-days total to 58.

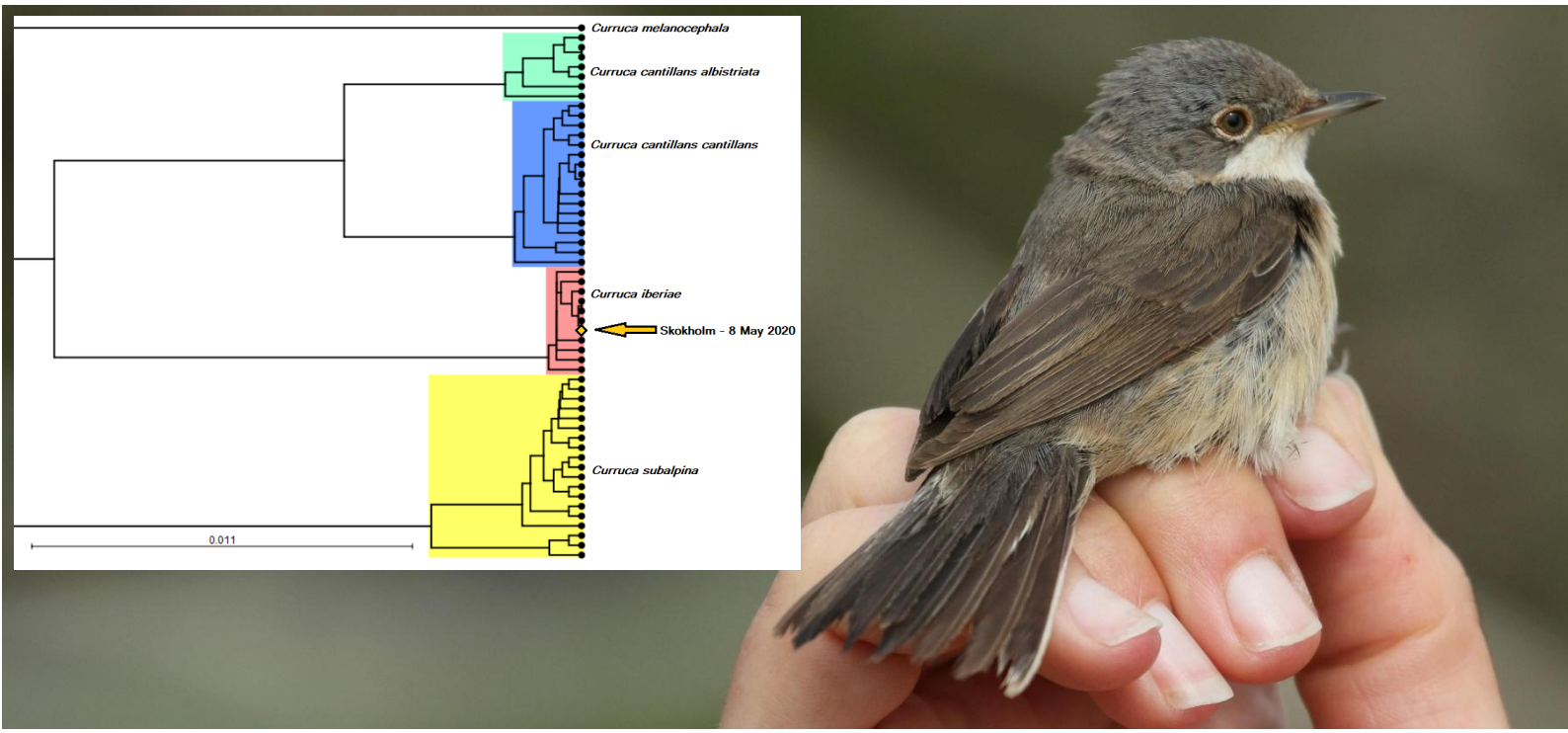
One was in Calf Bay on 6th May, whilst one trapped in the Library mist net on 8th May was probably the ringed bird present between Orchid Bog and the Well the following day. A spring bird-days total of five was one down on that of last year and was down on 30 further spring totals (all ranging between six and 16, bar the 20 of 1988 and the 62 of 1993). One north of Home Meadow on 14th August was the first of the autumn and made this the 32nd year with a sighting in this month (with a total of 64 bird-days logged). Different singles on the 25th, 27th and 29th September, along with one present north of the Wheelhouse on the 17th and 18th October, took the autumn bird-days total to six; there have been 27 higher autumn totals, with recent peaks of 17 in 2014 and 13 in 2015 and all-time highs of 22 in 1968, 26 in 1969 and 31 in 1971.

Lesser Whitethroat *Curruca curruca* **Llwydfron Fach**
Scarce Migrant not recorded every year
Earliest 20th April 2016 (8th May 2020) **Latest** 3rd November 1927
1 trapped
1936-1976: 31 trapped, 2011-2019: 20 trapped, 7 retrapped

A first-summer trapped in the Wheelhouse Heligoland on 8th May was eight days later than the first of last spring and the only sighting this year. A single bird-day matched the 2018 total as the lowest since a blank 2012. There have only been 187 Skokholm bird-days, with highs of six in 1994, 1999, 2011 and 2016, seven in 2014, eight in 2019, 14 in 1990 and 24 in 2013 (the latter tally comprising a June single and at least four different autumn individuals logged over 16 October dates).

Western Subalpine Warbler *Curruca iberiae* **Telor Brongoch y Gorllewin**
Vagrant no previous records, but 13 'Subalpine Warbler' logged, including the first for Wales in 1953
1 trapped
1936-1976: 3 'Subalpine Warbler' trapped, 2013-2016: 2 'Subalpine Warbler' trapped

A female mist netted at the Well on 8th May exhibited the warm underpart tones and restricted white tips to the rectrices typical of *C. iberiae* and Moltoni's Warbler *C. subalpina* (RDB, GE); the mitochondrial DNA analysis of a dropped feather revealed it to be of the former species, this the first to be confirmed on Skokholm and the second to be seen in Pembrokeshire (see phylogram below).



There have been 16 previous Skokholm records of birds from the Subalpine Warbler complex, three of which have been accepted as Eastern Subalpine Warbler *C. cantillans* (see below) and 13 of which are not currently attributable to species level. The first for Skokholm and Wales was a first-winter female trapped on 1st October 1953, this one of only two autumn records (the other a female or first-winter present on 3rd November 2001). A first-year male was trapped on 3rd May 1970 and an adult male was trapped on 7th June 1976, whilst accepted records after the closure of the Bird Observatory are of a female on 11th May 1990, a male on 15th May 1992, an unsexed bird on 29th May 1994, different females on the 7th and 29th May 1995, an unsexed bird between the 2nd and 8th April 2001 and a male on the 4th and 5th May 2003 (the latter two are the only birds seen on more than one date). A first-year female trapped on 16th May 2013 seemingly belonged to one of the western species, but feathers were not retained for analysis, whilst feathers from a female trapped on 13th May 2016 were retained, however these have gone missing prior to DNA analysis. Although it will not now be possible to attribute previous sightings to one or other of the western species, it may be possible to identify some as Eastern Subalpine Warbler (were photographs of tail pattern and underpart colour to become available).

Eastern Subalpine Warbler *Curruca cantillans* **Telor Brongoch y Dwyrain**
Vagrant three previous records, along with 13 previous 'Subalpine Warbler'
1936-1976: 3 'Subalpine Warbler' trapped, 2013-2016: 2 Eastern and 2 'Subalpine Warbler' trapped

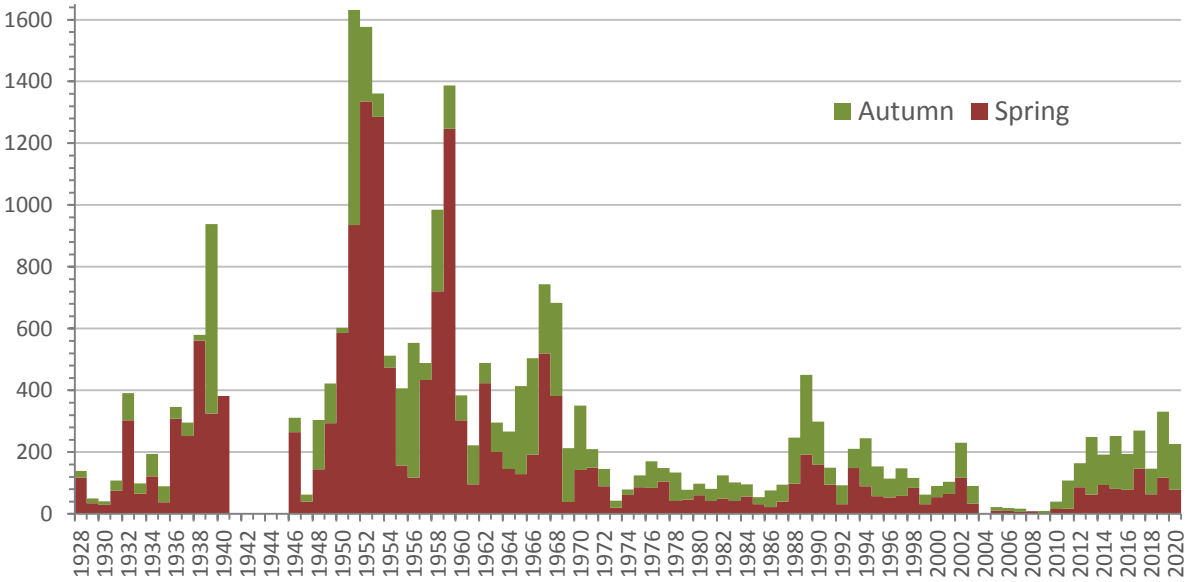
A male feeding among Elder and Tree Mallow at Crab Bay on 9th May (the day after the Western Subalpine Warbler) exhibited the plumage tones and tail pattern typical of this species (extensive white on the second-outermost rectrices extended to a point up the inner webs). It was a distinctive individual, with missing forecrown feathers perhaps indicative of a shed pollen horn. If accepted as such by the British Birds Rarities Committee, this will be the fourth for Skokholm following an unsexed bird present on 15th May 2014 and different males trapped on 24th April and 14th May 2016. See above for details of 13 further records of individuals in the Subalpine Warbler complex.

Whitethroat *Curruca communis* **Llwydfron**
Fairly Common Migrant previously Common and has bred in nine years (most recently in 2019)
Earliest 5th April 1966 (17th April 2020) **Latest** 30th October 1968 (23rd September 2020)
65 trapped, 9 retrapped, 1 control
1936-1976: 5898 trapped, 2011-2019: 469 trapped, 130 retrapped, 7 controls

The first two of the year were logged on 17th April, this two days earlier than the 2013-2019 first bird

mean; in each of the previous seven seasons the first has arrived between the 17th and 20th April, whilst there have been 65 earlier bird-days, 57 of which were logged prior to 1968. Sightings on 11 further April dates included highs of ten on the 19th and 26th and eight on the 24th; the peak daycounts matched those of 1966 and 2017 as the highest in April since the 20 of 1961, whilst a bird-days total of 49 was 11 up on last April and the highest tally in this month since the 80 of 1966 (there were typically more April birds prior to 1969, with daycounts of up to 200 contributing to monthly totals of up to 288). Records of up to four birds on eight May dates to the 14th and a single on the 30th led to the lowest May tally since the five of 2011, a total of 18 being well down on a 2013-2019 May mean of 62.6 (the high during this period was 100 in 2017); historically May has proven the most productive month of the year, with daycount highs of 500 in 1952 and 1959 leading to record monthly totals of 1215 and 1223 respectively. Singles were logged on three June dates to the 8th, two on the 12th included a singing male, one was at the Cottage on the 17th and a territorial male sang from the Well, Home Meadow and the Courtyard on each date between the 25th and 29th; a bird-days total of 11 matched a 2013-2019 June mean of 10.1. There was no evidence of a 2020 breeding attempt; territorial males built cock-nests in 2014, 2015 and 2017, whilst the first confirmed breeding since 1998 saw a pair fledge two last year.

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



Following singles on the 8th and 11th, the first confirmed juvenile of the year was one of two birds logged on 12th July; the first 2020 youngster was 12 days later than the first mainland juvenile of last year, one day later than the first of 2018 and two days earlier than the first of 2017. There followed sightings of up to five birds on all but four subsequent July dates, taking the monthly bird-days total to 39; the tally was the third highest of the last eight Julys, but down on the 64 of 2013, the 90 of last year and a 2013-2019 July mean of 42.0. Sightings on 26 August dates were all of four or less bar seven on the 6th, 12 on the 13th and ten on the 14th and 16th; the peak August daycount, although down on the 17 of last year, was otherwise the highest since the 40 of 1968 (albeit massively down on earlier daycounts of up to 500), whilst a bird-days total of 84 was the fourth highest August tally since 1968 (the August record is the 595 logged in 1939). Up to four were seen on 15 September dates to the 23rd, a bird-days total of 25 being down on a 2013-2019 mean of 31.1, a recent high of 60 in 2013 and 30 previous September totals which peaked at 682 in 1951 and 405 in 1956. The last of the year was two days earlier than the last of 2019; there have been 392 later bird-days, including 89 in October and later birds in every year since 2011.

Ringing recovery AKF6216
Originally ringed as a juvenile, SKOMER ISLAND, PEMBROKESHIRE 21st July 2020

Recovered as a juvenile, WHEELHOUSE HELIGOLAND, SKOKHOLM 1st August 2020
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 11

Firecrest *Regulus ignicapilla* **Dryw Fflamben**
Scarce Migrant recorded in 42 years since 1949, including 25 since 1988. More regular in autumn
2 trapped, 2 retrapped
1936-1976: 23 trapped, 2013-2019: 20 trapped, 13 retrapped

A male in North Haven on the 25th and one in Purple Cove on the 31st were the first March records since 2006 and the only spring sightings this year; there have been 13 previous March bird-days, almost certainly involving lone individuals present in seven years (two of which probably lingered for four and five days respectively). Two in the Quarry on 18th September were the first of the autumn, these two days earlier than the first of last autumn and five days earlier than the 2014-2019 first of autumn mean. A first-winter female trapped in the Reedbed mist net on the 19th and seen on each date to the 22nd took the September bird-days total to six; there have been 55 previous September bird-days, 24 of which have been recorded since 2012 (including nine last year). Another first-winter trapped in the Wheelhouse Heligoland on 5th October was the last of the year, this two days later than the last of 2019. A total of four autumn individuals was the most since the ten of 2017 (when there were 20 bird-days); there were 11 individuals encountered in 2015 (accounting for a record 39 bird-days) and a record daycount of seven was logged in October 1967.

Goldcrest *Regulus regulus* **Dryw Eurben**
Common but only Fairly Common in some years
37 trapped, 14 retrapped
1936-1976: 438 trapped, 2011-2019: 774 trapped, 194 retrapped

Sightings on all but one date between the 16th and 27th March were of three or less bar the six logged on the 24th; although a March bird-days total of 23 was fractionally down on a 2013-2019 mean of 25.3, it was only down on that of 14 previous Marches (including a record 124 in 1974), whilst the peak daycount equalled the tenth highest in March this century (down on an all-time high of 24 logged in 2017). The only April records were of one in Crab Bay on the 1st and one at the Dents on the 19th; an April bird-days total of two was the lowest since 2012, a tally down on a 2013-2019 mean of 26.7 and all-time highs of 112 in 1972, 101 in 1975 and 84 in 2018. There were no August Goldcrest for the first time since 2013 and for only the second time since 2009, with six on 5th

September being the first of the autumn. Sightings on 23 September dates included highs of ten on the 6th, 22nd and 29th and 19 on the 27th which took the bird-days total to 115; the peak daycount and bird-days total were down on 2013-2020 means of 37.1 and 285.1 respectively, although there have only been 16 higher September tallies (six of which were logged between 2014 and 2019, including a record 728 in 2017 which included a record September daycount of 121). Daily October sightings to the 15th included highs of 17 on the 5th, 16 on the 7th and ten on the 8th, whilst two on the 18th, five on the 21st and three on the 22nd took the monthly total to 102; the bird-days total was down on a 2013-2019 mean of 229.0 and the lowest of the last six years, albeit the 23rd highest to date (the October highs are the 346 of 1975, the 452 of 1988 and the 344 of 2017). Despite a staff presence throughout the month, there were no November records for the second time in eight years; birds have been logged in 25 previous Novembers, with bird-day highs of 56 in 2015 (when there was a November record daycount of 16) and 31 last year. Birds again lingered for longer in autumn than they had in spring; of 36 Goldcrest ringed during the autumn, four were retrapped one day later, five were retrapped two days later and singles were retrapped four, five and six days later.

Wren *Troglodytes troglodytes* **Dryw**
Fairly Common Breeder only noted as a Common Winter Visitor prior to first breeding in 1988
75 trapped, 60 retrapped
1936-1976: 876 trapped, 2011-2019: 691 trapped, 507 retrapped

The 72 territorial males mapped this year included 66 registered on multiple visits and six singing in discreet areas but only noted on one of four survey dates; this was a new high, a tally three up on the record set last year. The last ten 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. A paper published in Bird Study suggested that the song of the Skokholm Wren is up to 66% longer and at a lower frequency than that of birds recorded on two other Welsh islands and on the local mainland, differences attributed to cultural drift or local dialect formation rather than being the result of selective pressures driven by differences in environment or ambient noise (Gonzalo-Tarodo *et al*., 2020). The first fledglings were logged on 13th June, these the latest of the last eight years and nine days later than the 2013-2019 first fledgling mean (the earliest during this period were logged on 30th May 2018 and the latest on 10th June 2014). Prior to the establishment of Wren as a Skokholm breeding species, this was considered a common winter visitor (with a

substantial arrival noted each October); it is arguable that a September arrival is evident in the 2020 daily census figures (see table below), although it is possible that birds are also more active during this post-moult period.

The total number of Wren bird-days logged each month 2018-2020. Note that the March and November recording periods are different each year.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	575	1558	1238	1064	544	662	824	820	659
2019	1165	1422	1395	1288	1037	653	652	818	677
2018	763	1129	1451	1337	975	930	701	945	591

Of seven Wren retrapped in 2020 which had been ringed in previous years, three ringed as juveniles in 2019 had survived their first winter, two ringed as juveniles in 2018 and one ringed as a first-summer in 2019 had survived their second winter and one ringed as a juvenile in 2016 had survived a fourth winter; JDJ539, ringed as a juvenile on 27th August 2016, was retrapped on 1st October after four years, one month and five days (the oldest known British Wren wore a ring for seven years, three months and six days, whilst the oldest Skokholm bird reached five years and three days).

Rose-coloured Starling *Pastor roseus* **Drudwen Wridog**
Vagrant four previous records

A female found at Wheatear Rock on the morning of 21st June soon flew west, eventually being relocated at the Bluffs where it fed for the remainder of the day (GE, RDB). This arrived as part of a substantial influx into Britain which saw birds reported at over 175 sites (including 11 in Wales) during June alone. The first for Skokholm was found as recently as 8th June 2000, this adult being noted on each of the next two days. The remaining three accepted records were all logged in 2002, with a 'sub-adult' present on the 3rd and 4th June, an adult present on the 7th, 9th and 17th June and a juvenile present on the 19th, 20th and 30th September and the 1st, 2nd and 3rd October.

Starling *Sturnus vulgaris* **Drudwy**

Very Abundant bred from 1946, peaking at 53 pairs in the 1960s, with the last known pair in 2006
7 trapped
1936-1976: 1082 trapped, 2013-2019: 80 trapped

There were 65 logged on the 22nd during a rare January visit. Daily March sightings from the return of staff on the 16th included highs of 33 on the 17th and 45 on the 19th which took the monthly bird-days total to 314; the mean 2013-2019 total for the same period is 185.0, with a high of 669 in 2018 being the only total up on that of this year and a low of five logged in 2017. Eight were together on the 1st and 2nd April, although only singles were noted thereafter, with sightings on seven dates to the 10th, a male singing in the Courtyard on the 20th and birds on the 27th and 29th; an April bird-days total of 26 was the fourth highest since 2007, down on the 44 of 2011, the 70 of 2013 and the 113 of 2018. An adult male was again at the Farm on the 28th and 29th May, whilst two juveniles there on the 30th were the first of the year; the 2017-2019 first juvenile mean is 26th June, although only three juvenile plumaged birds were noted during this period (a sad reflection of the Pembrokeshire breeding population which saw a 90% decline in numbers between 1988 and 2007 (Rees, 2012)). It proved the most productive June since 2001, with an adult on the 13th followed by nine on the 24th, 38 on the 25th (including five juveniles) and between 108 and 156 on each of the following five days (including at least 20 juveniles); the peak daycount (logged on the 29th) was the third highest to be recorded in June, down on the 200 of 1993 and the 270 of 1989, whilst a bird-days total of 699 was up on a 2013-2019 mean of 15.1 and the highest since the 942 of 2001 (the June high is the 1461 of 1989, this despite the fact that Starlings were only listed as 'present' on 12 dates).

Birds remained throughout July, with daily sightings, highs of 120 on the 1st, 100 on the 3rd and 115 on the 19th and lows of 30 on the 4th, seven on the 14th and 31 on the 15th; the peak July daycount was the highest since the 350 of 2001, whilst a bird-days total of 1977 was up on a 2013-2019 mean of 32.4 and was the highest since the 2205 of 2001 (the July bird-days high is the 4516 of 1989, although this again included six dates without a numerical Birdlog entry). It is tempting to link a significant 2020 increase in summer numbers to a COVID-19 dictated reduction in disturbance, indeed birds were roosting under the eaves of an abandoned Wheelhouse and in the Sycamore of a deserted Courtyard. Daily August sightings to the 19th included highs of 144 on the 2nd, 130 on the 10th and 133 on the 11th, whilst counts dropped to 43 on the 17th, 24 on the 18th and just one on the 19th; a bird-days total of 1481, all recorded during the first 19 days of the month, was massively up on a 2013-2019 August mean of 45.9 (there were three Augusts without a sighting during this period and just a single last year) and was the highest total since 2001 (when a daycount of 250 contributed

to a monthly minimum of 1953). There were no September birds for the third time in five years; September daycounts in excess of 50 were being made as recently as 2006, whilst a September daycount record of 400 was recorded in both 1987 and 1994. Sightings on all but two dates between the 11th and 26th October included highs of 94 on the 14th, 53 on the 15th and 71 on the 23rd which took the bird-days tally for the month to 350; the total was down on the 2039 of last year, a recent high of 2846 in 2018, a 2013-2019 mean of 902.6 and a record 6936 logged in 1990 (when the birds present were not counted on six dates, but daycounts peaked at 1500). Daily November sightings from the 3rd included ten daycounts of 35 or less, but 13 three-figure tallies and highs of 420 on the 19th, 323 on both the 20th and 21st and 406 on the 27th; the peak daycount was down on a 2013-2019 November mean of 1090.6 and an all-time high of 10,000 logged on the 5th in 1970, whilst a bird-days total of 3555 was down on a 2013-2019 mean of 6507.3 (which includes highs of 10,368 in 2019 and 12,099 in 2018). Daily December counts to the departure of staff on the 7th peaked at 158 on the 1st and totalled 572 bird-days. Although a winter presence would see more logged, the drop in numbers of this red-listed species has been dramatic.

Ring Ouzel *Turdus torquatus* **Mwyalchen y Mynydd**
Scarce previously Uncommon and more regular in spring
Earliest 15th March 1955 **Latest** 21st November 1989 (19th September 2020)
1936-1976: 51 trapped, 2015: 2 trapped, 3 retrapped

Despite the fact that spring typically sees more Ring Ouzel logged, this became the third successive year without a sighting in this period; there have been spring records in 73 previous years, totalling 635 bird-days, this compared with autumn sightings in 49 previous years totalling 215 bird-days. The only autumn bird was at The Cutting on 19th September (GE), this the earliest autumn arrival since one on 18th September in 1994 and just the seventh autumn bird of the last nine years (and since 2006). Historically daycounts of up to ten (in April 1967) led to annual bird-days totals of up to 44 (in 1974). The decline in Skokholm records has mirrored the status of this species nationally, with a 43% drop in the number of British breeding pairs occurring over 40 years and an 11% drop in the Welsh population occurring between 1999 and 2012 (Bladwell *et al*., 2018).

Blackbird *Turdus merula* **Mwyalchen**
Common Visitor and Scarce Breeder peaking at nine pairs in 1990 but recently seven pairs or fewer
86 trapped, 57 retrapped
1936-1976: 1718 trapped, 2011-2019: 517 trapped (including 16 pulli), 331 retrapped, 2 controls

Although spring daycounts again failed to exceed the total number of breeding birds, there was evidence that migrants were passing through. Given that the majority of the Skokholm breeders and first-winters were already ringed (a first-year female ringed on 18th March and still present on 26th April perhaps having been missed in autumn 2019), it would seem likely that seven birds ringed between 20th March and 23rd April, including three females on 20th March and two females on 16th April, were passage birds (only one was encountered subsequently, and that on the day following ringing). Of nine individuals known to have survived from previous years, two males and a female survived their first winters, a male ringed as a juvenile in 2018 survived its second winter, a male and a female ringed as juveniles in 2017 survived their third winters, two males ringed as juveniles in 2016 survived their fourth winters and female LH16232, ringed as a first-winter on 3rd March 2016, survived its fifth winter; the latter bird has worn a ring for four years, eight months and three days, this a fraction of the British longevity record of 14 years, 285 days. There were seven breeding territories mapped this year, the same as in 2016 and 2015 and one more than in 2019, 2018 and 2017; pairs bred near the Wheelhouse, the Cottage, the Well, Orchid Bog, Boundary Hill, Gull Field and South Pond. The only notable feeding observation came on 12th May when the Wheelhouse male was collecting Horse Leeches *Haemopis sanguisuga* in the Courtyard Pond. The first fledglings were behind the Cottage on 14th May, these nine days earlier than the first of last year and three

days earlier than the 2013-2019 first fledgling mean (the earliest during this period being logged on the 7th in 2017). 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 all seven territories, 13 were trapped before 1st September (the 2013-2019 mean is 10.7, with highs of 14 in 2013 and last year), three fledglings in early September were definitely from the Well and nine further juveniles were logged in the southern territories; productivity was thus estimated at a minimum of 3.57 fledglings per pair, this up on a 2013-2019 mean of 2.63 (the peak during this period was the 3.67 observed last year). A Cottage youngster was found eaten, probably by a Jackdaw, two days after fledging.

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 83 and 208 respectively (55 and 146 last year). Daycount highs of 39 on the 14th, 35 on the 15th and 28 on the 21st contributed to an October bird-days total of 471; with the exception of 72 on the 26th in 2017, the peak daycount was the highest in this month since 1995 (albeit well down on what was described in the 1964 Annual Report as an 'avalanche' of 1000 on the 18th), whilst the bird-days total was the highest since the 578 of 1994 and up on a 2013-2019 mean of 237.6. The first unringed adult, with a wing chord of 140mm, arrived on 14th October; this was eight days earlier than the first of last year and 11 days earlier than the first of 2019. There were daily counts in November, with 15 or fewer noted on 14 dates but highs of 41 on the 7th, 31 on the 13th and 30 on the 22nd which took the bird-days total to 527; owing in part to a staff presence throughout the month, the November total was the highest since the 587 of 1990 (down on record highs of 843 in 1939 and 793 in 1967). Daily counts during the first seven days of December peaked at 21 on the 6th.

Fieldfare *Turdus pilaris* **Socan Eira**
Uncommon Winter Visitor listed as Fairly Common by both Betts and Thompson
Earliest 14th September 1977 (12th October 2020) **Latest** 13th June 1980
1 trapped
1936-1976: 7 trapped, 2016-2018: 3 trapped

There were no spring birds for the fourth time in ten years; daycounts of up to 250 in 67 previous springs have totalled 1305 bird-days, although there have only been 102 in the last 20 springs.

One around the Farm on 12th October was ten days earlier than the first of last autumn, six days earlier than the 2013-2019 first autumn bird mean and the earliest since one on the 11th in 2014; there have been 223 earlier autumn bird-days, including four in September and 109 this century. A minimum of four on the 14th, two on each date between the 15th and 17th and singles on four further dates to the 23rd took the October tally to 15; there have been six higher October totals this century, including a high of 105 in 2004 (earlier totals peaked at 282 in 1966, 330 in 1971 and 154 in 1993). Counts on 12 November dates, including highs of four on the 6th and six on the 7th, produced a bird-days total of 24; the 2013-2019 November bird-days mean is 40.0, whilst the all-time highs are the 332 of 1967 and the 146 of 2015. There were no Fieldfare seen during the first week of December.

Redwing *Turdus iliacus* **Coch Dan-aden**
Common Winter Visitor
Earliest 20th September 2001 (28th September 2020) **Latest** 18th June 1979 (9th April 2020)
12 trapped, 1 retrapped
1936-1976: 157 trapped, 2013-2019: 135 trapped, 7 retrapped

Two were seen during a daytrip on 22nd January. The late return of staff led to a low March total, with sightings on five dates from the 18th all being of singles bar three on the 20th; although a March bird-days total of seven was down on a 2013-2019 mean of 57.9 (this a period which included a 'Beast from the East' generated high of 258 in 2018), the total between the 16th and 31st was actually the fifth highest this decade (the 2011-2019 mean being just 14.2). Sightings on five April dates to the 9th totalled ten bird-days and included highs of three on the 6th and four on the 7th; although there have been later birds in four of the last seven springs, there have only been five higher April bird-days totals since recording began (including the 15 of 2018 and a record 78 logged in 2013).

Three on 28th September were seven days earlier than the first two of last autumn, 12 days earlier than the 2013-2019 first autumn bird mean and the earliest arrivals since one on the same date in 2007; there have only been five earlier autumn bird-days and September observations in six previous years (all of singles). Sightings on 23 October dates from the 4th included highs of 23 on the 14th, 21 on the 21st (including a *T. i. coburni* in the Courtyard) and 14 on the 22nd which took the bird-days total to 153; the 2013-2019 October bird-days mean is 344.9, although this period includes a record daycount of 1124 in 2017. Despite a staff presence throughout the month, sightings on 20 dates and highs of 19 on the 4th, 12 on the 6th and 26 on the 7th, a November bird-days total of 103 was the second lowest of the last eight years and down on a 2013-2019 mean of 190.1 (a November daycount high of 200 was logged in 1994 and a record 915 bird-days were tallied in 1968). A single on the 2nd and two on the 4th were the only Redwing logged during the first week of December.

Song Thrush *Turdus philomelos* **Bronfraith**
Common Visitor but breeding has not been recorded
37 trapped, 6 retrapped
1936-1976: 465 trapped, 2013-2019: 299 trapped, 22 retrapped

Sightings on ten March dates from the return of staff on the 16th included highs of 12 on the 17th and six on the 19th and totalled 38 bird-days; despite the late staff arrival, the March total was the 12th highest to date and the highest ever recorded between the same dates. A grey individual on 16th March appeared similar to one present on the same date last year and unlike those breeding on mainland Britain. Different birds on the 9th and 10th, one on the 15th, three on the 17th and further singles on four dates to the 27th took the April total to ten; there have been six higher April tallies, including a record 34 logged in 2015. Singles on the 1st and 6th took the all-time May bird-days total to 45, whilst lone birds on six June dates included different juveniles trapped on the 15th and 16th; there have been 38 previous June bird-days including a high of nine in 2003. Singles were present on six July dates to the 21st; only the 1979 (13), 2003 (seven) and 2013 (seven) July totals are higher. One in the Courtyard on the 4th was the only August bird and made this the 24th year with a record in this month (a bird-days high of 17 was logged in 2013). A single on six dates from the 21st led to the fifth highest September tally; a high of 20 was recorded in 1972. Birds were noted on all but three October dates, with highs of nine on the 16th and 27th and 12 on the 23rd taking the total to 118; the peak daycount was the lowest since 2012, down on a 2013-2019 mean of 51.7 and a high of 142 logged in 2017, whilst the bird-days total was down on a 2013-2019 mean of 187.1 and a high of 962 logged in 1993. Only in 1971 and 1977 had Song Thrush been encountered in every month between March and October. November sightings on all but one date included highs of 30 on the 25th, 20 on the 26th and 31 on the 29th and tallied 336 bird-days; the peak daycount was the lowest of the last eight Novembers, down on a 2013-2019 mean of 57.0, whilst the total was less than half the record 788 recorded last November. Daily counts during the first week of December peaked at 21 on the 3rd and 20 on the 6th (the December daycount record is the 400 noted by Lockley in 1927). Ringing showed that juveniles lingered between 13th October and 7th December, the 23rd and 30th October, the 5th and 19th November and the 27th and 29th November. Adult RL33349, retrapped in the Well Heligoland on 25th November, had been caught in the Cottage Heligoland as a first-winter on 4th November 2018 and not encountered subsequently; ringing suggests that a small number of birds return to Skokholm in successive winters (although their breeding grounds remain unknown).

Mistle Thrush *Turdus viscivorus* **Brych y Coed**
Scarce but not recorded every year
1936-1976: 3 trapped

One at Orchid Bog on 13th November was the first since 2016 when singles were logged on five dates between 21st October and 23rd November (RDB). There have been sightings in 54 previous years, accounting for 213 bird-days, with records in every month between February and November but the majority of bird-days noted in March (40), October (94) and November (28).

Spotted Flycatcher *Muscicapa striata* **Gwybedog Mannog**
Fairly Common Passage Migrant
Earliest 19th April 1966 (7th May 2020) **Latest** 23rd October 1968 and 2001 (21st September 2020)
25 trapped
1936-1976: 1613 trapped, 2011-2019: 236 trapped, 13 retrapped

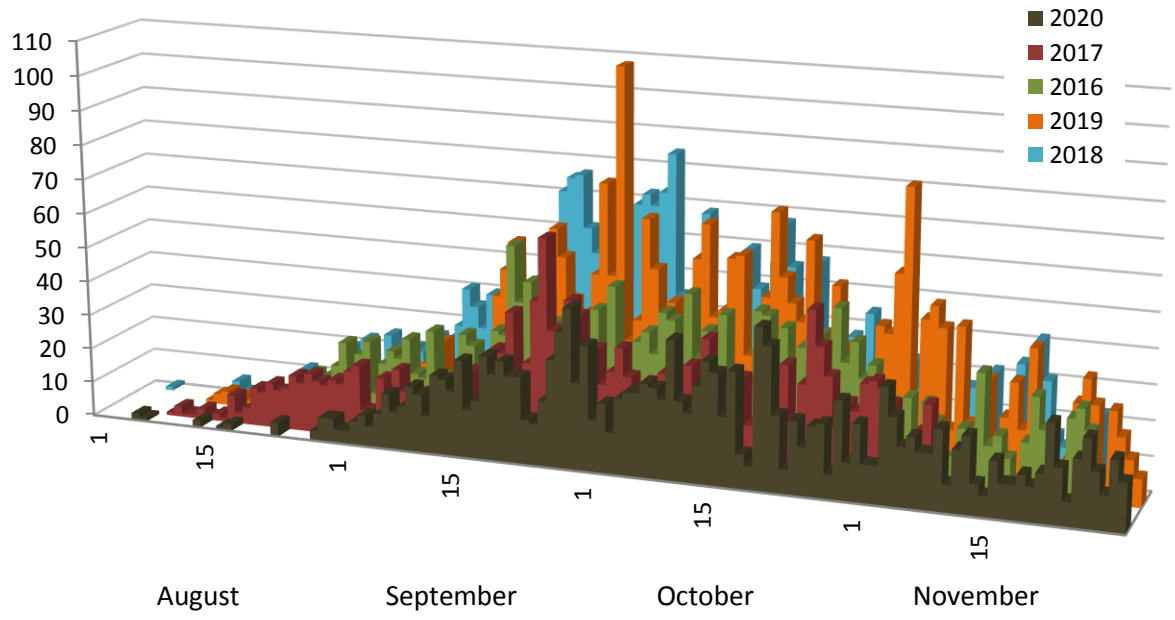
Two on 7th May were one day earlier than the first three of last year, but two days later than the 2013-2019 mean (the earliest during this period were logged on 30th April in 2015 and 2018, the latest on 8th May in 2013, 2014 and 2019); there have been 167 earlier bird-days, including 34 in April. Records on a further ten May dates, including highs of five on the 24th and 26th (no birds were seen on the 25th) and four on the 31st, took the bird-days total to 27; the peak May daycount was the lowest of the last six years, whilst the bird-days total was the lowest this decade, down on a 2013-2019 mean of 51.1 (and well down on all-time highs of 133 in 1962, 145 in 1967 and 104 in 1991 and 1994). The only June sightings were of a single on the 2nd, four on the 12th and one on the 14th and 15th; a bird-days total of seven was down on the 23 of last year, a 2013-2019 June mean of 14.4 and an all-time high of 35 recorded in 2015. One to the north of Home Meadow on 6th August was five days later than the first of last autumn. Sightings on ten further August dates included highs of four on the 14th and 17th and 17 on the 19th (there were none logged on the 20th); the peak August daycount was the highest since 18 in 2001 and the sixth highest to date (40 in 1964 is the maximum), whilst a bird-days total of 38 was up on a 2013-2019 mean of 16.3 and the highest since 52 in 2001 (albeit well down on peaks of 87 in 1964, 85 in 1971 and 80 in 1976). Daycounts on nine September dates to the 21st were all of three or less and tallied 15 bird-days; the maximum daycount was down on a 2013-2019 mean of 7.7 and a record 30 logged in 1969, whilst the bird-days total was down on a 2013-2019 mean of 42.4 and September highs of 166 in 1969 and 91 in 2013. There have been 384 later bird-days, including 95 in October (the last of which was logged on the 7th in 2019).

Robin *Erithacus rubecula* **Robin Goch**
Abundant Winter Visitor and Passage Migrant bred in 1939, 1940 and 1980
76 trapped, 64 retrapped
1936-1976: 717 trapped, 2011-2019: 699 trapped, 590 retrapped, 3 controls

Daytrips on 22nd January and 6th February only encountered a single on the former date. Daily sightings between the return of staff on the 16th and 27th March included highs of four on the 18th and 22nd; four different first-winters were ringed during the period, including one on the 26th which was probably the marked bird seen on six further dates to 2nd April. A 16th to 31st March bird-days total of 34 was down on a 2013-2019 mean of 43.0 (the high during this period was 65 in 2015 and

the low seven in 2018). A different bird was trapped on 7th April and a further single on the 20th took the monthly total to four; the April tally was the lowest since the single of 2014, down on a 2013-2019 mean of 36.3 and all-time highs of 54 in 2013 and 132 in 2015 (when daycounts peaked at a record 17). For the first time since intensive ringing recommenced in 2013, there were no spring retraps of birds ringed in previous years. There were no May sightings for just the second time in nine years, whilst a female trapped on 14th June had already bred; there have only been June records in 16 previous years, totalling 46 bird-days (with 23 of these occurring in the breeding years).

The number of Robin recorded on each autumn day between 2016 and 2020, arranged with the quieter years to the fore.



One at the Bluffs on 27th July was the first in this month since 2016 and made this just the 16th year with a record (the July bird-days total is now 93, with a high of 24 logged in 2003). Two on 6th August included the first juvenile of the year, whilst counts of up to seven on eight further dates took the monthly total to 29; both the peak August daycount and bird-days total were the lowest since 2013, the former down on a 2013-2019 mean of 19.1 and highs of 40 in 1993 and 35 in 2015, the latter down on a 2013-2019 mean of 121.0 and highs of 198 in 1992, 197 in 1993 and 193 in 2015 and 2017. The September bird-days total of 569, which included daily sightings and highs of 31 on the

27th, 39 on the 28th and 46 on the 29th, was the lowest of the last eight years but the 13th highest to date (the 2013-2019 mean is 985.3, with a high of 1649 in 2014). However Robin were routinely under recorded in the past, just being logged as present following quiet or average days; the peak daycount is perhaps thus more informative. There have been higher September daycounts in 21 previous years, with highs of 150 on two dates in 1994 and 128 in 2014. Numbers again peaked in October, with highs of 40 on the 11th (including one giving a convincing Green Woodpecker call), 46 on the 21st and 41 on the 22nd which took the bird-days total to 715; despite the same observer presence as in recent Octobers, both the total and peak daycount were again the lowest of the last eight years, the total down on a 2013-2019 mean of 1247.7 and the peak daycount down on that logged in 18 previous years, a 2013-2019 mean of 81.1 and highs of 150 on two dates in 1994, 118 in 2014 and 109 last year. Daily November sightings tallied 485 bird-days and included highs of 33 on the 4th and 28 on the 22nd; there have been higher November daycounts in 15 years (including six of the last seven), with highs of 91 in 2015 and 82 last year. Daily counts during the first week of December peaked at 29 on the 6th, this the third highest daycount in this month. Five birds handled during the autumn had been encountered on Skokholm previously; two ringed as first-winters in September 2019 returned for a second winter, whilst three ringed as first-winters in September 2018 were back for a third (one of which had been logged in spring and autumn 2019, one of which had been logged in autumn 2019 and one of which had not been seen since 26th September 2018).

Bluethroat *Luscinia svecica* **Bronlas**
Rare 13 previous records, five of which have occurred in spring
1 trapped
1936-1976: 6 trapped, 2017: 1 trapped

A splendid first-summer male Red-spotted *L. s. svecica* found at the Well on the morning of 20th May was later trapped in the Heligoland there (RDB, GE). Of the 13 previous Skokholm records, the first seven between 1955 and 1968 were all in autumn, whilst five of the latter six were in spring.

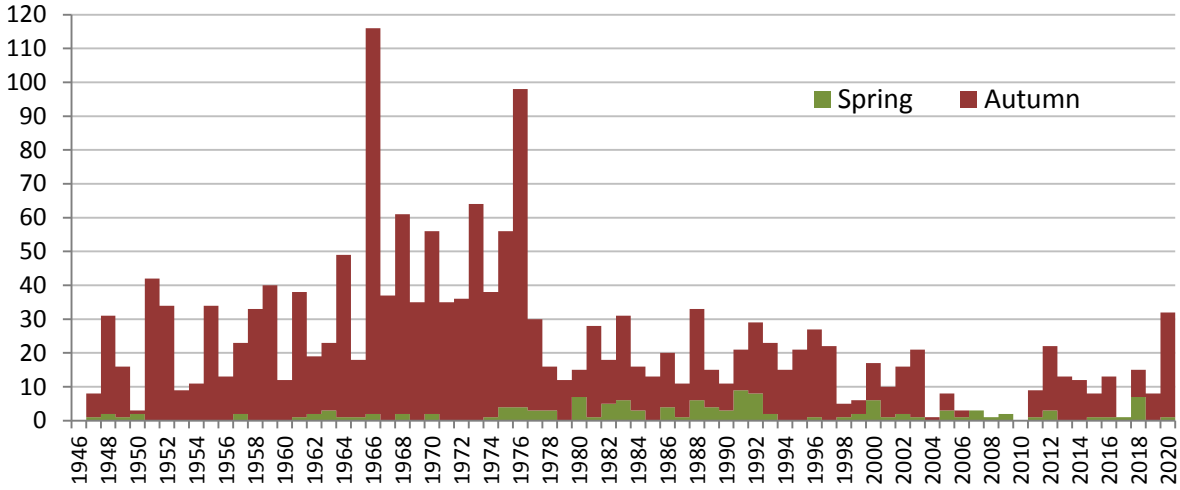
Following the first for Skokholm, a first winter male *L. s. svecica* on 10th October 1955, there was a first-winter *L. s. svecica* between the 12th and 15th September 1956, a first-winter male on 15th September 1964, a female-type bird on 24th September 1964, another first-winter male *L. s. svecica* on 29th September 1964 (taking the year total to an unprecedented three individuals), one logged on 11 dates between 16th September and 1st October 1967, the only Skokholm record of *L. s. cyanecula*

on 20th October 1968, males of *L. s. svecica* on 21st May 1975, 15th May 1982 and 14th May 1985, an unraced male on 27th September 1992, a male *L. s. svecica* on 29th June 1995 and most recently an unraced male mist netted at the Well on 27th May 2017 which may have been a White-spotted *L. s. cyanecula* lacking a white spot or a Blue-throated, Spanish breeding *L. s. azuricollis* (a retained feather held by Professor Martin Collinson at the University of Aberdeen will hopefully provide a sufficiently distinctive genetic signature in the future).

Pied Flycatcher *Ficedula hypoleuca* **Gwybedog Brith**
Uncommon Migrant more frequent in autumn and sometimes absent in spring
Earliest 10th April 1993 (1st June 2020) **Latest** 17th October 1988 (29th September 2020)
13 trapped, 1 retrapped
1936-1976: 393 trapped, 2011-2019: 34 trapped, 3 retrapped, 1 control

The only spring record was of a female on 1st June which exhibited a primary base pattern, second primary length and rump colour reminiscent of Iberian Pied Flycatcher *F. h. iberiae* or perhaps a hybrid with Collared Flycatcher *F. albicollis*, however the DNA analysis of a dropped feather revealed that both parents were nominate birds; there have only been seven previous June bird-days, the most recent of which was a female logged on the same date in 2018. This species has nearly always proven scarce in spring, with only three spring bird-days logged between 2013 and 2017, 35 noted this century and all-time highs of seven in 1980 and 2018, nine in 1991 and eight in 1992.

The total number of spring and autumn Pied Flycatcher bird-days logged between 1947 and 2020.



One trapped on 13th August was the first of the autumn, this 12 days earlier than the first two of autumn 2019 and three days earlier than the 2013-2019 first autumn bird mean (the earliest during this period was logged on 5th August 2018 and the earliest to date was present on 24th July 1994). The following day saw nine birds logged, five of which were trapped and ringed; this was the highest daycount in any month since ten in September 1988, the highest August daycount since 15 in 1976 and the 12th highest August daycount to date (the 11 higher counts were made in six years and included a peak of 30 in 1952). Another bird ringed on the 15th was not either of the two logged on the 16th, another ringed on the 17th was not the bird present at the Hills on the 18th, two were seen on the 24th, four on the 27th, singles on the 28th and 29th and two were noted on the 31st; virtually all of the 25 bird-days logged this August referred to different individuals, the total being up on a 2013-2019 mean of 3.4 and the highest in this month since the 79 of 1976 (there have been eight August tallies up on that of 2020, including a peak of 86 in 1966). September saw singles on the 7th, 13th, 14th, 22nd, 23rd (same as the 22nd) and 29th, a total of six being close to the 2013-2019 mean of 4.7 and down on that noted in 41 previous years (a high of 41 was logged in 1951). The last of the year was one day earlier than the last three of 2019; there have been 44 later bird-days, including 34 in October (the last two of which were recorded in 2016).

Black Redstart *Phoenicurus ochruros* **Tingoch Ddu**
Uncommon Migrant has probably overwintered on occasion
3 trapped, 2 retrapped
1936-1976: 100 trapped, 2013-2019: 16 trapped, 2 retrapped

Two on 25th March were three days later than the first two of last year, ten days later than the 2013-2019 first bird mean and the latest arrivals this decade. Four on the 26th probably included both the individuals seen the previous day, two on the 27th included the bird ringed on the 25th (which had increased in weight from 14.8g to 16.3g), two were present on the 28th and the bird ringed on the 25th was noted on each day between the 29th and 31st (it weighed 16.5g when retrapped on the latter date); the peak March daycount equalled that of 2011 as the highest since 2002 (a remarkable high of 50 was noted in 1948), whilst a bird-days total of 13 was up on a 2013-2019 mean of 6.1 and was the highest since the 14 of 2002 (March totals peaked at 241 in 1948, 101 in 1949 and 56 in 1995). The only April record was of one at the Quarry on the 1st and 2nd, the April tally being the lowest since 2014 and down on a 2013-2019 mean of 5.1 (11 in 2018 was the high in this period). Although there have been sightings in all but one of the last eight Mays, a male at the Quarry on the 15th and a female at North Gully on the 28th took the all-time tally for this month to just 69 bird-days.

One in South Haven on 21st October was a week earlier than one at the same site in 2019 and matched the 2014-2019 mean late autumn arrival date. It plausibly accounted for sightings of singles

at the Lighthouse on the 22nd, in the Courtyard on the 23rd and at the Lighthouse on the 24th and 25th; five October bird-days matched a 2013-2019 mean of 5.4 (the peak during this period was 18 in 2017), but was massively down on historical highs which reached 243 in 1968, 92 in 1975 and 86 in 1988. November saw one at the Farm on the 7th, two on the 12th, one at the Lighthouse on the 13th, 14th and 19th, birds at the Farm and South Haven on the 20th, a different bird on the 22nd, one at the Lighthouse on the 24th and 25th and one at the Farm on the last day of the month; a November bird-days total of 12 matched that of 2015 as the highest since the 16 of 2001 (a record 38 were counted in both 1968 and 1992). Five on 1st December was the highest daycount to be logged in this month, whilst singles on the 3rd and 5th took the total to seven (a tally only down on the 20 of 1982).

Redstart *Phoenicurus phoenicurus* **Tingoch**
Uncommon Migrant
Earliest 1st April 1991 (13th April 2020) **Latest** 2nd November 1968 (1st October 2020)
7 trapped, 1 retrapped
1936-1976: 394 trapped, 2013-2019: 39 trapped, 3 retrapped

A female at the Lime Kiln on 13th April was 11 days later than the first of last year and two days later than the 2013-2019 first bird mean (the earliest during this period was logged on the 2nd in 2019 and the latest on the 22nd in 2017). A male trapped on the 17th was not seen during strong winds on the 18th but was retrapped on the 19th when it had increased in weight from 15.1g to 15.8g. An April bird-days tally of just three was the lowest since 2017 and down on a 2013-2019 mean of 4.7 (the peak during this period was of eight in 2014, whilst the all-time highs are the 51 of 1966 and the 14 of 1976). The only May records were of females trapped on the 6th and 30th which took the spring bird-days total to five; the spring total was down on the seven of last year, a 2013-2019 mean of 7.9 and highs of 55 in 1966 and 36 in 1991.

Two juveniles and an adult female trapped on 18th September were ten days later than the first of last autumn; there have been 222 earlier autumn bird-days, including five in July and 71 in August. A first-winter female which lingered around the Farm and North Pond Wall between 25th September and 1st October was ringed on the latter date (when it was found to weigh 16.3g, this matching a bird trapped in September 2013 as the heaviest to be encountered since ringing recommenced on Skokholm). There have been 180 later autumn bird-days, only 14 of which were logged this century. An autumn bird-days total of ten was up on the five of 2019 and a 2013-2019 mean of 4.7. Although never common, this species was, as noted for that other denizen of Welsh woodland the Pied Flycatcher, previously more regular; autumn totals reached 55 in 1966, 43 in 1968 and 39 in 1988 (the latter including 20 on 21st September, this the only double-figure daycount to date).

Whinchat *Saxicola rubetra* **Crec yr Eithin**
Uncommon previously Fairly Common
Earliest 8th April 1997 (7th May 2020) **Latest** 2nd November 2014 (12th October 2020)
1 trapped
1936-1976: 326 trapped, 2013-2019: 18 trapped, 4 retrapped

A male around Home Meadow on 7th May was the first spring record since two on the 5th in 2018. The only other spring sighting was of a male chased from North Pond to Twinlet by a Wheatear on 14th May. Two spring bird-days was down on a 2013-2019 mean of 4.6 (the high during this period was 13 in 2017) and down on the majority of earlier springs when double-figure totals were the norm; all of the 43 bird-days logged during the record spring of 1989 occurred in May, whilst maximum spring daycounts of seven were counted in the Mays of 1960 and 1989. A juvenile to the west of North Pond on 15th August was 11 days earlier than the first of last year and nine days earlier than the 2013-2019 first autumn bird mean (the earliest during this period occurring on the 12th in 2017). The only other August record was of one to the west of Winter Pond on the 18th. September saw singles near the Well between the 7th and 9th and at South Pond on the 14th and 15th, three on the 18th, singles on the 19th, 20th and 21st, three on the 23rd and 26th, one on the 29th and two on the 30th (a ringed bird on the latter date was either a control or the bird ringed nine days earlier); a September bird-days total of 20 was up on a 2013-2019 mean of 18.9 and was the highest since 48 in 2014. Three were again logged on 1st October, whilst one on the 12th was the last of the year; there have been 88 later bird-days, including one in November. An autumn bird-days total of 26 was close to a 2013-2019 mean of 28.9 (the low during this period being 13 in 2019 and the high 63 in 2014), but was down on 32 previous years including five previous three-figure tallies and peaks of 128 in 1968, 145 in 1971 and 119 in 1976 (a record daycount of 40 was noted on 10th September 1968).

Stonechat *Saxicola rubicola* **Clochdar y Cerrig**
Fairly Common bred in 1928 and 1932
20 trapped, 6 retrapped
1936-1976: 336 trapped, 2013-2019: 93 trapped, 5 retrapped

Six were present when staff returned on 16th March; there have only been higher March daycounts in six previous years, with a high of 12 logged in 2015. Daily sightings to the 28th included peaks of five on the 17th and six on the 22nd which took the March bird-days total to 41; the only higher March tallies are the 105 of 1958 and the 52 of 2016. Two females on the 1st and a male and a female on the 7th were the only April sightings; there have been 191 previous April bird-days, with 47 in the two breeding years and just 17 this century. A male on the 9th was the 38th May bird-day to be logged since Stonechat bred. A juvenile along Well Stream on 9th June was nine days earlier than the first youngster of last year and 20 days earlier than the 2013-2019 first juvenile mean; the only earlier records of non-Skokholm fledged youngsters are of at least two on the 7th in 1927 and three on the 3rd in 1931. Singles on eight further dates from the 15th took the June bird-days total to nine, this the fifth highest tally in a non-breeding year (albeit down on the 11 of last June and a recent high of 32 in 2017). Daycounts of up to three on nine July dates from the 11th led to a bird-days total of 16, the highest yet recorded in this month (up on the 15 of 1990 and the 13 of 2017).

It also proved a record August, with counts of up to three on ten dates between the 2nd and 16th and two on the 31st which took the bird-days total to 20; there had been 91 previous August bird-days, including 12 since 2015 and a high of nine in 1974. It likewise proved an exceptional September, with sightings on all but five dates to the 16th and daily counts from the 17th which peaked at nine on the 23rd, ten on the 24th and eight on the 29th; although the peak daycount was down on that logged in six previous Septembers (a high of 18 was noted on the 18th in 1957, nine of which were trapped), a bird-days total of 110 was a new record, up on the 54 of 1976, the 68 of 2001 and the 87 of 2016. An adult female, ATJ2098 retrapped on 29th September, had been ringed as a first-winter on 19th

September 2019; this is the first example since the Bird Observatory reaccreditation of a Stonechat returning in successive winters. October was more typical of recent years, with counts on all but one date peaking at ten on the 1st, 13 on the 12th and 11 on the 21st and totalling 147 bird-days; the maximum daycount was only down on that of five previous Octobers, including a high of 25 in 1961, however the total was down on that logged in three of the last six years (albeit being up on a 2013-2019 mean of 106.9 and close to all-time highs of 163 in 2014 and 185 in 2016). Birds were seen on 18 November dates, with highs of four on the 3rd, 22nd and 27th and five on the 4th taking the total to 45; although down on a 2013-2019 mean of 47.4, there have only been five higher November tallies (with all-time highs of 83 in 2014 and 71 in 2016). The only December sightings were of a pair at South Pond on the 4th and 6th. Ringing confirmed that many of the bird-days logged during the autumn referred to lingering individuals; first-winter females were probably resident between the 18th and 30th October and 25th September and 22nd November, whilst a first-winter male was probably resident between 18th September and 5th November.

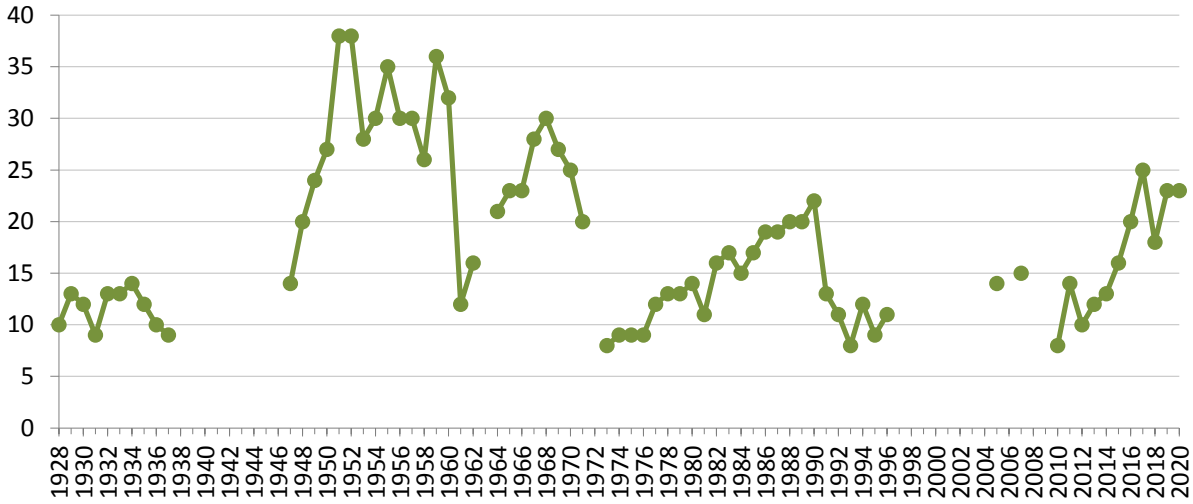
Wheatear *Oenanthe oenanthe* **Tinwen y Garn**
Abundant Migrant and Uncommon Breeder
Earliest 2nd March 2003 (16th March 2020) **Latest** 13th November 1999 (27th October 2020)
6 trapped, 41 retrapped/resighted
1936-1976: 3578 trapped, 2011-2019: 416 trapped (inc. 6 pulli), 226 retrapped/resighted, 1 control

The latest staff arrival of the last eight years meant that the first Wheatear was almost certainly missed; two males at the Dip, one Skokholm ringed and one not, greeted staff upon their return on 16th March, these two days earlier than the first of last year but four days later than the 2013-2019 mean (the earliest during this period was logged on the 5th in 2013 and the latest on the 18th last year). Numbers again increased quickly, with up to nine males present on each date prior to the arrival of the first female (a Skokholm ringed bird on the 21st) and daily sightings thereafter which peaked at 19 on the 22nd, 17 on the 24th and 20 on the 26th; the peak daycount was close to a 2013-2019 March mean of 21.1 (albeit well down on highs of 200 in 1930 and 150 in 1958), whilst a March bird-days total of 169 was the third highest of the last eight years. There were 802 bird-days logged during April, 12 more than last year and 14 more than the 2013-2019 mean, but a tally well down on a recent high of 1197 in 2015. There were April daycount highs of 83 on the 13th, 37 on the 14th and 44 on the 22nd, the peak being the highest since the 108 of 2017 but down on that recorded in ten previous Aprils and record highs of 151 in 2016, 165 in 1999, 250 in 1954 and a remarkable 1200 in 1938. The majority of early migrants were nominate birds, with the first Greenland-types noted on 13th April, eight days later than the first of last year. There followed 126 *O. o. leucorhoa* bird-days logged over 24 dates to 19th May and a lone male on 4th June, with highs of 49 on 13th April and 12 two days later; numbers peaked at five on 1st May last year and at 44 on 30th April in 2018.

Survey work during the spring revealed 23 breeding pairs, the same number as mapped last year and a total up on the 1928-2019 mean (18.04 ±sd 8.07); there have been more territories located in 17 previous years, with the 38 of 1951 and 1952 the maximum. Birds were nest building from 8th April and female A27 was collecting chick food near Purple Cove on 17th May; the latter matched the 2013-2019 mean first chick feeding date, with the latest first delivery during this period noted on the 22nd in 2013 and the earliest on the 13th last year. The first fledglings to be seen were at Wallsend on 31st May, these three days later than the first of last year and the 2013-2019 mean (with the latest during this period logged on 5th June in 2013 and the earliest on 23rd May in 2014). There were eight second brood territories mapped, only three of which were held by pairs which remained together following their first attempts; the three pairs which remained together had all fledged first brood young by 1st June, earlier than all but two of the pairs which either did not make second attempts or which re-paired. At least 35 first brood fledglings were located (eight fewer than last year), whilst only ten second brood fledglings were found (32 fewer than last year). The resulting productivity figure of 1.96 fledglings per pair was the lowest of the last eight years, down on the 3.70 of 2019 and

the 2013-2019 mean (3.20 ±se 0.27, with a high of 4.00 in 2015 and a low of 2.12 in 2017). A 22nd May storm, a June which saw four gales or near gales between the 3rd and 20th and heavy rain on six dates between the 11th and 22nd and a cool and unsettled July with regular stiff winds, a gale and a severe gale, perhaps all contributed to the poor productivity recorded this year. A low number of second brood attempts was reflected in the July total, with 565 bird-days being down on a 2013-2019 mean of 924.4 and the lowest since the 516 of 2013 (when only 12 pairs were present). A post-breeding check of the 40 nest boxes installed in 2019 revealed that one contained an empty nest, although it seemed likely that large chicks had not been present; the majority of entrances at other sites were blocked with vegetation (it is hoped that the addition of stones and deeper entrance holes will reduce this problem next year).

The number of Wheatear breeding territories located each year 1928-2020 (where data exists).




16th July


11th August

It proved difficult to detect early autumn migrants, due in part to the fact that Skokholm fledged birds were not colour ringed this year. August daycounts were all of 29 or less bar the 41 logged on the 30th; both the peak daycount and an August bird-days total of 561 were the lowest since 2014, down on respective 2013-2019 means of 42.7 (with a high of 62 in 2018) and 661.3 (with a high of 860 last year). Sightings on each September date included 13 single-figure daycounts from the 2nd, but highs of 21 on the 1st, 3rd, and 19th, 30 on the 12th and 50 on the 23rd (when there was an obvious afternoon arrival) which took the bird-days total to 395; the peak daycount was the highest since

2015, but down on a 2013-2019 mean of 58.4 (there were peaks during this period of 121 in 2013 and 123 in 2014) and all-time highs of 150 in 1929 and 1933 and 207 in 1951, whilst the bird-days total was down on 11 previous Septembers, including highs of 1078 in 1951, 728 in 1958 and 612 in 2013. The last Skokholm ringed adult was seen at Twinlet on 17th September, this 14 days later than the last of 2019 and 15 days later than the last of 2018. There were 51 Wheatear bird-days logged over 20 October dates, with highs of seven on the 1st and 11 on the 2nd but no more than two from the 8th; although the bird-days total was down on five of the last seven years and an all-time high of 290 logged in 2013, there have only been higher daycounts in 16 previous Octobers (with a peak of 70 in 1976). The last of the year was near Howard's End on 27th October, this six days later than last year and one day later than the 2013-2019 last bird mean; there have been 42 later bird-days, including 11 in November (the most recent of which was logged on the 6th in 2015). Obvious *O. o. leucorhoa* were only noted on ten dates between 12th September and 21st October, with highs of five on the 26th and four on the 2nd taking the autumn bird-days total to 21 (there were 15 in 2019).

Ringing recovery left tarsus green with white C22, right tarsus AZC5768
Originally ringed as a juvenile, FRANK'S POINT, SKOKHOLM 16th July 2019
Resighted as a male, BANC D'ARGUIN, PYLA SUR MER, BORDEAUX, FRANCE 4th April 2020
Subsequently resighted as a first-winter male, CRAB BAY, SKOKHOLM 16th April 2020
Finding condition Colour ring read in field
Distance travelled 846km at 158 degrees (SSE)
Days since ringed 264
This is only the second Wheatear colour ringed on Skokholm to be resighted on its spring migration. The first, male A61 resighted at the Lizard in spring 2018, was the father of this bird and also held a territory in Crab Bay.

House Sparrow *Passer domesticus* **Aderyn y To**
Scarce although not recorded every year. Most recently absent in 2010 and 2016
1936-1976: 20 trapped, 2013-2018: 6 trapped

The sole sighting this year was of a pair around the Farm on the morning of 17th October (RDB); the only higher daycounts are of four in October 1966 and September 1976 and three in April 1966, May 1972 and the Octobers of 1968, 2003 and 2012. There were just nine bird-days logged prior to 1957, then records in all but two years until 1978 (totalling 109 bird-days), birds in ten of the years between 1979 and 2004 (24 bird-days) and birds in all but three years since 2005 (now totalling 29 bird-days). May is the most productive month, with 58 bird-days (but just one since 2010), whilst October is the most productive autumn month, now with 34 bird-days (including 13 since 2010).

Dunnock *Prunella modularis* **Llwyd y Gwrych**

Fairly Common Winter Visitor previously a Scarce or Uncommon Breeder with up to 12 pairs
9 trapped, 15 retrapped
1936-1976: 304 trapped, 2011-2019: 58 trapped, 86 retrapped, 1 control

A minimum of two birds again overwintered, with a first-winter male ringed on 7th October 2019 retrapped on 2nd April (and on three further dates to 19th April) and a first-winter female ringed on 10th November 2019 retrapped on 19th April (and on 29th September and 30th October). These two individuals probably accounted for sightings on all but one date between 19th March and 1st June, with all encounters prior to late May coming from an area between the Cottage Garden, the Wheelhouse Pond and the West Knoll Wall (bar one sighting at the Well and two to the south of Home Meadow). On 30th April a ringed bird was watched taking food into a tangle of Elder outside of the Cottage door, however this was perhaps for an incubating partner as begging chicks were not detected until 24th May and young were not thought to have left the nest until 28th May. A minimum of two fledglings were seen on 30th May, although neither were confirmed during June. Indeed the only June records were of a pair at the Top Tank on the 1st and singles on three further dates to the 10th (with a singing male noted on two occasions). July was likewise quiet, although it later became apparent that the adult birds were going undetected in the Bracken; the July records were probably all of juveniles, with one on the 13th, two on the 14th, 21st and 22nd and one on the 29th (with the latter six bird-days all coming from Crab Bay where two were again seen on the 2nd and 3rd August). A recently fledged juvenile trapped on 7th August was the only indication of a second brood. Dunnock bred annually between 1928 and 1939 and between 1964 and 1981, but have since only bred sporadically, most recently in 2012 when three pairs fledged at least two.

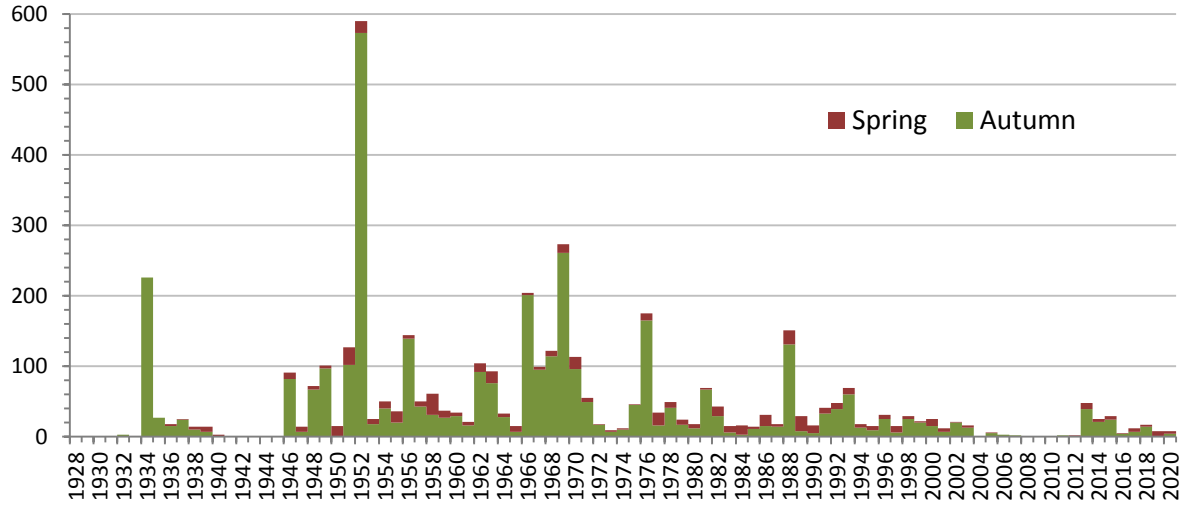
Dunnock became more conspicuous as August progressed, with up to three birds on 14 further dates taking the bird-days total to 24, this the highest in this month since the 72 of 1994 (there were only 37 August bird-days logged between 1995 and 2019 inclusive). September saw counts of up to two on all but two dates between the 1st and 16th, of up to three on all but one date between the 20th and 28th and of six birds on both the 29th and 30th; although it is plausible that the birds logged during September were the Skokholm breeders and their offspring, the mean first autumn bird in the non-breeding years between 2013 and 2019 arrived on 1st September (with the earliest on 23rd July in 2014 and the latest on 24th September in 2018). Birds were noted on all but one October date, with highs of nine on the 11th and 15th, 13 on the 14th and 12 on the 18th which took the total to 152; the peak daycount was the second highest since a record 50 were logged in 1994, whilst the bird-days total was up on a 2013-2019 mean of 95.4 (the only higher tally during this period being 168 in 2015). At least nine ringed birds were present during October, with five ringed during the period (four first-winters and an adult), two of the three first-winters ringed in September

retrapped, the breeding female retrapped and TX22063 retrapped on the 21st (the latter, ringed as a first-winter on 26th September 2017, was also encountered in the March of 2018 and the October of 2019). November saw up to six noted on all but three dates (the mean 2013-2019 maximum is 6.0, with a high of seven in 2014 and 2018 and a low of five in 2013 and 2016), whilst daily sightings during the first week of December peaked at four on three dates; there were no unringed birds confirmed during either month, with a ringed bird in Calf Bay the furthest from the trapping area.

Yellow Wagtail *Motacilla flava* **Siglen Felen**
Uncommon previously Fairly Common, or Common on occasion, and more regular in autumn
Earliest 10th March 1966 (3rd May 2020) **Latest** 18th November 1967 (18th September 2020)
1936-1976: 79 trapped, 2013-2015: 2 trapped

An unraced bird west over South Pond on 3rd May was ten days later than the first two of last year and eight days later than the 2013-2019 first bird mean (the earliest during this period was logged on 10th April in 2014 and the latest on 10th May in 2016). A smart male Blue-headed *M. f. flava* found at The Head on 9th May was later seen over Home Meadow and at Orchid Bog (RDB, GE); this was the first nominate bird since one on the 25th and 26th May 2017. A review of *M. f. flava* records has found 23 to be acceptable, now with 17 males in spring (31 bird-days) and six in autumn (six bird-days); of the 12 rejected records, eight were in spring (three females and five where the sex was not listed in the Log or Annual Report) and four were in autumn (one female, two not sexed and one juvenile). The review also found that the male on 19th May 2014 had been erroneously listed as being present on 3rd May in the Annual Report. The only other spring records this year were of male *M. f. flavissima* present at Horse Bottom Lows on 13th May and flying low and east on 25th May. Four spring bird-days was close to a 2013-2019 mean of 4.9 (the high during this period is nine in 2013, the low one in 2016), but down on 49 previous years including 1958 when there were a record 30.

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



A mobile bird present in the vicinity of North Plain on 13th August was 21 days earlier than the 2013-2019 first autumn bird mean and the earliest autumn arrival since one on the 7th in 2005. The only other August sighting was of a flyover on the afternoon of the 14th. Flyovers on the 16th and 18th September were the only other records; it was thus the first year since 2014 without an October observation. Four autumn bird-days was down on a 2013-2019 mean of 15.7 (the high during this period being 39 in 2013, the low just one in 2019), and down on the vast majority of previous years including a, now almost unimaginable, record of 573 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 clearly far fewer Yellow Wagtail passing Skokholm than there were 50 years ago.

Citrine Wagtail *Motacilla citreola* **Siglen Sitraidd**
Vagrant no previous records

A vocal first-winter found feeding at Winter Pond on 27th August was the first for Skokholm, second for Pembrokeshire and 14th for Wales (RDB *et al*.); it was present between 1430hrs and 1600hrs, but could not be found that evening. Seven of the 13 previous Welsh records have been in spring, with the six autumn birds being logged between 8th August and 11th October. Prior to the Skokholm bird, there were autumn 2020 British records reported in Hampshire on 8th August, on Shetland from the 12th, in Gloucestershire from the 15th, on Orkney from the 17th, in Norfolk and Gwynedd from the 20th and on Tresco from the 26th.

Grey Wagtail *Motacilla cinerea* **Siglen Lwyd**
Uncommon Visitor Scarce in spring but occasional double-figure daycounts in autumn
1 trapped
1936-1976: 8 trapped, 2013-2018: 2 trapped, 1 control

There were no spring birds for the second time since 2015; there have only been 77 previous spring bird-days, with 20 this century and counts of up to five in six of the last nine years. One over the Lighthouse on the morning of 29th August was thus the first of the year, this three days later than the first of last autumn and, along with birds on the same date in 2016 and 2018, the latest autumn arrival since one on the 30th in 2015. There were two flyovers the following day and six on the 31st, the latter the highest August daycount since counts of seven and 15 in 1981 (an August record 25 were logged on the 30th in 1952). There have now been 150 August bird-days counted over 36 years, with 28 since 2015 and three totals up on the nine of this year (with a high of 30 in 1952). Records on 17 September dates, including highs of nine on the 14th, 17th and 18th, took the bird-days total to 58; although the peak daycount was down on that logged in three of the last six years (the high during that period being 12 in 2014 and the all-time high being 25 in 1960), the total was the third highest September tally to date (down on the 63 of 1960 and the 110 of 2014). Sightings on eight October dates were all of singles bar five on the 16th, three on the 17th and two on the 22nd; a bird-days total of 15 matched that of 1960 as the seventh highest on record, a tally down on the 17 of last year and peaks of 32 in 2015 and 39 in 2016. The only November sighting was of a lone flyover

on the 7th; there have been 23 previous bird-days in this month, including a record five last year. An annual bird-days total of 83 was an excellent 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'; there have only been two higher annual totals, with 89 in 1960 and 126 in 2014.

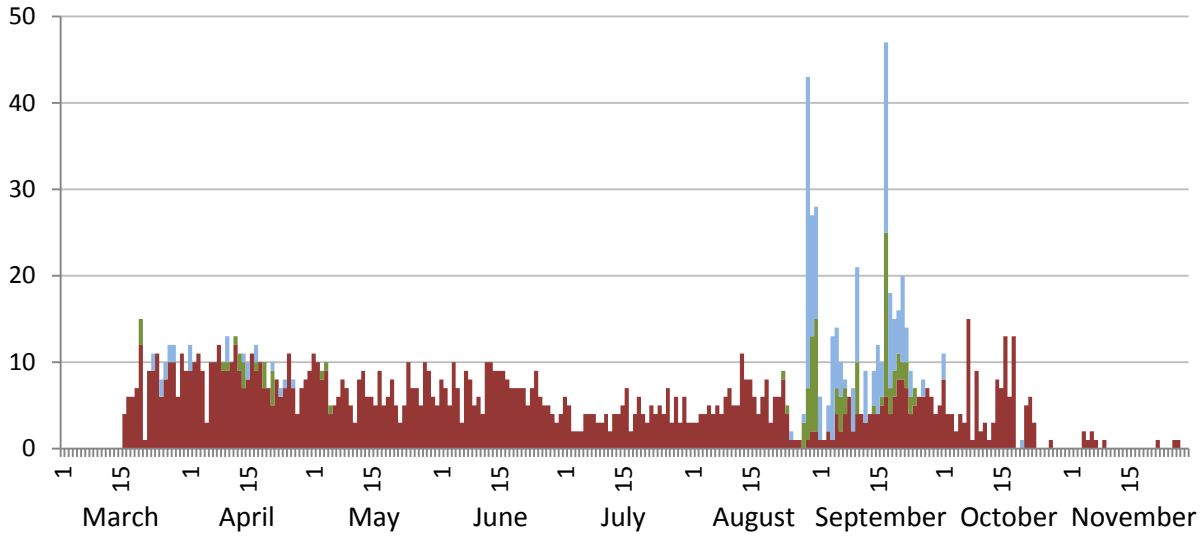
Pied Wagtail *Motacilla alba* **Siglen Fraith**
***M. a. yarrellii* Scarce Breeder and Fairly Common Visitor**
***M. a. alba* Common Migrant** flyovers unassigned to race are also Common
***M. a. alba* Earliest** 11th March 1997 (20th March 2020) **Latest** 29th October 1988 (24th September 2020)
14 trapped, 8 retrapped
1936-1976: 349 trapped, 2011-2019: 198 trapped (including 37 pulli), 87 retrapped, 3 controls

Birds were present from the return of staff on 16th March, this the same date from which there were daily sightings last year; a late staff return meant that the usual sporadic early season appearances were missed. A peak March daycount of 12 matched that of 2006 and 2007 as the third highest to date, a count only down on the 22 of 1988 and the 14 of 1993; this was perhaps an indication as to the increase in breeding pairs which was to follow. The first three White Wagtail of the year were present at the Table and Purple Cove on 20th March, this ten days earlier than the first of last year and nine days earlier than the 2013-2019 mean; there have been five earlier White Wagtail bird-days, with one on the 16th in 2016 the most recent. There followed sightings of up to four nominate birds on eight dates between the 9th and 21st April and singles on the 3rd, 4th and 5th May which took the spring bird-days total to 22; although up on the six of last year and the totals logged in four of the last six springs, the tally was down on a 2013-2019 mean of 27.1 and recent highs of 49 in 2016 and 75 in 2013 (the only spring tallies higher than that of 2013 are the 80 of 1988 and the 122 of 1989). There were no spring counts indicating that any *M. a. yarrellii* were present other than the Skokholm breeders. Pied Wagtail were first observed nest building on 16th April, this seven days earlier than in 2019, three days earlier than in 2016 and 2018 and one day earlier than in 2017. Seven breeding pairs were subsequently mapped, this a new Skokholm record, two up on the five mapped in each year between 2017 and 2019 and one up on the previous high logged in 2006 and 2007. There were five adults retrapped which had been ringed in previous years; one had been ringed as a juvenile in August 2019, two had been ringed as first-summer males in spring 2019, one had been ringed as an unaged female in March 2019 and male Z006113 had been ringed as a first-summer male on 25th May 2016 and had worn a ring for four years, two months and 20 days (the longevity record for a British ringed Pied Wagtail is eight years, nine months and one day).

Chick provisioning was first noted at North Haven on 7th May, this 17 days earlier than last year and the earliest record of the last eight years; there was no indication that young fledged, perhaps owing to rough weather events on the 10th or 22nd May. Indeed pairs near East Bog (where an adult was collecting food on 2nd June), at Windmill Gully and to the west of Winter Gully also seemingly failed

with their first broods. Audible chicks were noted in both the Courtyard and the Smoke Room on 21st May, with three fledging from the former site on 4th June but a failure at the latter site where an empty nest was strewn across the floor on 26th May. A pair at Purple Cove had fledged one by 12th June, this taking the total of first brood fledglings to just four. Replacement broods were also disappointing, with the Smoke Room pair fledging two by 11th July, the East Bog pair fledging one by 13th July and the Winter Gully pair fledging one by 28th July. There was no indication of a second attempt around North Haven or Windmill Gully and the pairs which fledged young at the second attempt did not seemingly nest again. The Farm pair positioned their second nest in the Cottage Garden Wall and fledged another four on 15th August, whilst the Purple Cove pair were not seen with a second brood. A total of 12 fledglings, seven of which were produced by the same pair, was the lowest since 11 were fledged by three pairs in 2014. The resulting productivity figure of 1.71 fledglings per pair was the lowest of the last eight years, down on a 2013-2019 mean of 4.38 (the low during this period was the 3.60 of 2017 and 2018, the high the 5.25 of 2016).

The number of Pied Wagtail *M. a. yarrellii* (maroon), White Wagtail *M. a. alba* (green) and unraced *M. alba* wagtail (blue) logged each day during the 2020 season.



There was little evidence of a *M. a. yarrellii* autumn passage, although many of the Skokholm birds departed; there were no more than six noted between 24th August and 19th September and no more than eight between 20th September and 6th October, although highs of 15 on the 7th and 13 on the 16th and 18th October probably included passage (or returning) birds. An adult White Wagtail which visited North Plain on 23rd August was the first of the autumn, this two days earlier than the first of last autumn but on the same date as the firsts of 2017 and 2018. There were a further 89 *M. a. alba* logged during the autumn, including highs of 11 on the 30th and 13 on 31st August and 19 on 17th September; the peak White Wagtail autumn daycount almost matched a 2013-2019 mean of 20.4, whilst the total was down on a 2013-2019 mean of 120.1, recent highs of 199 in 2013 and 266 in 2015 and all-time highs of 1134 in 1991 and 1712 in 1988 (the latter including a record September daycount of 200). There were an additional 198 unraced flyovers noted during August and September, with highs of 36 on 29th August and 22 on 17th September; the total was down on a 2013-2019 mean of 328.4, the 346 of last year and recent highs of 557 in 2013 and 446 in 2014. The last two White Wagtail of the year were noted on 24th September, this eight days earlier than the last of 2019; there have been 3638 later bird-days, including 2034 in October and six in November. Up to two Pied Wagtail were seen on five November dates between the 4th and 9th, whilst mobile singles on the 22nd, 26th and 27th took the bird-days total to ten; there have been four higher November totals, all logged since 2013 and with highs of 20 in 2013 and 19 in 2016. There were no records during the first week of December, indeed singles in 1927 and 1992 remain the only Pied Wagtails seen during the last month of the year.

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

Very Abundant Visitor and Uncommon Breeder

178 trapped, 26 retrapped

1936-1976: 4102 trapped, 2011-2019: 1239 trapped (including 5 pulli), 412 retrapped

A late return of staff meant that the typically quiet early March period was missed. Daily March sightings from the 16th averaged 80.3 birds per day and included six three-figure daycounts and highs of 111 on the 22nd, 107 on the 28th and 104 on the 30th (with a maximum flock size of 15 on the 30th); a mean of 85.8 birds per day was logged during the same period last year. Despite a reduction in the number of March recording days, a bird-days total of 1285 was the second highest since the 2879 of 1990 (which included a record March daycount of 350). There were ten April daycounts of 70 or more, with highs of 82 on the 2nd, 78 on the 18th (including a flock of 16) and 77 on the 20th and 24th; the peak daycount matched a 2013-2019 mean of 81.9 (an all-time April high of 700 was logged on the 4th in 1988), whilst a bird-days total of 1888 was up on a 2013-2019 mean of 1447.3. Survey work during April and May revealed 37 breeding territories and an additional singing male which was encountered on only one of four visits; the total number of territorial males was up on the 33 of last year and a 2013-2019 mean of 35.6. Adults were first seen carrying food on 5th May, this 14 days earlier than last year and 12 days earlier than the 2015-2019 mean, however, perhaps due to rough May weather, the first fledgling was not seen until 4th June, this four days later than the first of last year and on the same date as the 2013-2019 mean. There were 14 birds retrapped which had been ringed on Skokholm in previous seasons, this compared with 19 last year, 31 in 2018 and 15 in 2017; five birds had survived their first winter, four had survived two winters, two at least two winters, one three winters, one four winters and D295979, ringed as a juvenile on 4th July 2014 (and only previously retrapped on 14th August 2014) was retrapped as an adult male on 3rd April after six winters (the latter had worn a ring for six years, one month and 11 days, this not too far short of the British record of seven years, nine months and ten days).

The total number of Meadow Pipit bird-days logged each month, along with the monthly maximum and the date on which the 2020 peak was recorded. Counts from 2017 to 2019 are included for comparison.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020	1285	1888	1393	1402	1575	2338	3942	1229	106
2019	1536	2142	1327	1163	1601	2099	4474	1340	147
2018	728	1294	1793	1256	1780	2748	3252	1428	200
2017	1046	1380	1230	1007	1772	2636	3559	1261	17
2020	111	82	75	74	79	152	293	177	19
2019	183	107	72	57	68	113	931	175	45
2018	84	90	90	61	103	205	228	176	35
2017	93	73	79	57	107	179	305	160	6
	22nd	2nd	4th	24th	23rd	31st	21st	1st	4th

As is typically the case, numbers increased in August, with five three-figure daycounts and highs of 105 on the 9th and 23rd, 149 on the 13th and 152 on the 31st; there were two three-figure daycounts last August and eight in 2018 (the latter including an August record of 205 on the 30th). A total of 20 September daycounts in excess of 100 individuals was three more than last year, with highs of 287 on the 9th, 293 on the 21st and 228 on the 27th contributing to a bird-days total of 3942; the peak daycount was well down on a 2013-2019 September mean of 547.1 (with a high during this period of 1353 in 2013), however the total was up on a 2013-2019 mean of 3581.0 (with a peak of 4474 last year). There were October highs of 177 on the 1st, 94 on the 2nd and 89 on the 7th, but 25 or fewer on 16 dates from the 10th and no more than seven from the 23rd; the peak daycount and a bird-days total of 1229 were down on respective 2013-2019 October means of 181.3 and 1402.4, although there have only been four higher daycounts and six higher totals this century (the highest daycount

during the period was of 281 in 2013, whilst the October record is the 2000 logged in 1972). Counts on all but eight November dates included just four double-figure tallies and highs of 19 on the 4th and 15 on the 27th; the peak daycount was down on that logged in five of the last seven Novembers and a 2013-2019 mean of 24.9. Sightings on four dates during the first week of December peaked at four on the 1st, this matching the second highest post-War December daycount.

Tree Pipit *Anthus trivialis* **Corhedydd y Coed**
Uncommon although Scarce between 2004 and 2012 and more regular in autumn
Earliest 16th March 1966 (20th April 2020) **Latest** 13th October 1959 (19th September 2020)
1936-1976: 122 trapped, 2013-2018: 6 trapped, 1 retrapped

One east over the Bluffs on 20th April was 12 days later than the first of last year and one day later than the 2013-2019 mean; there have been 46 earlier bird-days, including seven since 2013 and three very early singles in March 1966. Further east bound singles on 27th April and 4th May were the only other spring sightings. A spring bird-days total of three was down on a 2013-2019 mean of 6.4, a recent high of 17 in 2015 and an all-time high of 34 in 1964 (the record spring daycount is the four logged in 1938, 1970 and 1987). Two on 13th August were the first of the autumn, these seven days earlier than the first of last year. Four went over the following day, one went north on the 17th, four went south on the 24th and one around the Well Heligoland on the 31st took the August total to 12; there have been 16 higher August tallies, with peaks of 45 in 1959, 30 in 1966, 33 in 1976 and 29 in 2018. There were only four Tree Pipit noted during September, all of which were logged on the 19th; although this equalled the 15th highest September daycount (a high of 12 were present on the 7th in 1966), there have been 37 higher September tallies including 22 in double-figures (most recently with 13 in 2013 and 2014 and with highs of 39 in 1958 and 37 in 1969). The last of the year were two days later than the last of 2019; there have been 92 later bird-days, including 21 in October.

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)
16 trapped, 1 retrapped
1936-1976: 2593 trapped, 2011-2019: 277 trapped (including 2 pulli), 89 retrapped

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

Spring survey work revealed 49 territories, this the same number as mapped last year and a total up on a 2013-2019 mean of 44.9 (there were highs during this period of 53 in 2016 and 61 in 2017, but lows of 32 in 2013 and 34 in 2014). Although the number of territories remained the same, there was seemingly a shift towards the coast for some pairs; whereas five males held territory on the plateau of the Island during 2019, the only pair to do so this year occupied the area to the north of the Lighthouse (this the lowest number of plateau nesting pairs to be mapped since 2014). Adults were first seen provisioning chicks on 15th May, two days later than the 2016-2019 mean, whilst fledglings were found along the South Coast on 24th May, two days earlier than the 2013-2019 mean (with the earliest fledglings during this period logged on the 14th in 2014). Although there was no attempt to estimate productivity, apparent second broods were again seen in some territories. Daycounts increased during the autumn as birds made their customary move up onto the plateau, with 114 on 9th September the peak count (when 60 birds were seen at the Neck); the maximum autumn daycount was down on the 135 of last year and a 2013-2019 mean of 127.7 (a recent high of 165 was logged in September 2014, whilst a record 400 were recorded in September 1934).

Chaffinch *Fringilla coelebs* **Ji-binc**
Fairly Common to Abundant listed by both Betts and Thompson as Common to Very Abundant
7 trapped
1936-1976: 255 trapped, 2013-2019: 71 trapped, 15 retrapped

A female around the Farm on the 20th, three over on the 26th and a single over on the 31st were the only March sightings; although Chaffinch are logged in the majority of Marches, including annually between 1955 and 1977, 1979 and 2003 and since 2011, they are seldom common, indeed the mean March totals for these three periods are 59.9, 15.2 and 13.3 (with the only three-figure daycounts being of 220 in 1960 and 430 in 1976). One along the North Coast on the 17th was the only April sighting; there have been April records in 74 previous years, with a post-War bird-days mean of 6.1 and a 2013-2019 mean of 5.4. One at Twinlet on 26th September was the first of the autumn, this on the same date as the 2013-2019 first autumn bird mean (the earliest during this period was present on 5th September 2015, this ignoring the unprecedented stay made by a female between 19th May and 14th October last year); there have been sightings in 28 previous Septembers. Records on ten October dates from the 14th peaked at 27 on the 14th, 32 on the 15th and 11 on the 16th; the peak daycount was the lowest since 2015, down on a 2013-2019 mean of 135.9 and all-time highs of 3200 in 1966 and 2000 in 1988, whilst a bird-days total of 96 was the lowest since 2013, down on a 2013-2019 mean of 336.9 and a recent high of 1100 in 2018 (the latter was the highest total in any month since the 1627 of October 1993 and the 11th highest monthly total to date). Chaffinch were noted on 15 November dates, with the only daycounts to exceed six being of 31 on the 4th, 19 on the 5th and 13 on the 10th; despite a staff presence throughout the month, a bird-days total of 90 was the lowest of the last six Novembers, down on all-time highs of 1905 in 1967, 3267 in 1968, 1171 in 1970 and 804 in 2017. A single east on 6th December was the last sighting prior to the staff departure.

Brambling *Fringilla montifringilla* **Pinc y Mynydd**
Uncommon although Scarce on occasion and with records in only 16 springs
Earliest 25th September 1976 (4th November 2020) **Latest** 27th April 1949
1936-1976: 5 trapped, 2013-2017: 4 trapped

There were no spring sightings this year; there have only been 33 previous spring bird-days, most recently with singles on 17th April 1997 and 13th April 2018. The only autumn sighting was of one over the Farm buildings on 4th November; this thus becomes the first year since 2011 without an October record (the 2013-2019 mean autumn arrival date is 15th October, with the earliest during this period logged on the 10th in 2017 and the latest on the 22nd in 2019). A lone autumn bird-day was down on both the six of last year and a 2013-2019 mean of 15.7 (the high during this period was of 42 in 2017, the low of two in 2014); there have been six totals higher than that of 2017, all logged

between 1966 and 1975 and with highs of 1382 in 1966, 160 in 1967 and 223 in 1973 (the peak including an unprecedented minimum of 800 on 22nd October).

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

A vocal bird high over the North Coast on 12th April was perhaps the first-summer female trapped in the Well Heligoland later that morning; this was five days later than the first of last year, four days later than the first of 2018 and the first to be ringed since 2011. One was high over the Island on 19th April, whilst the following day saw a male to the north of the Wheelhouse which soon headed east; the latter was only the tenth spring bird-day of the last eight years. Although the peak spring bird-days total is just 36, Greenfinch have been recorded in all but nine post-1946 springs, with 1987 the first blank year and the others all coming after 2003. There was no autumn sighting for the first time since 2013 and for the 22nd time since 1946. Although historical counts have fluctuated, a 2013-2020 autumn bird-days mean of 5.4 is well down on totals which have exceeded 200 on 12 previous occasions (most recently in 2003) and on highs of 581 in 1939, 525 in 1966 and 422 in 1976 (the former including a record daycount of 300). Since the eight birds noted in 2005, there have now been records in 12 years totalling only 106 bird-days. This significant decline is likely linked to the spread of trichomonosis, a disease caused by the protozoan parasite *Trichomonas gallinae* which led to a 59% drop in the British population in just ten years (Massimino *et al*., 2017).

Linnet *Linaria cannabina* **Llinos**
Common bred in 1929, 1997 and 1998
2 trapped
1936-1976: 63 trapped, 2011-2018: 43 trapped

Two on 22nd March included a male singing at Crab Bay; these were three days later than both the first of last spring and the 2013-2019 first bird mean. Sightings of up to six birds on all but one subsequent March date took the bird-days total to 31; although down on the 38 of last year, this was otherwise the highest March tally since the 199 of 1996 and was the eighth highest total to date. There were April sightings on every date bar the 30th, with highs of 14 on the 16th and 16 on the 8th, 11th and 17th; although the peak daycount was down on that recorded in five of the last eight Aprils (and all-time April highs of 50 in 1978, 64 in 1997 and 46 in 2018), a bird-days total of 183 was the third highest to be logged in the same period and, equal with 1978, the fifth highest to date (the maximum being the 333 bird-days logged in April 1960). Sightings on 21 May dates were all of three or less bar the four noted on both the 4th and 8th; a bird-days total of 33 was close to a 2013-2019 May mean of 30.0 and a post-1946 mean of 36.0. Sightings of up to two birds on five June dates, along with singles on two dates in July and three dates in August, led to totals typical of the summer months. Linnet were seen on all but three September dates from the 12th, with highs of 28 on the 18th, 22 on the 21st and 34 on the 27th which led to the fourth highest September total to date; a

bird-days total of 174 was only down on the 259 of 1994, the 270 of 2015 and the 242 of 2018. There were October sightings on all but one date to the 18th and on four dates from the 21st, with single-figure daycounts on 11 dates, but highs of 137 on the 3rd, 134 on the 13th and 144 on the 15th which took the bird-days total to 738; the peak daycount was up on a 2013-2019 October mean of 105.6 (the maximum during this period being 239 in 2016, a count only down on the 250 of 1967), whilst the bird-days total was up on a 2013-2019 mean of 483.3 and was the sixth highest October tally to date (down on 911 in 1959, 849 in 1966, 939 in 1975, 779 in 2016 and 892 in 2018). Records on nine November dates tallied 67 bird-days and included highs of six on the 4th, 41 on the 5th and 12 on the 22nd; there have been three higher daycounts and seven higher bird-days totals in this month (with a daycount high of 113 in 2016 leading to a record November total of 188). Two on the 1st and a single on the 6th were the only Linnet logged during the first week of December.

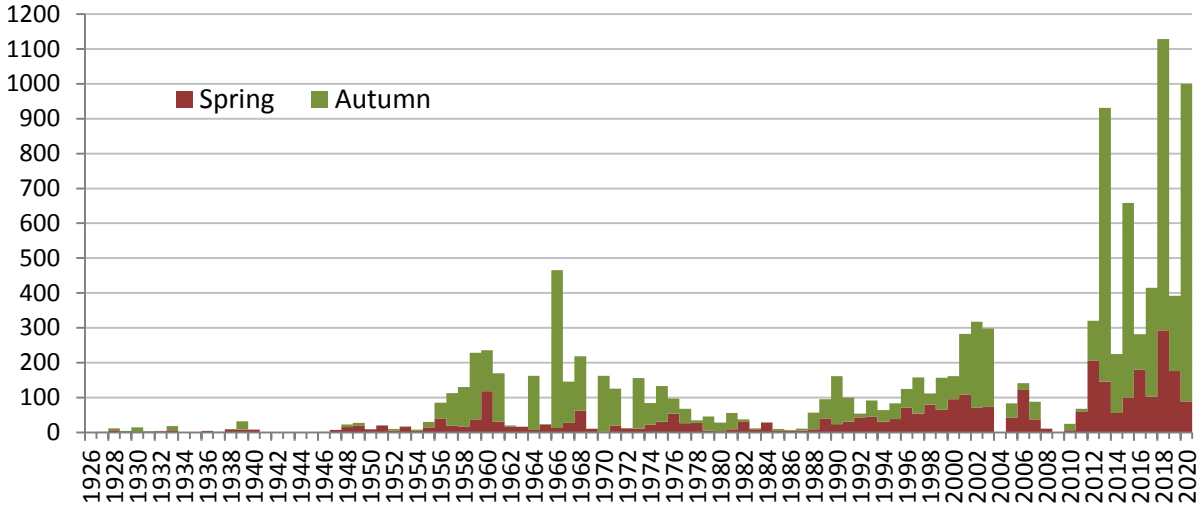
Lesser Redpoll *Acanthis cabaret* **Llinos Bengoch Leiaf**
Uncommon recorded by both Betts and Thompson as Scarce
4 trapped, 1 retrapped
1936-1976: 16 trapped, 2013-2018: 14 trapped

A calling flyover on 11th April was eight days earlier than the firsts of 2018 and 2019 and 11 days earlier than the 2013-2019 first bird mean; there have only been two earlier sightings, with flyovers logged on 25th March 2002 and 26th March 2003. Of an all-time April bird-days total of 49, 23 have been recorded since 2014. The only May sighting was of one sat near the Well on the 31st, this taking the post-1928 May total to 203 and the post-2013 May total to 100 (the peaks being 29 in 2002, 24 in 2013 and 54 in 2016). A lone flyover on 24th June was the 43rd to be seen in this month. A flyover on 19th September was the first of the autumn, three went over the following day, three on the 21st included two grounded birds, one went over on the 25th, five did likewise on the 27th and three were trapped on the 29th; a September bird-days total of 16 was only down on the 24 of 1972 and the 17 of 2015. October saw two on the 3rd (one of which was trapped), three on the 5th, two on the 6th (which included the bird ringed on the 3rd), three on the 16th (including one in the Lighthouse Compound) and two on the 22nd; a bird-days total of 12 equalled the fourth highest October tally to date (a high of 43 was logged in 1959). Flyover singles on the 4th and 22nd November were the last of the year, taking the post-2014 November tally to 18 and the all-time total to 29. Of the 635 bird-days now noted on Skokholm since the first two were seen in 1929, 297 have occurred in spring (including 138 since 2013) and 338 have occurred in autumn (including 126 since 2013). The highest daycounts are of 17 in October 1959 and September 1972, 21 in May 2016 and 16 in October 2017.

Goldfinch *Carduelis carduelis* **Nico**
Common but recorded by both Betts and Thomson as Fairly Common
36 trapped
1936-1976: 65 trapped, 2011-2019: 145 trapped, 5 retrapped, 3 controls

A lone flyover on 23rd March was one day later than the first of last year and on the same date as the 2013-2019 first bird mean. Up to four on three further dates took the bird-days total to seven, this the ninth highest March tally (the peak is the 21 of 2000). Records on 20 April dates were all of three or less bar highs of six on the 11th, eight on the 16th and ten on the 27th; the peak daycount matched a 2013-2019 April mean of 10.1 (an all-time high of 21 was logged in 2018), whilst a bird-days total of 48 was the lowest since 2014, down on a 2013-2019 mean of 65.4 and an all-time high of 116 in 2018 (although there have only been seven higher April tallies). May proved similarly quiet, with sightings on 17 dates all being of two or less bar three on the 3rd and six on the 16th; the peak daycount was down on a 2013-2019 mean of 12.0 (the all-time high is the 23 of 2018), and a bird-days total of 27 was again the lowest since 2014, down on a 2013-2019 mean of 67.7 (the all-time high is the 136 of 2018). The only June sightings were of three on the 9th and two mobile adults on the 15th and 25th. There was no July record for the first time since 2013.

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



Two seen in flight on 4th August were probably the two juveniles present the following day; there have only been August sightings in five previous years. What was perhaps a lingering juvenile was noted for three days from 5th September, eight on the 9th included one eaten by a Sparrowhawk and sightings on all but three dates from the 15th included highs of 44 on the 16th (there were none the following day), 103 on the 20th (five the following day) and 70 on the 23rd (none the following day); the September daycount maximum was the second highest to date, only down on the 114 of 2018, whilst a bird-days total of 328 was a new high (up on the 237 of 2018). Numbers also fluctuated in October, with no birds logged on five dates and counts of four or less on a further 13, but highs of 180 on the 3rd, 45 on the 13th and 21st and 44 on the 15th which led to a bird-days total of 523; there has only been one higher daycount in any month, the 285 logged on 14th October 2013, whilst the October bird-days total was only down on the 746 of 2013 and the 582 of 2018. Goldfinch were present on 14 November dates, with 23 on the 4th and eight on the 18th the only daycounts of more than three; there have been three higher peak daycounts (with 30 in 1968 the maximum) and nine higher November totals (with a record tally of 138 logged in 2015). The first week of December saw a single on the 1st and nine on the 6th, the latter a new daycount record for this month.

Siskin *Spinus spinus* **Pila Gwyrdd**
Uncommon sometimes Scarce and with records in just 12 previous springs
2 trapped
1936-1976: 37 trapped, 2017: 1 trapped

A lone bird heading southeast on 11th April was the sole spring record; there have only been 31

previous spring bird-days, including 18 in April (with two in 2016, two in 2018 and five last year). Two on 4th September were the first of the autumn, these 19 days earlier than the 2013-2019 mean and the earliest autumn arrivals since an exceptionally early single on 27th July 2015 (there have been three previous July bird-days, but none in August). Sightings on 17 further September dates included highs of 29 on the 9th and six on the 20th and 21st which took the total to 74; both the peak September daycount and bird-days total were the second highest to date, only down on those of 2015 when a daycount of 52 contributed to a tally of 111. October counts were more typical of late, with sightings on 13 dates and highs of 31 on the 3rd, five on the 7th and 12 on the 16th; although only half of that logged last year, the peak October daycount otherwise matched that of 2017 as the highest since the 180 of 1993, whilst a bird-days total of 67 was up on a 2013-2019 mean of 40.1 (there have been eight higher October totals, including a record 2156 in 1988 which included remarkable daycounts of at least 1200 grounded by fog on the 26th and 800 the following day). November saw nine on the 4th, three on the 5th and 6th and singles on the 7th and 27th; the peak daycount was a new November record, whilst the only higher totals are the 24 of 1996 and the 19 of 2015. Of 153 November bird-days, 70 have been logged since 2015. Four on the 6th was a rare December record; the only other sightings in this month are of two in 1981 and a single in 1996. Siskin have now been noted in 42 years since the first 11 for Skokholm were found in 1949 (with 2014 the last blank year).

Lapland Bunting *Calcarius lapponicus* **Bras y Gogledd**
Scarce but recorded in only 48 previous years and with just five spring records, most recently in 2017
Earliest 30th July 1957 (18th September 2020) **Latest** 8th June 1963
1 trapped
1936-1976: 1 trapped, 2017: 1 trapped

The first of the year went low over the Lighthouse on 18th September, this the first sighting in this month since one on the 29th in 2017 and the earliest since one on the 3rd in 1997; there have been 51 bird-days earlier than the first of 2020, including 15 in August and one in July. A female was trapped in a Skokholm Dunlin Trap set at North Pond on 19th September, this just the third to be ringed here. Surprisingly a bird watched feeding at North Pond on the 20th was definitely not ringed.

There followed one over North Plain on 22nd September, one over the Dip on 13th October, one at the Sugarloaf on 26th October and one over the Well on 22nd November. A total of seven autumn bird-days was one up on last year and the highest since the 13 of 2016. The only autumn totals higher than that of 2016 are the record 56 of 1956, the 15 of 1957, the 17 of 1960, the 14 of 1973 and the 45 of 1993 (the latter including a record daycount of 11 on 20th October).

Snow Bunting *Plectrophenax nivalis* **Bras yr Eira**
Scarce but with only six spring records
Earliest 17th September 1999 (4th November 2020) **Latest** 25th April 1959
1936-1976: 6 trapped, 2014: 1 trapped

A mobile bird calling to the south of Winter Pond on 4th November was perhaps the individual found feeding at Warden's Rest two days later (RDB). Vocal flyovers were logged on the 9th and 10th, whilst photographs of one feeding at the northern end of North Plain on the 11th suggested that it was the same bird seen well on the 6th. A 2020 bird-days total of five was down on the eight of last year, but up on a 2013-2019 mean of 2.3. The highest totals are the 44 of 1961, the 63 of 1967, the 128 of 1968 and the 26 of 1975, whilst the record daycounts are of 17 in 1961, 15 in 1967 and 12 in 1968.

Little Bunting *Emberiza pusilla* **Bras Lleiaf**
Vagrant two previous records
1 trapped

A temporary mist net positioned alongside the North Pond willows (during an unsuccessful attempt to catch a skulking Grasshopper Warbler) yielded an unexpected third for Skokholm and eighth for Pembrokeshire on 29th September (RD, *et al*.). The first Pembrokeshire bird was found here on 19th November 1967, whilst one which visited both the Well and the Cottage Garden on 11th October 2001 was a fifth for the county. Of the seven previous Pembrokeshire sightings, three were between

16th April and 13th May and four were between 29th September (the same date as this year's bird) and 19th November.

Reed Bunting *Emberiza schoeniclus* **Bras y Cyrs**
Scarce Breeder and Scarce Visitor bred in 1960, in most years 1967-1980 and since 2005
5 trapped, 11 retrapped, 5 controls
1936-1976: 174 trapped, 2011-2019: 91 trapped, 152 retrapped

One seen during a daytrip on 22nd January was just the second record in this month (following a single in 1968). Birds were present from the return of staff on 16th March, a late observer arrival meaning that the usual early season absences were missed. There were no spring or summer daycounts in excess of the total number of Skokholm breeders, whilst one at the Bluffs on 14th April was the only bird seen away from the breeding territories. There were five territories mapped, with pairs at Isthmian Heath, the Well, East Bog, west of West Knoll and South Pond; this was two up on last year and matched a 2013-2019 mean of 5.4 (an all-time high of seven were mapped in each year between 2015 and 2017). Two Skokholm ringed adults were retrapped this year, this one more than last year and the same as in 2018, but five fewer than in 2017 (when the breeding population was larger); a male and a female, both ringed in April 2017, were present during April, with the male again retrapped in September (when it had worn a ring for three years, five months and eight days). Additionally two females, ringed on Skomer as juveniles in 2019, were present during April. Chick provisioning was first seen at East Bog on 15th June, although the female west of the West Knoll was accompanying a recent fledgling on the 20th; the latter was the earliest fledgling of the last eight years, five days earlier than one in 2016 and 22 days earlier than the 2013-2019 mean. Lone fledglings in the East Bog and Well territories were the only others seen, the latter ringed on 29th July and retrapped during its post-juvenile moult on 10th September. A minimum of 0.60 fledglings per pair was the lowest productivity estimate of the last eight years, a value down on the 0.67 of last year and a 2013-2019 mean of 1.81 ±se 0.23 (the high during this period was the 2.50 of 2018). Poor productivity was reflected in the number of juveniles ringed before the end of August; there were singles trapped both this year and in 2019, five in 2018, seven in 2017 and eight in 2015 and 2014.

In the years in which Reed Bunting did not breed, they were considered a scarce visitor; low counts were logged most Octobers. Such small scale arrivals are difficult to detect now that a breeding

population has again established, indeed there was only circumstantial evidence for any immigration this autumn. Two unringed birds trapped on 29th September included an adult male, whilst three flyovers on 22nd October took the daycount to eight (the highest to be logged this year). Counts again dwindled as the autumn progressed, with no more than two noted on just four dates between 6th November and 7th December.

Ringing recovery AKA3692
Originally ringed as a juvenile, SKOMER ISLAND, PEMBROKESHIRE 23rd July 2019
Recovered as an adult female, WELL HELIGOLAND, SKOKHOLM 6th April 2020
Recovered as an adult female, LIBRARY NET, SKOKHOLM 13th August 2020
Recovered as an adult, REEDBED NET, SKOKHOLM 5th November 2020
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 258, 387 and 471

Ringing recovery AKF6123
Originally ringed as a juvenile, SKOMER ISLAND, PEMBROKESHIRE 23rd August 2019
Recovered as an adult female, WHEELHOUSE HELIGOLAND, SKOKHOLM 20th April 2020
Recovered as an adult female, COTTAGE HELIGOLAND, SKOKHOLM 22nd April 2020
Distance travelled 4km at 163 degrees (SSE)
Days since ringed 241 and 243

The Non-avian Report

The 2020 season proved a diverse and exciting one for records of non-avian species, this despite the lack of guests and Long-term Volunteers (all of whom typically contribute significantly to these sightings). With many of Skokholm's non-avian records arising as a result of chance encounters, as opposed to focussed monitoring, fewer eyes in the field will inevitably have had an impact. Nevertheless, observations made during the daily census were supplemented by targeted surveys to once again produce an exciting list covering a range of taxa. The 2020 sightings are documented systematically below and, where appropriate, compared with the digitised historical records, Thompson (2007) and observations made since 2012.

Invertebrates

Dragonflies

Skokholm's three largest water bodies are relatively exposed and, in most years, dry up during the warm summer months; Winter and South Ponds are the first to do so, whilst in some years a small wet scrape may remain at North Pond throughout the year. Regular efforts have been made to remove a build-up of silt at North Pond (in an attempt to prolong the period in which it holds water), however this year it was empty for a week in early June and from mid-July until the last week of August. Orchid Bog and the small Wheelhouse and Courtyard Ponds hold water throughout the season, these sites providing many of the Island Odonata records. Unsurprisingly species diversity varies between years, with the vast majority of records being of transient individuals and very few being the product of breeding on the Island; only Emperor Dragonfly *Anax imperator*, Red-veined Darter *Sympetrum fonscolombii* and Broad-bodied Chaser *Libellula depressa* have bred in the last eight years, with the latter the only species known to have done so successfully. There are 19 species of Odonata on the Skokholm list, of which three (Lesser Emperor *A. parthenope*, Banded Demoiselle *Calopteryx splendens* and Red-veined Darter) were added in the last eight years. Red-veined Darter was added to the list in 2013 and observed annually until 2019, however there was no sighting this year; given that almost all of these individuals were found by the Wardens, there may have been a genuine absence this year (the only darter to be logged was at the Well on 27th May, however this was seen too briefly to assign to a species).

Migrant Hawker *Aeshna mixta* (Latreille, 1805)
A single found on 12th August, resting on Bracken along Well Stream, was two weeks earlier than the first of 2019 and the first in what was a better year for records of this species. The following day saw singles at Twinlet, the South Coast Cut and Billy's Dyke, a total of three being the highest daycount since 17th September 2017 (when three were also logged). Two insects on both the 17th and 18th brought the total for the month to seven; there was only one in August 2019. Two were present on 14th September and a further four were recorded over three dates between the 16th and 19th, taking the annual total to 13. The total was up on the three of 2019 and matched the fourth highest of the last eight years; there were nine in 2018, 21 in 2017, 13 in 2016, 36 in 2015 and 15 in 2014. A single hawker, seen too briefly to confidently assign it to a species, was recorded on 13th September.

Lesser Emperor *Anax parthenope* (Sélys, 1839)
On a calm and warm 9th August morning, a male Lesser Emperor was found hawking for insects over the northern section of North Plain. This impressive insect was watched for some time as it moved at a remarkable pace around a large feeding circuit. Although difficult to follow with a camera, the view through binoculars was pleasing and allowed for the blue saddle on abdominal segments two and three, the yellow ring at the base of segment two, the dull brown abdomen and vivid green eyes to be noted. This fantastic record was just the second for Skokholm following one near the Red Hut on 2nd June 2017. An insect found in Gloucestershire as recently as 1996 was the first British record of a species typically resident in the Mediterranean regions of Southern Europe and North Africa (Dijkstra and Lewington, 2018). Successful breeding at two Cornish sites in 1999 was followed by an increase in sightings over the next two decades; it is now regarded as a rare, but annual, migrant (BDS, 2020).

Emperor Dragonfly *Anax imperator* (Leach, 1815)
One found at the South Pond Lower Drain on 24th June was the first of the year and the earliest since two present on the 17th in 2014. The next record was not until 9th August, this of a female observed ovipositing at Orchid Bog. A single, seen briefly over Home Meadow three days later, was the last of the year. An annual total of three is the lowest of the last seven years and a tally 70% down on the 2013-2019 mean (10.0 ±sd 8.0); there was a high during this period of 23 in 2018, whilst there were no sightings at all in 2013.

Broad-bodied Chaser *Libellula depressa* (Linnaeus, 1758)
The discovery of several fresh imagoes around the Farm in 2019, the first Skokholm records since 1994, prompted a search of the nearby Wheelhouse Pond for signs of breeding; three nymphs were found, leading to a 2020 emergence of Skokholm-bred insects being anticipated. A thick mat of floating vegetation had enveloped much of the Wheelhouse Pond following the 2019 discovery, however, on 6th April this year, efforts were made to create an area of open water. The pulled vegetation was left at the edge of the pool to allow inadvertently removed pond-life to return to the water; a search through the pile revealed three mature Broad-bodied Chaser nymphs (identified using the unique combination of features referenced in Brown and Eagle (2019b)). What appeared to be a freshly emerged adult was found in the same area on 12th May, whilst a single insect was observed flying over the Courtyard on both the 13th and 14th. A different imago was found on the 24th, this again just to the north of the Wheelhouse; this individual was still expanding its wings, suggesting that it had emerged very recently (although no exuvia was found). A third present at the Wheelhouse Pond on 1st June was probably eaten; discarded wings were on the surface of the pond the following day. The larvae of this species take between one and three years to mature; it is thus possible that the nymphs observed this year were related to those seen in 2019.

Moths

Whilst some of the Skokholm moth records date back to 1910, there are several gaps in the historical database; although moths appear to have been surveyed more intensively at times, particularly during the late 1990s, putting recent findings into context is difficult. However the effort afforded to the study of Skokholm's moths has now been relatively consistent for eight consecutive years, allowing us to look at patterns and trends in the numbers of some of our breeding and migrant species. The 2020 records listed here are the result of both nocturnal trapping and ad hoc field observations, the trapping carried out using the solar mains powered Skinner Trap situated at various sheltered sites around the Farm and at South Haven. A fantastic diversity was again

encountered, including 20 Island scarcities (recorded in no more than five previous years) and ten additions to the Island list (there were 17 additions in 2019 and seven in 2018). Of the latter, perhaps the most exciting was the discovery of **Lunar Hornet Moth** breeding at the Well, although a stunning female **Emperor Moth** and cryptic **Green Arches** were close contenders. It was an interesting year for encounters with immigrants, with several species appearing in numbers very different to those seen last year. It proved the best year to date for records of **Vestal**, with a mass autumn arrival (indeed more **Vestal** were counted on a single September date than in the entirety of any previous year). It was also the second best of the last eight seasons for **Silver Y** and a much improved year for **Dark Sword-grass**. Conversely it was a comparatively quiet year for records of **Rusty Dot Pearl** and **Rush Veneer** and the worst of the last eight for **Diamond-back Moth**. 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 A' occurs in between 16 and 30 hectads and a 'Nationally Scarce B' occurs in between 31 and 100 hectads.

1.004 **White-barred Gold** *Micropterix aruncella* (Scopoli, 1763)
A total of four females were found in vegetation adjacent to North Pond whilst undertaking annual seabird census work on 8th June. A resplendent male, discovered at the same site in 2019, was the first for Skokholm. Although a widespread moth, its diminutive size and unobtrusive nature may go some way to explaining the lack of Island records; it is probable that this species is a low density breeder. Moths of the genus *Micropterix* are unusual in that the adults have fully functioning mouthparts which allow them to feed on pollen.

3.001 **Orange Swift** *Triodia sylvina* (Linnaeus, 1761)
The first of the year was taken from the moth trap on 16th August. One was found entangled in a spider web on 1st September, whilst the only other record was of a single trapped on the 4th. An annual total of three is low, however this poor tally is probably deceptive; of the 19 logged in 2019, 11 were observed by staff walking along the Lighthouse Track at dusk (this a routine which was missing from this year as the evening Birdlog was held at the Lighthouse). Nevertheless, attendance at the moth trap does fluctuate; there were seven in 2019, 24 in 2018, four in 2017, five in 2016, one in 2015, 16 in 2014 and one in 2013.

3.002 **Common Swift** *Korscheltellus lupulina* (Linnaeus, 1758)
A total of 25 trapped between 9th May and 14th June included a peak catch of five on 20th May. A female, found at Spy Rock during daylight on 7th June, took the year tally to 26; there were 15 in 2019, 47 in 2018, 20 in 2017 and 47 in 2016. This apparently regular fluctuation in numbers is perhaps in part due to the extended life cycle of this species, which sees the larva overwinter twice before maturation.

3.003 **Map-winged Swift** *Korscheltellus fusconebulosa* (De Geer, 1778)
It was another disappointing year for records of this summer species, with singles on the 14th and 15th June and on 7th July the only insects logged; there was just one in 2019, but 15 in 2018 and 17 in 2017. Although this moth is encountered in most years with a trapping effort, high counts are surprisingly rare, this despite an abundance of Bracken *Pteridium aquilinum*, the larval foodplant.

4.001 **Sorrel Pigmy** *Enteucha acetosae* (Stainton, 1854)
This Nationally Rare Nepticulid, one of the planet's smallest moths, was first recorded on Skokholm in 2014 when its distinctive larval mines were found on the leaves of Common Sorrel *Rumex acetosa* (on plants growing near North Pond Hide and in a Manx Shearwater census plot adjacent to the pond). The mines have been encountered at the same locations in each subsequent year, including this season when a total of 15 separate spirals were found across nine leaves at the latter site; although the search is far from exhaustive, the total was very close to the 13 present there in 2019. A new site, found to contain 2139 mines on 687 eaten leaves, was discovered among rough grassland to the west of the northern section of Little Bay Wall in 2019; a thorough search of this area was not possible this year, but an inspection of nine active leaves produced a count of 75 individual mines. A single mine found adjacent to Winter Pond on 12th September represents a new site for this species, perhaps suggesting it to be more widespread than previously thought.

4.035 **Sallow Pigmy** *Stigmella salicis* (Stainton, 1845)
A single mine made by a Sallow Pigmy was found on the upperside of a Grey Willow *Salix cinerea* leaf at the Well on 23rd August. This proved to be just the second record for Skokholm following the discovery of a vacated mine by County Recorder Robin Taylor in 2017. Although not noted in 2017, the positioning of the egg is significant. Whilst still recorded as a single species here, it is now understood that *S. salicis* is part of a complex of species; the split of a currently unnamed *Stigmella* sp. from *S. salicis* is determined in part by the location of the egg on the host leaf, *S. salicis* utilising the underside of the leaves of willows and rough-leaved sallows, whilst *Stigmella* sp. uses the upperside (Nieukerken *et al*., 2011).

11.012 **Common Bagworm** *Psyche casta* (Pallas, 1767)
The larval cases of this unobtrusive species, which was first recorded on Skokholm in 2013, were again found during the summer, among the inspection hatches of the Lighthouse Manx Shearwater study plot. Although no targeted survey took place, there were seemingly fewer than in 2019 (when a minimum of 50 were noted in the plot and on the exterior walls of the Lighthouse). A single, on the wing near North Pond on 8th June, was the first male to be logged this season, whilst a further five were observed at Crab Bay on 2nd July; males had only been seen in 2014, 2016, 2017 and 2019. Whilst the majority of observations occur in the vicinity of the Lighthouse and Quarry, where seabird work sees observers crawling in close proximity to suitable substrate, it is likely that similar close inspection at other sites would reveal this moth to be more abundant and widespread than ad-hoc

records suggest. Indeed the 2016 whole Island Storm Petrel census led to a minimum of 100 cases being found in a section of rarely examined loose scree along the West Coast.

15.010 **White-triangle Slender** *Caloptilia stigmatella* (Fabricius, 1781)
A vacated larval mine was discovered in an old Grey Willow leaf-roll at the Well on 23rd August, whilst an adult was found resting in the Well Hide at dusk on 30th October; these were the first records for Skokholm. Given the abundance of the larval foodplant at the Well and the diminutive size of the adult, it is plausible that this Skokholm breeder has previously been overlooked.

17.014 **Feathered Stem-moth** *Ochsenheimeria taurella* ([Denis & Schiffermüller], 1775)
The first Skokholm record of this widespread species was found by day at North Pond on 18th August. The larvae mine the stems of a range of coarse grasses and the adults, although distinctive with an overall shaggy appearance (caused by a thickened, hairy base to the antennae and erect forewing scales), are unobtrusive by nature and may thus be overlooked.

18.001 **Diamond-back Moth** *Plutella xylostella* (Linnaeus, 1758)
It was an exceptionally poor year for records of Diamond-back Moth on Skokholm, indeed two on 16th August and a single the following day were the only encounters. Although the number of moths arriving to the UK is known to fluctuate widely each year, a Skokholm total of three is the worst tally of the last eight seasons; there were 55 moth-days in 2019, five in 2018, nine in 2017, 4425 in 2016, ten in 2015 and 1156 in 2014.

32.018 **Common Flat-body** *Agonopterix heracliana* (Linnaeus, 1758)
Although common and widespread, the nondescript Common Flat-body is probably overlooked on Skokholm. Two taken from the light trap on 18th August and three on the 31st were the only records this season, these the first since 2017; the only other years with a sighting are 2016 and 2014.

32.031 **Brown-spot Flat-body** *Agonopterix alstromeriana* (Clerck, 1759)
One resting inside the Wheelhouse on 31st October and another found in the Ringing Hut after dark on 5th November were the only 2020 records of this distinctive moth. This is a reasonably common mainland species whose larvae feed on the flowers and leaves of Hemlock *Conium maculatum*, however on Skokholm it has proven to be scarce or overlooked; there was one in 2019, five in 2015, 16 in 2014 and three in 2013, the latter being the first Island records.

32.036 **Parsnip Moth** *Depressaria radiella* (Goeze, 1783)
Two diurnal observations on 16th August were the first 2020 records of this abundant Skokholm breeder. A further five were logged by day on the 24th and three singles came to light on the 18th, 24th and 25th. Caterpillars were again noted on several Common Hogweed *Heracleum sphondylium* flowers in the Courtyard, plants which quickly became decimated by their larval occupants.

32.039 **Dingy Flat-body** *Depressaria daucella* ([Denis & Schiffermüller], 1775)
A single taken from the light trap in the Wheelhouse Heligoland on 31st August was just a second for Skokholm following its discovery in 2019. The larvae feed on the stems and flowers of, among other species, Hemlock Water Dropwort *Oenanthe crocata*, a plant which grows commonly at the Well and adjacent to the Ringing Hut. It is plausible that adults of this moth have been misidentified or overlooked previously, especially given the abundance of the similar *D. radiella*.

35.040 **Cinerous Neb** *Bryotropha terrella* ([Denis & Schiffermüller], 1775)
A single found at North Pond on 18th August and one taken from the light trap outside of the Cottage on 6th September were the only records this year. This moth was first discovered on the Island in 2014, when 117 were trapped between July and August, however it has only been logged subsequently in 2016, 2017 and 2019; as with some of the other nondescript micro moths, it is likely that this is an overlooked species on Skokholm.

35.130 **Coast Groundling** *Caryocolum vicinella* (Douglas, 1851)
Two found in Crab Bay Hide on 14th July were the first 2020 records of this attractive, Nationally Rare Gelechid. Two were at Howard's End on 24th August and a further single was at the same site on 9th September, these taking the annual total to five. Since the discovery of this species in 2014, there have been low counts annually and sightings from a range of locations (including South Haven, Crab Bay, the Lighthouse and North Gully). The peak tally came in 2016 when 16 were encountered, 15 of which were in South Haven during late June. Low counts are in part due to the inconspicuous nature of a species which has a tendency to crawl under dense patches of vegetation, indeed given that the larval foodplant is Sea Campion *Silene maritima*, an abundant and widespread plant on Skokholm, it is likely that this coastal specialist has a much larger population than the records suggest.

35.146 **Large Groundling** *Teleiopsis diffinis* (Haworth, 1828)
This common and widespread mainland species was first documented on Skokholm in 2014 when eight were taken from the trap. It has since been logged almost annually, but until this year always in low numbers. A total of 38 were taken from the moth trap between 16th August and 9th September, with a peak catch of 21 on the 16th. This is the best showing to date for a species whose larvae feed on Sheep's Sorrel *Rumex acetosa*.

41.002 **Dingy Dowd** *Blastobasis adustella* (Walsingham, 1894)
This species was accidentally introduced to Ireland at the beginning of the 20th century (De Prins *et al*., 2009), and later became established and widespread throughout the United Kingdom. On Skokholm it is a common and active mid-Summer visitor to light, although a high proportion often depart the trap prior to being counted. This season saw 331 individuals taken from the trap between 7th August and 20th September, this a substantial increase on the 109 logged last year.

45.037 **Dusky Plume** *Oidaematophorus lithodactyla* (Treitschke, 1833)
It was another poor year for records of this recently discovered (presumed) Skokholm breeder. Despite several searches of the larval foodplant, Common Fleabane *Pulicaria dysenterica*, growing along Well Stream and in Billy's Dyke, a lone individual on 23rd August was the only moth to be found. Only one was located in 2019, but there were 19 in 2018, 15 in 2017 and 22 in 2016 (the latter the year in which this species was first encountered).

45.044 **Common Plume** *Emmelina monodactyla* (Linnaeus, 1758)
One attracted to light outside of the Cottage on 9th September was the first since one taken on 20th October 2016. The only encounters prior to these were in 2015 and 2014, both of which were with single specimens. This is one of the commonest Plume moths in the United Kingdom; although the larvae feed primarily on Bindweed *Convolvulus* spp., they can also use orache *Atriplex* spp., of which five species have been found on Skokholm (Thompson, 2007).

48.001 **Common Nettle-tap** *Anthophila fabriciana* (Linnaeus, 1767)
This diminutive nettle specialist can be overlooked on Skokholm, especially when it occurs at low densities. The first two of the year were noted in the Cottage Garden on 10th June; there followed a further three in the remainder of June, three in August and 42 in September. A moth-days total of 50 was an improvement on the 17 of 2019; although recent low tallies have, in part, been attributable to recorder effort, there does seem to have been a genuine increase this year. This species becomes more obvious as density increases, this being particularly apparent in 2016 when 456 were logged.

49.025 **Barred Fruit-tree Tortrix** *Pandemis cerasana* (Hübner, 1786)
This common mainland species was not logged on Skokholm until 2016, however it has been encountered in each year since. One found on the outside of the Ringing Hut on the morning of 13th June was the first in an excellent year for numbers of this distinctive Tortrix. A record ten individuals were taken from the moth trap on the 14th and a further eight were taken during four trapping sessions between 15th June and 31st August. An additional singleton, found in the Wheelhouse Heligoland on 6th July, takes the year total to 20 and a new high; there were singles in 2019, 2018 and 2016 and five in 2017. Although this is primarily a woodland moth whose larvae feed on deciduous trees, its annual occurrence and increasing numbers suggest that it has colonised.

49.070 **Rhomboid Tortrix** *Acleris rhombana* ([Denis & Schiffermüller], 1775)
A stunningly marked individual taken from the moth trap on 15th August was a first for the Island. This species is fairly common throughout the UK where it occupies hedgerow and garden habitats. It uses a range of shrubs and trees as larval foodplants, but has a particular fondness for Hawthorn *Crataegus monogyna*. Given the lack of both previous records and the preferred larval foodplant on Skokholm, it is likely that this moth was a drifter from the mainland.

49.077 **Garden Rose Tortrix** *Acleris variegana* ([Denis & Schiffermüller], 1775)
A singleton found resting on an Elder *Sambucus nigra* behind the Wheelhouse on 16th August was the first record since one taken from a moth trap at the same site on 16th August 2015 (the latter the first for Skokholm). A second individual was trapped outside of the Cottage on 6th September. The larvae of this species feed on a variety of plants and shrubs, including Bramble *Rubus fruticosus*, mature examples of which are available near both of the 2020 trapping sites.

49.139 **Black-headed Conch** *Cochylis atricapitana* (Stephens, 1852)
This species, which is widespread across the British Isles but more common in coastal areas, has often been encountered in the Skokholm trap. However, as with many of the smaller micros, it has a tendency to escape prior to being counted. Two taken on 16th June and three on 7th August were the only examples to be logged in 2020; there were no 2019 records and 11 in 2018. This is a double brooded species, with the first brood larvae feeding on the flowers and flower stalks of Common

Ragwort *Senecio jacobaea* and the second brood utilising the stem and root stock. The number present is likely to correlate with Common Ragwort availability, this a plant which fluctuates in abundance dramatically between years and which was particularly plentiful this year.

49.164 **Thyme Marble** *Celypha cespitana* (Hübner, 1817)
The first two of the year came from the moth trap on 16th August. Two were observed at the Well by day on the 23rd and a further six were attracted to light during three trapping sessions between 24th August and 20th September. With the exception of 2018, this primarily coastal micro has been logged in each of the years since its discovery in 2014.

49.166 **Common Marble** *Celypha lacunana* ([Denis & Schiffermüller], 1775)
A total of 16 were noted by day, over three dates between the 16th and 23rd August. A single trapped on the 24th was the only individual to be attracted to light. This is one of the commonest members of the Totricidae to be found on Skokholm and is easily disturbed from Bracken during daylight hours.

49.185 **Shore Marble** *Lobesia littoralis* (Humphreys & Westwood, 1845)
A total of 15 found at Little Bay Point during daylight on 24th August were the first 2020 records of this Thrift *Armeria maritima* eating coastal micro. There were 30 noted along the North Coast and two in North Haven on the 31st, two at the Neck on the 5th and a last single on 17th September which took the year total to 50. This was a good Skokholm tally; just one individual was noted last year, although a more thorough 2016 survey of areas dominated by Thrift produced a total of 75 moth-days (second brood adults encountered in 2016 were noted to be smaller and more subtly marked).

49.285 **Thistle Bell** *Epiblema scutulana* ([Denis & Schiffermüller], 1775)
One trapped outside of the Cottage on 24th August was the sole 2020 record. This is another moth which was only discovered on the Island in 2014 and which has been found infrequently since, although given that it is regular on the nearby mainland, this is perhaps as a result of recorder effort. There were five in 2014, 14 in 2016, ten in 2017 and four in 2019.

52.003 **Lunar Hornet Moth** *Sesia bembeciformis* (Hübner, 1796)
Whilst pushing the Well Heligoland on 24th June, the exuvia of a Lunar Hornet Moth was found protruding from a small exit hole in the trunk of a mature Grey Willow. This exciting discovery, of a species not previously recorded on Skokholm, prompted regular checks of the older trees around the Well. The first vacated chrysalis was removed on the 25th to ensure that any further emergences could be accurately counted. The same tree produced two exuviae on the 27th, taking the June total to three. On 1st July there was a fourth and a fifth was found and removed the following day.

The first imago was encountered on 2nd July; this was a thrilling find, particularly given this species' tendency to quickly disappear into the tree canopy to find a mate. The insect had failed to fully extend its wings, which was probably the reason that it was still at ground level. It proved to be a

female, her pheromones attracting a male with which she was later found mating (top left photo). A second pair was found in copula on a tree to the east of the Well 6 net ride later that day; the female of this pairing was subsequently observed laying an egg on a Red Campion *Silene dioica* leaf (lower two photos). An inspection of the surrounding tree trunks found four more exuviae and a further pupa from which the insect had failed to emerge successfully. Another freshly emerged adult was found close to an empty case on the 4th, whilst the following day saw three adults and a further two empty cases encountered. To help with accurate counting, the exuviae were again removed, bar the three found on the 4th and 5th which were left in situ; after two days, only one of the untouched cases was still present, suggesting that our tally might be an undercount (as any missed cases could quickly disappear). There were no further sightings of these enchanting wasp mimics; the 2020 totals thus stand at 12 exuviae, a pupa which failed to hatch and eight adults. Although these are the first records for Skokholm, there was clearly an earlier presence which can probably be backdated to 2018; this species usually overwinters twice as a larva, feeding in the roots and trunk of the host tree and moving higher up the trunk in the second year. Alarmingly, following a rare visit by a Great Spotted Woodpecker on 15th October, several excavated holes were found near the base of one of the trees which had previously contained Lunar Hornet Moth larvae.

52.016 **Thrift Clearwing** *Pyropteron muscaeformis* (Esper, 1783)

This Nationally Scarce clearwing is predominantly found on the rocky seacliffs of the North Coast where its larval foodplant dominates. A single at Little Bay Point on 29th May was the first of the year, this eight days earlier than the first of 2019. A further four, found above the Dents on the 31st,

took the monthly total to five, these the first May sightings for at least eight years. Four above the Dents and one at Twinlet on 2nd June were the only others to be noted during the season. A total of ten moth-days is disappointing by recent standards; whilst the use of a pheromone attractant in both 2019 and 2018 contributed to annual totals of 49 and 38 moth-days respectively, 43 were found without a lure in 2017. That being said, just nine were logged in 2016 and seven in 2015. The caterpillars of this species feed and overwinter inside the roots and stems of Thrift, emerging as adults in early June. The number of insects found each year is in part determined by the prevalence of suitable recording conditions, with calm, warm and sunny days being the ideal.

54.010 **Five-spot Burnet** *Zygaena trifolii* (Esper, 1783)
Despite a comparable search effort in the North Pond Manx Shearwater census plot, an area which contains the larval foodplant and which often provides the first records of the year, no caterpillars were found this season. Two at North Pond on 24th June were the first adults to be seen on the wing, this eight days earlier than the first of 2019. The only other June sighting was of two at the same site the following day. A total of 243 were logged in July; there were just 149 in July 2019, but 756 in 2018 and 1436 in 2017. The ten adults encountered between the 1st and 7th August was a typically low tally; there were August totals of 25 in 2019, six in 2018 and 31 in 2017. An exceptionally late, seemingly fresh insect on the wing at North Pond on 17th September was the last of the year; this is the only September record of this species in the Skokholm database, with one logged on 31st August 2015 the latest record prior to this year.

62.058 **Ermine Knot-horn** *Phycitodes binaevella* (Hübner, 1813)
A beautifully marked individual taken from the trap on 23rd June was an addition to the Skokholm moth list. This is a coastal species with only 34 Pembrokeshire records to date, the majority of which are from Ramsey Island. Given that this is the largest of the three British Phycitodes, and the easiest to identify, the absence of previous records suggests that this individual was a drifter from the mainland; nevertheless Spear Thistle *Cirsium vulgare*, the larval foodplant, is common and seemingly increasing on the Island.

62.077 **Rosy Tabby** *Endotricha flammealis* ([Denis & Schiffermüller], 1775)
Two observed along the Lighthouse Track, after dark on 13th July, were the first of the year. Eight attracted to light on 7th August were the first of 11 to be trapped during the month, whilst an additional eight were observed in the field. This species, which exhibits an unusual resting posture, can be found feeding both diurnally and nocturnally on the nectar of plants such as Common Ragwort. An annual total of 21 moth-days represents another poor showing; there were 16 in 2019 but 214 in 2018, 35 in 2017 and 56 in 2016.

63.005 **Straw-barred Pearl** *Pyrausta despicata* (Scopoli, 1763)
A fresh, second generation adult, attracted to a lit Lighthouse window on 13th August, was a first for

Skokholm. A singleton, believed to be a different individual based on its fresher condition, was taken from the light trap on Home Meadow on the 15th. Single moths were found in the trap outside of the Cottage on the 16th and on Home Meadow on the 18th, although it is plausible that these sightings were of the insect first trapped on the 15th. This rather plain Pyralid is a species of chalky and limestone habitats where in the British Isles it is locally common; this year's moths were thus almost certainly drifters from a suitable mainland breeding site.

63.018 **Elder Pearl** *Anania coronata* (Hufnagel, 1767)
A single found resting in the Courtyard on 11th July was just a second for Skokholm following its addition to the Island list in July 2019. A second individual was observed in the Wheelhouse Net ride on the 24th. The larval foodplant, Elder, is one of the more abundant tree species growing on the Island, however, given that light trapping in close proximity to these trees had failed to locate an imago, the 2019 record was presumed to be a wanderer from the mainland. With two records this year, it can perhaps now be considered likely that Elder Pearl have colonised Skokholm, although this may become more apparent over the coming years.

63.025 **Small Magpie** *Anania hortulata* (Linnaeus, 1758)
The first of the season was found in the Ringing Hut on 8th June. Six were attracted to light between the 14th and 24th and a further five were found by day during the remainder of the month, these taking the June moth-days total to 12. There were eight noted in July, with a peak count of two on the 16th, whilst a single in the Courtyard on 10th August was the last of the season. An annual tally of 21 moth-days continues a mediocre run for records of this species; there were between eight and 23 logged in each year between 2016 and 2019, but 50 in 2015 and 79 in 2014.

63.031 **Rusty Dot Pearl** *Udea ferrugalis* (Hübner, 1796)
It was a late and quiet year for records of this regular Skokholm immigrant. The first of the season was taken from the trap on 7th August, this over two months later than the first of 2019. A further eight were trapped during five August sessions, with a peak catch of four on the 27th, whilst six additional field sightings took the monthly total to 15. Six came to light in September and a single

was found after dark on the 23rd. The only October record was of one along the Lighthouse Track on the evening of the 11th and the final observation of the year was of an insect attracted to a lit Lighthouse window on 26th November. An annual total of 24 was down on the 64 of last year, but up on a disappointing 14 in 2018. The best count of late occurred in 2014 when a moth-days total of 576 included a daycount of at least 150 which were flushed from vegetation above North Haven.

63.038 **Mother of Pearl** *Patania ruralis* (Scopoli, 1763)
This beautiful moth, one of the largest British species of microlepidoptera, is recorded infrequently on Skokholm. Indeed a single, which flushed from a patch of Nettles at the Top Tank on 23rd July, was the only 2020 record, this continuing a recent run of low annual totals; there were two in 2019, five in 2018, four in 2017, none in 2016, one in 2015, three in 2014 and one in 2013. Given that the larvae feed on Nettles, it is perhaps surprising that the only other years in which Mother of Pearl have been found are 1996, 1997 and 1999.

63.050 **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 taken from the trap on 7th August was the only record in 2020, this down on the five logged last year. This distinctive, Nationally Scarce B, is distributed along the south and west coasts of Britain, the larvae feeding on decaying plant matter.

63.052 **Rush Veneer** *Nomophila noctuella* ([Denis & Schiffermüller], 1775)
One found at Orchid Bog on 15th August was the first in what proved to be a very quiet year for this familiar immigrant. Following a further two August singles, there were three in September including one on the 16th which was the only insect to be trapped. A moth-days total of six was the second lowest of the last eight years; there were just two logged in 2014, but a recent high of 236 in 2016.

63.066 **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 single taken on 20th May was the first of the year and a further six were trapped during the remainder of the month. June saw a total of 31 attracted to light and 55 logged diurnally which included a peak daycount of 40 on the 10th.

63.069 **Narrow-winged Grey** *Eudonia angustea* (Linnaeus, 1758)
Five taken from the light trap on 24th August were the first of the year, whilst a further single was trapped on the 27th. Singles came to light outside of the Cottage on the 6th and 19th September and two were trapped at South Haven on the 20th. This species is seldom observed on the Island, indeed an annual total of ten was just short of a record 11 logged in 2019. The only other encounters with this species have been with singles in both 2018 and 2017, two in 2014, one in 1998 and three in

1996. Given that the larvae feed on mosses, it is rather likely that this is an inconspicuous Island resident.

63.071 **White-line Grey** *Eudonia lineola* (Curtis, 1827)
The only record of this lichen feeding, Nationally Scarce B came on 8th September when one was taken from the light trap outside of the Cottage, this the first to be observed since 2017. This coastal specialist is likely under-recorded on the Island as, unlike other members of the genus which often flush from grassland during the day, it has a tendency to keep a low profile and can be difficult to encounter unless attracted to light.

63.080 **Garden Grass-veneer** *Chrysoteuchia culmella* (Linnaeus, 1758)
A single taken from the light trap on 28th May was the only individual noted in 2020. This Crambid is typically common on Skokholm, although it is hugely under-recorded in the majority of years.

63.093 **Straw Grass-veneer** *Agriphila straminella* ([Denis & Schiffermüller], 1775)
Two at Billy's Dyke on 16th August and two at the Well on the 23rd were the only field sightings in 2020. A single which came to light in the entrance of the Wheelhouse Heligoland on 27th August was the only other record this year. Although this species has been noted in five of the last eight seasons, 1998 and 2000 are the only other years with a documented encounter.

63.095 **Elbow-stripe Grass-veneer** *Agriphila geniculea* (Haworth, 1811)
This is the most commonly encountered member of this genus on Skokholm, although whether this reflects actual abundance or their propensity to come to light is unclear. Following the first six on 15th June, a further 15 were taken during seven trapping sessions including a peak catch of seven on 15th August. The last of the year was attracted to light at South Haven on 20th September.

68.001 **Emperor Moth** *Saturnia pavonia* (Linnaeus, 1758)
A stunning female found in the moth trap on 8th April was an exciting addition to the Skokholm moth list. She had already mated, depositing approximately 50 eggs on an egg box within the trap (20 of which were retained). Eggs began to hatch on 27th April, the larvae being reared on Grey Willow.

On 30th May, when appearing to be full-grown, the caterpillars were released into Grey Willow in the Wheelhouse Heligoland (pupation usually takes place at approximately six weeks). Impressively camouflaged amongst the bright green foliage, a single on 10th June was the only caterpillar to be

seen again. Whether the larvae went on to successfully pupate is unknown; this species overwinters as a pupa, but the distinctive ginger haired cocoons were not found. It is somewhat surprising that there have been no previous Skokholm records; this spectacular species is reasonably common over much of Britain and is regularly encountered on the nearby mainland. Eggs sent to Marloes also hatched, these reared on Bramble and going on to successfully pupate prior to a garden release.

69.004 **Convolvulus Hawk-moth** *Agrius convolvuli* (Linnaeus, 1758)
One found along the Knoll Wall, after dark on 28th August, was the first of the year. A single taken from the light trap outside of the Cottage on 8th September was the only other 2020 record of this impressive immigrant. There has been a recent upsurge in the number of Skokholm sightings, with three in 2019, one in 2018, three in 2017, nine in 2016 and singles in both 2015 and 2014; the only record prior to these was logged in 1940.

69.010 **Hummingbird Hawk-moth** *Macroglossum stellatarum* (Linnaeus, 1758)
A single found at Little Bay on 30th May was the first of the year and just one day earlier than the first two of 2019. There were no further records of this continental immigrant until an impressive eight were found at widespread locations on 24th June; surprisingly these were the only sightings during the month. There were singles noted on four dates in July and on two in August, whilst one taken from the light trap on 15th September was the last of the season. A 2020 total of 16 moth-days was disappointing when compared with recent years, indeed it was the lowest tally since nine were logged in 2014; there were 45 in 2019, 35 in 2018 and 40 in 2017.

70.011 **Single-dotted Wave** *Idaea dimidiata* (Hufnagel, 1767)
The first of the year was found along the Lighthouse Track in the early hours of 13th July. A further single was observed on Home Meadow on the 28th, whilst one taken from the trap on 16th August was the only other 2020 record. Although down on the nine of 2019, an annual total of three continues a recent run of encounters with this infrequent Skokholm *Idaea.* Following records in 1937 and 1960, there was a 54 year absence until six were discovered in 2014. Nine were noted in 2015, three were found in both 2016 and 2017 and two were logged in 2018. This is primarily a species of damp areas, where its larvae feed during the autumn on Cow Parsley *Anthriscus sylvestris*, Burnet Saxifrage *Pimpinella saxifraga* and Hedge Bedstraw *Galium mollugo*; given that none of these foodplants are known from Skokholm, the regularity of recent records is perplexing.

70.016 **Riband Wave** *Idaea aversata* (Linnaeus, 1758)
Singles attracted to light on the 15th and 16th June and on 7th July were the only records this season, this becoming the seventh of the last eight years with a sighting of this irregularly encountered

Skokholm Wave. Two distinct forms of Riband Wave are found in the British Isles; the typical, ribboned form exhibits a dark band across all four wings, whereas the plain form *remutata* has two narrow cross-lines instead of the dark band (UK Moths, 2020). Both forms are thought to occur equally in the southern half of its range, with the frequency of *remutata* increasing to the north. Interestingly, the imago caught on 7th July was the first typical form to be found on Skokholm in eight years.

70.023 **Mullein Wave** *Scopula marginepunctata* (Goeze, 1781)
This species, which has a mainly coastal distribution in the British Isles, is now recorded almost annually on Skokholm, albeit in low numbers. It is double brooded in the south of its range, however the only record this year was of two first generation individuals trapped on 17th May. There have now been sightings in seven of the last eight years, with 2015 the only year without an encounter; the database contains reports for nine further years.

70.038 **Vestal** *Rhodometra sacraria* (Linnaeus, 1767)
It was an astounding year for records of this continental migrant. The first sightings came on 15th September when a remarkable 15 individuals were flushed from vegetation during the day; there were four at North Pond, two on the Lighthouse Track, at South Pond and at the Well and singles at East Bog, the Bluffs, North Plain, Twinlet and Isthmian Heath. An additional four were attracted to the light trap after dark, taking the daycount to 19; this was a Skokholm record, indeed it is a tally higher than the cumulative moth-days total logged in any preceding year.

A further 39 moth-days were recorded in September, this including daily field sightings between the 16th and 23rd and peak daycounts of eight on the 19th and 23rd. Despite the apparent abundance of Vestal on the Island, the only other insect to be trapped was taken on the 18th. The 27th saw diurnal singles on Home Meadow and the Knoll Wall, along with three found along the Lighthouse Track that night, these the last of the year and moths which took the 2020 moth-days total to a phenomenal

58; there were two in 2019 and 2018, one in 2017, 18 in 2016 and three in 2013. Prior to these, Vestal were logged in only five years, the most recent of which was in 2000. The huge increase in Skokholm sightings this season reflected a large-scale arrival to the UK, the moths carried by warm air sweeping north from continental Europe. A single trap at the Lizard, Cornwall, produced a staggering 82 Vestal on the night of 16th September and this species made it as far north as Caithness, Scotland (BirdGuides, 2020b).

70.045 **Shaded Broad-bar** *Scotopteryx chenopodiata* (Linnaeus, 1758)
A single present at the Well, after dark on 17th August, was surprisingly just a sixth for Skokholm following one on 27th July 2014, three on 25th July 2016 and one on 27th July 2016 (observations in 2016 were erroneously omitted from that year's Annual Report). This is a widespread and common mainland moth which utilises Vetches *Vicia* Spp. and Clovers *Trifolium* Spp. as larval foodplants.

70.049 **Garden Carpet** *Xanthorhoe fluctuata* (Linnaeus, 1758)
One attracted to light on 15th October was the only record this year. A single in 2019 was the first since 2016, indeed there have been records in just three of the last eight years. Although common and widespread in the British Isles, this species shows a preference for suburban habitats; its irregular recent appearances and sporadic presence in the Island database support this observation.

70.052 **Dark-barred Twin-spot Carpet** *Xanthorhoe ferrugata* (Clerck, 1759)
It was a poor year for records of this regular Skokholm breeder. One on 8th May was the first to be taken. A further 11 were caught subsequently, with seven in May (seven in 2019), one in June (eight in 2019) and three in August (40 in 2019); two on 16th August were the last of the season. An annual total of 12 was well down on recent years; there were 56 in 2019, 101 in 2018, 58 in 2017 and 57 in 2016. Quite why the total was so low this year is unclear; although trapping effort was somewhat reduced during late June and July, it was comparable during August (when numbers typically peak).

70.059 **Yellow Shell** *Camptogramma bilineata* (Linnaeus, 1758)
This is one of Skokholm's most conspicuous day-flying macro moths, a species often flushed from Bracken during the summer months. The first of the season was logged on 27th May, this nine days earlier than the first of 2019 and what appears to be the earliest sighting to date; the only other years with May records are 1997 and 2017. There followed a further two during the remainder of the month, 122 in June (111 in 2019, 91 in 2018 and 89 in 2017), 94 in July (147 in 2019, 281 in 2018 and 373 in 2017) and four in August (27 in 2019, 117 in 2018 and 71 in 2017).

70.061 **Common Carpet** *Epirrhoe alternata* (Müller, 1764)
One attracted to light on Home Meadow on 18th August was the first since two were logged in 2016, this making 2020 just the second year of the last eight with a record. This widely distributed mainland species is surprisingly scarce on the Island; there are entries in the Skokholm database for only six further years, with 1998 being the most recent prior to 2016.

70.074 **July Highflyer** *Hydriomena furcata* (Thunberg, 1784)
A single taken on 7th July was the only record of this summer flying species this year. First logged as recently as 2018, the 2020 singleton is just a fifth for Skokholm; there were two in both 2018 and 2019. 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 possible that the Skokholm individuals have visited from the mainland, the willows here may prove suitable as a foodplant; with records in three consecutive years, this could perhaps be a recent colonist.

70.103 **Water Carpet** *Lampropteryx suffumata* ([Denis & Schiffermüller], 1775)
The first ever Skokholm example of this spring flying moth was taken from the light trap on 11th April during a period of increased extralimital sightings in the UK. This is a fairly common moth in Britain,

with a widespread distribution; it can be found amongst woodland, grassy, scrubland and chalk downland habitats where Bedstraws *Galium* Spp. are used as larval foodplants.

70.173 **Lime-speck Pug** *Eupithecia centaureata* ([Denis & Schiffermüller], 1775)
It was a somewhat improved year for sightings of this bird dropping mimic, with a total of 39 logged between 26th May and 6th September and a peak catch of 11 taken on 15th August; there were 27 recorded in 2019 and 45 in 2018. All but one of this year's records came from the light trap.

70.179 **Wormwood Pug** *Eupithecia absinthiata* (Clerck, 1759)
Two trapped on 7th August were the first of the year. There followed just three more, all taken from the light trap on the 15th. 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 plant abundance; there were seven in 2019, six in 2018 and one in 2017, but an impressive 50 in 2014 when the foodplant was plentiful around the Farm. That a comparatively low total was logged this year (which proved to be a good Common Ragwort season) may be due to reduced trapping effort during the Wormwood Pug's peak flight season.

70.222 **Brown Silver-line** *Petrophora chlorosata* (Scopoli, 1763)
This fairly common Skokholm moth is regularly flushed from Bracken during late spring and early summer. One trapped on 11th April was the first of the year, this over a week earlier than the first of 2019 and over four weeks earlier than the first of 2018. There followed seven further April moth-days, 90 in May (67 of which were trapped) and 46 in June (11 trapped). An annual total of 144 almost matched the 142 of 2019 and was up on the 83 logged in 2018 and the 48 of 2017. A 2016 total of 203 is seemingly the highest on record. Given the ubiquitous nature of the larval foodplant, Bracken, fluctuations in adult numbers perhaps reflect overwinter survival of the pupae.

70.283 **Light Emerald** *Campaea margaritaria* (Linnaeus, 1767)
This attractive species was a welcome addition to the Island list this year, with second generation moths taken from the light trap on the 13th and 19th September being the first two for Skokholm.

This is a moth found across much of the British Isles and is common on mainland Pembrokeshire where the larvae feed on a range of deciduous trees. The lack of previous records suggests that this year's individuals drifted from the mainland during the warm conditions prevalent at the time.

71.025 **Buff-tip** *Phalera bucephala* (Linnaeus, 1758)
A freshly emerged adult, present at the Well on 29th June, was the first of the year; surprisingly, this makes 2020 just the third season in which an imago has been found, with the only other records coming from 2019 and 1992. Two insects were found in copula at the Well on 3rd July and singles were noted in the same location on both the 4th and 5th. Three were taken from the light trap outside of the Cottage on the 7th and a further individual was trapped on the 12th, this the last adult of the season. A caterpillar found at the Well on 24th August and another inside the Well Heligoland on the 31st were the only larvae to be encountered this year. Following records in 2011, 2014 and 2019, this becomes just the fourth season in which breeding has been confirmed on Skokholm.

72.017 **Vapourer** *Orgyia antiqua* (Linnaeus, 1758)
A caterpillar found at East Bog on 12th June was the first record of the year. Single larvae were found in the Cottage Heligoland on 22nd July and on eight dates in September, the latter sightings all coming from locations between the Farm and North Pond. The first male to be seen was on the wing in the Courtyard on 6th July, whilst a further four singles were logged during the remainder of the month. Two on 15th August were the first to be attracted to light and another was trapped the following night. Lone males were logged on five August dates and on one date in September. The only female of the season was found on a cocoon attached to the roofing wire of the Well Heligoland on 9th October; although still present the following day, no eggs were witnessed and by the 11th she had gone. Lone males were observed on six October dates, the last of the year eaten by a Meadow Pipit on the 22nd. There have been regular sightings of Vapourer larvae on Skokholm, albeit in low numbers, since 2013, but records of adult males were rare until 2017 when nine were found. The number logged since has increased annually; there were 11 males in 2018, 15 in 2019 and 20 this season. Flightless females were not encountered until 2018 when two were logged; these are much harder to find, indeed this year's record was only the fourth for Skokholm.

72.019 **Buff Ermine** *Spilosoma lutea* (Hufnagel, 1766)
The first of the season was taken on 16th May and a further 24 were trapped during the remainder of the month. There followed 37 in June, six in July, 36 in August, three in September and two on 9th October which were the last of the year. The latter five insects were assumed to be part of an unusual second generation emergence, something which was also observed in 2019 (six moths) and 2018 (one moth). There were 191 moth-days in 2015, 117 in 2016, 137 in 2017, 190 in 2018, 180 in

2019 and 109 in 2020. This typically proves to be a more abundant species on Skokholm than the White Ermine, as was the case this year.

72.020 **White Ermine** *Spilosoma lubricipeda* (Linnaeus, 1758)
It was another quiet year for records of this species, the first of which was taken from the light trap on 20th May. Subsequent catches were small, with four on 16th June the peak tally. A single on 24th June was the last of the year and took the 2020 moth-days total to just 13; there were 22 in 2015, 93 in 2016, 56 in 2017, 84 in 2018 and 25 in 2019.

72.022 **Muslin Moth** *Diaphora mendica* (Clerck, 1759)
A total of 21 males were trapped over ten dates between 15th April and 17th May; there were 20 taken over ten dates in 2019, six in 2018, 22 in 2017 and 54 in 2016. Despite 2020 being only the 14th year with a record of this species, many larval foodplants are available on the Island, for example Docks *Rumex* spp. and Chickweeds *Stellaria* spp.

72.024 **Ruby Tiger** *Phragmatobia fuliginosa* (Linnaeus, 1758)
The first of the year was at Billy's Dyke on 2nd August, whilst the only other diurnal observation was of one along the Lighthouse Track on the 18th; there was just one daytime encounter last year and none in 2018. The first five to be attracted to the light trap were taken on 7th August, an impressive 17 were taken on the 15th and three the following day were the only others this year. A moth-days total of 27 is the highest since 2015 (when 49 were logged); there were just 16 last year.

72.026 **Garden Tiger** *Arctia caja* (Linnaeus, 1758)
A caterpillar found on 2nd September was the only record of this distinctive species this season. Despite an abundance of Common Nettle *Urtica dioica*, one of the larval foodplants, this is seemingly a scarce species on Skokholm; there have been records in six of the last eight years, with five moth-days recorded in 2019, 2018, 2017 and 2015, a single dead insect in 2016 and a high of nine in 2014, whilst in the period between 1910 and 2011 there were records in only 12 years.

72.031 **Cinnabar** *Tyria jacobaeae* (Linnaeus, 1758)
The first adult of 2020 was taken from the moth trap on 26th May, this eight days later than the first of 2019, 17 days later than the first of 2018 and over four weeks later than the first of 2017. Despite recent May totals of 26 in 2019, 296 in 2018 and 482 in 2017, this season saw no diurnal records during the month. The first two to be seen in the field were noted on 1st June, these followed by just nine further diurnal insects and one taken from the trap; a June total of 12 was down on the 66 of 2019 and massively down on 1010 in 2018 and 1037 in 2017. It was to become the first July in recent history without a sighting of an imago; there were just six in 2019, but 63 in 2018 and 124 in 2017. An apparent rapid decline in adult numbers is alarming; this species has undergone local extinctions in the past, with several years elapsing without an Island record (Thompson, 2007). Although it was an excellent Common Ragwort year, larval counts were unsurprisingly low. The first caterpillars were

logged on 9th July, when 28 were found on one plant along the Lighthouse Track; the adjacent plants were empty. Just two caterpillars were found at South Pond on the 22nd and there was one along the Lighthouse Track on the 27th. A survey of at least 150 plants adjacent to South Pond on the 30th located 42 caterpillars. On 5th August a walk through an area of the Neck carpeted with thousands of flowering plants failed to locate a larva. The reason behind the continuing decline in the number of both adults and larvae is unclear, although a poor Ragwort year in 2018 perhaps led to the initial drop. An abundance of Ragwort in 2019 and 2020 has not halted the decline, as was described by Van der Meijden *et al.* (1991); this study, which followed several similar population crashes, showed that numbers continue to decline for two years despite an increase in foodplant. Reasons for this retarded recovery may include an increase in numbers of the parasitic wasp *Cotesia popularis*, or perhaps a decline in adult Cinnabar size and fecundity.

72.047 **Hoary Footman** *Eilema caniola* (Hübner, 1808)
This Nationally Scarce B is largely restricted to maritime habitats along the southwest coasts of England and Wales. It appears in the Skokholm light trap irregularly and in low numbers, indeed four taken over three sessions between the 7th and 16th August equalled the record annual total of 2017. Although logged in five of the last eight years, 2020 becomes just the ninth year during which there has been an encounter. That it utilises clifftop lichens as larval food and that the majority of trapping sessions occur inland, in the sheltered area around the Farm, may explain the dearth of sightings of this likely Skokholm breeder.

73.001 **Spectacle** *Abrostola tripartita* (Hufnagel, 1766)
Following four years of higher counts, it proved a disappointing season for records of this pseudo-bespectacled moth. The first was taken from the trap on 4th May and a further four were logged during the remainder of the month. Two were trapped in both June and August, with one on the 15th the last of the year. A total of nine moth-days was down on the 20 of 2019, the 32 of 2018, the 25 of 2017 and the 18 of 2016, although only two were recorded in 2015.

73.015 **Silver Y** *Autographa gamma* (Linnaeus, 1758)
A single taken on 12th April was the first of the year, this the earliest ever Skokholm sighting and over seven weeks earlier than the first of 2019. One was at the Farm the following day and a further three were trapped during the rest of April. The bulk of this year's records came from a combination of diurnal and nocturnal field observations; there were six in May, 51 in June, 12 in July, 273 in August (including 75 on the 24th), 309 in September (including 119 on the 6th) and seven in October. The light trap contributed a further single in May, 12 in August, seven in September and one on 23rd November which was both the last of the year and the latest ever Skokholm record. An annual total of 684 moth-days is an excellent tally and the second highest of the last eight years; there were 128 in 2019, 1474 in 2018, 99 in 2017, 458 in 2016, 627 in 2015, 142 in 2014 and 542 in 2013.

73.045 **Knot Grass** *Acronicta rumicis* (Linnaeus, 1758)
One trapped on 8th May was the first of the year. There were a further ten attracted to light during the remainder of May and 18 in August which included the last adult of the season on the 27th. An annual total of 29 moth-days is down on the 56 of last year and is the lowest total since 16 were logged in 2016. Lone examples of the distinctively marked caterpillars, which feed on a range of herbaceous plants, were noted on 27th September and on the 6th and 14th October.

73.053 **Chamomile Shark** *Cucullia chamomillae* ([Denis & Schiffermüller], 1775)
Following a record year in 2019, when four moths were logged, a single taken on 12th April proved to be the only example this season. Nevertheless, this record makes this just the fifth year since 1996, and the tenth year ever, in which Chamomile Shark has made it onto the Skokholm moth list. The larvae feed on a range of Compositae, with Sea Mayweed *Tripleurospermum maritimum* perhaps being the most likely foodplant on Skokholm.

73.055 **Star-wort** *Cucullia asteris* ([Denis & Schiffermüller], 1775)
It was another good year for records of this Nationally Scarce B coastal specialist. Four taken on 14th June were the first of the season. There followed a single on 15th June, two on the 16th and one on the 24th which was the last; perhaps due to reduced trapping effort in July, there were no further records, the 2020 total remaining at eight moth-days. Although first discovered on the Island in 1999, it was not encountered again until 2013 when two were logged. Star-wort have been observed more regularly since; there were six moth-days in 2014, two in 2015, 25 in 2016, 19 in 2017, two in 2018 and 11 in 2019. The increase in records can be attributed to the expanding distribution of Goldenrod *Solidago virgaurea*, the larval foodplant.

73.085 **Marbled Green** *Nyctobrya muralis* (Forster, 1771)
Despite being a reasonably common maritime moth, this species remains a relatively scarce find on Skokholm. Two taken on 7th August were the first of the season and a single on the 16th was the only

other 2020 record. Although logged in seven of the last eight years, single-figure totals are the norm; singles were noted in 2013 and 2015, there were three in 2019 and four in 2014 and 2016, however the use of multiple traps away from the Farm during late July 2017 contributed to a moth-days total of 18. With the caterpillars feeding on various lichens and the adults being well camouflaged when resting on lichen encrusted rocks, it seems probable that Marbled Green is a more abundant and widespread species on Skokholm than the trapping suggests.

73.113 **Angle Shades** *Phlogophora meticulosa* (Linnaeus, 1758)
The first evidence of Angle Shades this season came on 15th April when a discarded forewing from a predated insect was found at the Well. The moth trap produced four in April, two in May, one in June, seven in August, six in September and three in October, whilst an emerging adult was found inside the Wheelhouse Heligoland on 4th May. However the majority of this year's total was made up of nocturnal observations along the Lighthouse Track; there were four in August, 70 in September (with a peak of 13 noted on the 13th), 12 in October and two on 10th November. Mating was observed in both August and September. A year total of 113 moth-days was 59% up on 2019 and the highest Skokholm tally by some margin; although this species is regarded as a fairly common Skokholm breeder, it seems likely that the September total included migrant insects.

73.114 **Small Angle Shades** *Euplexia lucipara* (Linnaeus, 1758)
Despite the fact that the larvae of this dead leaf mimic feed on Bracken, this species is encountered much less regularly on Skokholm than some of the other moths reliant on this food source. Two trapped on 7th August were the first of the year, whilst one found resting by day on the 31st was the only other record. A total of three is poor, although this may in part reflect fewer June and July trapping sessions; between 2013 and 2019, 81% of moth-days were recorded in either June or July. There were six moth-days in 2019, five in 2018, 15 in 2017, 24 in 2016, five in 2014 and four in 2013.

73.121 **Frosted Orange** *Gortyna flavago* ([Denis & Schiffermüller], 1775)
A single, which came to the light trap at South Haven on 20th September, was the only individual to be logged this year and a rare Island encounter; although first noted in 1910, there have since been records in only 1912, 2013, 2017 and 2019. Frosted Orange is a fairly common moth on the Welsh mainland and plants present on the Island, such as thistles and burdocks, will provide larval food, however a century long absence suggests that it is a rare visitor to Skokholm. Nevertheless, with records in four of the last eight years, it is perhaps possible that there has been a colonisation.

73.123 **Rosy Rustic** *Hydraecia micacea* (Esper, 1789)
Although this common mainland moth has, of late, been recorded almost annually, it has always proven to be scarce. This was again the case in 2020, with singles trapped on the 15th, 16th, 24th and 31st August the only sightings. Recent counts have been of singles in 2019 and 2018, four in 2017,

five in 2016 and two in 2014, whilst prior to this Rosy Rustic were noted in nine years. Although the larvae will feed on a range of plants, they have a preference for docks; on Skokholm these are primarily distributed around the seasonal ponds and on cliffs.

73.131 **Flounced Rustic** *Luperina testacea* ([Denis & Schiffermüller], 1775)
It was a disappointing year for records of this late-summer moth whose larvae feed underground in dry grassland. One trapped on 24th August and two on the 27th were the only moths found this year. Although there are regular entries for this species in the Skokholm database, the number encountered each year is generally low; there were ten logged last year and a record 15 moth-days in 2016, but only one in 2018 and two in 2017.

73.134 **Large Wainscot** *Rhizedra lutosa* (Hübner, 1803)
This species has seemingly established itself as a Skokholm breeder in very recent times, although its larval stage is yet to be found. Singles were trapped on the 12th and 14th September and on 9th October, taking the annual moth-days total to three and making 2020 just the second year in which multiple insects have been encountered. An impressive ten were logged last year, singles were taken in the Octobers of 2018 and 2016 and the first for Skokholm was recorded on 23rd July 2011. The larvae feed in the bases and stems of Common Reed *Phragmites australis*, an extensive area of which is now present in the vicinity of the Well. There has been speculation as to whether this species, along with the Brown-veined Wainscot, is responsible for the die-off of an area of plants to the west of the Well over the last two years.

73.141 **Brown-veined Wainscot** *Archanara dissolute* (Treitschke, 1825)
This species was first discovered on Skokholm in August last year when eight were observed at the Well. A single found in a similar location, after dark on 17th August, was the only record this year. The high number of insects logged in 2019 raised speculation that this may be a recent colonist. As with Large Wainscot, the larvae utilise Common Reed as a foodplant, feeding within the protection of the stems. Brown-veined Wainscot are known to be attracted to light, however all Skokholm records to date have been field observations; although primarily due to a lack of trapping at the Well (this an infrequent activity as it requires a portable power source), it is perhaps surprising that the trap at the Cottage, which is readily visible from the Well, is yet to attract this species.

73.142 **Small Rufous** *Coenobia rufa* (Haworth, 1809)
Although relatively common on mainland Pembrokeshire, singles taken on the 25th and 29th July 2014 were the first and second Island records, whilst a heavily worn insect trapped on 15th August this year became just a third for Skokholm. Upon release it spent time nectaring on nearby Common Ragwort flowers. Locally common in the south of the United Kingdom, this species favours marsh, bog and fen habitats where rushes provide a larval foodplant. Although there are several species of rush on the Skokholm list, the lack of previous records and the worn state of this year's moth perhaps suggest that it was a wanderer from the mainland.

73.144 **Small Wainscot** *Chortodes pygmina* (Haworth, 1809)
A total of four came to light during three trapping sessions between the 11th and 24th August. This was down on the seven of 2019, although this species is never encountered in large numbers; there was one in 2018, nine in 2017, six in 2016 and seven in 2014. The digitised records include sightings of this diminutive Noctuid in 12 additional years, the most recent of which was on 8th September 2000. 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 reflect a low density breeding presence.

73.151 **Webb's Wainscot** *Globia sparganii* (Esper, 1789)
Different singles trapped on the 15th and 16th August were an eighth and ninth for Skokholm, this making 2020 the fifth of the last seven years with a sighting. A total of two equals the Island record logged in 2019, 2016 and 2014. This run of encounters suggest that this Nationally Scarce B is breeding, albeit in low numbers. Webb's Wainscot are typically associated with large reedbeds and marshland where the larvae feed within the stems of water-plants, particularly Yellow Iris *Iris pseudacorus*. It has been proposed that this species 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.

73.162 **Dark Arches** *Apamea monoglypha* (Hufnagel, 1766)
A total of 168 were taken from the light trap over 12 dates between 15th June and 31st August, with a peak catch of 70 on 15th August. This is one of the most regularly encountered species in the Skokholm moth trap and whilst numbers were down on recent years, this is likely to be attributable to fewer trapping sessions during July; there were 275 moth-days logged in 2019, 211 in 2018 and a recent high of 578 in 2017. The Island database includes several high annual tallies, with the record occurring in 1999 when 848 moth-days were logged.

73.163 **Light Arches** *Apamea lithoxylaea* ([Denis & Schiffermüller], 1775)
A single trapped on 15th June was the first of the year. One was found resting on the door handle of the Wheelhouse Heligoland on 25th June and a third was taken from the light trap on 7th July. As a species which irregularly comes to light (it is reputedly a more frequent visitor to sugar), Light Arches is a scarce Skokholm find. There were four in 2019, eight in 2018, none in 2017, eight in 2016, three in 2015 and four in 2014. Although logged in six of the last seven years, there are records in just five years prior to 2014, with the most recent being in 1996.

73.192 **Brick** *Agrochola circellaris* (Hufnagel, 1766)
This widely distributed mainland moth is a rare Skokholm find. A singleton attracted to light on 23rd October was the first since a minimum of two were logged in October 2018 and marks just the fifth year during which there has been a record. Although this species primarily feeds on Wych Elm *Ulmus glabra*, the larvae will utilise other trees such as poplars and sallows. As a late autumn moth it is thus

plausible that this species breeds on Skokholm and that the lack of records is a reflection of unsuitable trapping conditions rather than a true absence.

73.193 **Lunar Underwing** *Omphaloscelis lunosa* (Haworth, 1809)
This highly variable species is relatively common in the southern half of Britain, whilst on Skokholm it is an increasingly regular find during autumn trapping sessions (if conditions allow). Unfortunately, inclement weather during much of October reduced trapping opportunities in 2020, this resulting in just 19 moth-days between 19th September and 15th October (including two which were attracted to a lit window at the Lighthouse). There were 67 moth-days in 2019, 43 in 2018, 26 in 2017 and 30 in 2016, but just three in 2015 and one in 2014.

73.233 **Black Rustic** *Aporophyla nigra* (Haworth, 1809)
One taken on 27th September was the only record of the year and the first since two were trapped on 17th October 2018. This single generation species is common across much of the UK, where its larvae utilise herbaceous and woody plants, however on Skokholm there have been records in just four of the last eight years. Prior to three taken in October 2016, there are observations from 1996, 1994, 1960 and 1937. As with many of the late flying species, it is unclear whether this paucity of records reflects genuinely low numbers or an infrequent use of the moth trap due to late autumn weather conditions and reduced power supply.

73.234 **Brindled Ochre** *Dasypolia templi* (Thunberg, 1792)
A female, trapped at the Farm on 14th April, was the first of the year and the first spring record in recent times. The only other 2020 sighting was of one attracted to a lit Lighthouse window on 4th November. Brindled Ochre mate in autumn and only the female overwinters, using rocky outcrops, outbuildings and stone walls for protection. Eggs are laid on suitable host plants in the spring; on Skokholm this is most likely to be Common Hogweed. Brindled Ochre is a rarely encountered species on the Island, indeed these records are the first since three were taken in October 2018 (sightings which ended a 58 year absence); the only other records are from 1960 and 1937. It is perhaps again the early and late flight season which is responsible for so few encounters with this beautiful species.

73.235 **Feathered Ranunculus** *Polymixis lichenea* (Hübner, 1813)
This is primarily a coastal species, which on Skokholm probably uses Thrift as a larval foodplant. Five taken on 27th September were the first of the year. A total of 21 came to light during five October trapping sessions, with a peak catch of eight on the 15th. An annual total of 26 is poor compared with the 45 of 2019, the 58 of 2018 and the 62 of 2017, although surprisingly there was only one individual noted in both 2015 and 2014, the latter a year of particularly intense autumn trapping effort. The extent of Thrift on Skokholm is declining, this a process which has been occurring for decades and which is linked to competition from overgrowing Sea Campion and the grazing of flower

stems by Rabbits. With its main foodplant likely to eventually become restricted to inaccessible cliffs, records of Feathered Ranunculus will no doubt decline in the future.

73.236 **Black-banded** *Polymixis xanthomista statices* (Hübner, 1819)
This Nationally Scarce A, Thrift eating moth is restricted to clifftops and beaches along the southwest coasts of England and Wales. A single trapped at South Haven on 20th September was the only record of the year. There was just one trapped last year, this the first since 2016 when a singleton was also encountered. There were two in 2015, but 16 in 2014, the latter a year during which a light trap was used at various coastal locations around the Island; it would appear that this species seldom wanders far from the areas in which it breeds.

73.237 **Large Ranunculus** *Polymixis flavicincta* ([Denis & Schiffermüller], 1775)
This species was encountered on only one occasion this year, with nine individuals taken from the trap at South Haven on 20th September. This is the highest annual total since 21 were taken over four trapping sessions in autumn 2014; there were two last year, three in 2018, four in 2017, none in 2016 and four in 2015. First recorded on Skokholm as recently as 1992, there were sightings in only three further years prior to 2014. In Wales this is a species of coastal cliffs; unsurprisingly the highest Skokholm counts have been in years when autumn clifftop trapping has occurred (as with Black-banded, it seems this species rarely strays from this habitat on Skokholm). Nationally this is a southern moth which can prove locally common, however a 50% decline in abundance was observed between 1970 and 2016 (Randle *et al*., 2019).

73.244 **Common Quaker** *Orthosia cerasi* (Fabricius, 1775)
This is a rare Skokholm species, indeed a single taken from the light trap on 17th April was just a second for the Island following one in 1992. This single generation species is widespread on the UK mainland, where its larvae feed on the leaves of deciduous trees, particularly oak and sallow. An

early flight season may have an impact on the number of Skokholm records; insects are on the wing during March and April, two months which often experience weather conditions prohibitive to running an Island light trap. Nevertheless, if this species was a Skokholm breeder, we might expect more than two entries in the database.

73.249 **Hebrew Character** *Orthosia gothica* (Linnaeus, 1758)
Singles trapped on the 9th, 10th and 17th April were the only records, this making 2020 just the fifth year of the last eight in which this scarce Skokholm species has been encountered. There was just one taken last year, this the first since 2017 when an Island record of seven were noted. There were two in 2016 and one in 2015, whilst prior to these the most recent was logged on 7th May 2000. There has been an expansion in the distribution of this species across the UK, although a concurrent decline in abundance has been recorded (Randle *et al*., 2019).

73.254 **Antler Moth** *Cerapteryx graminis* (Linnaeus, 1758)
It was another good year for records of this grass eating species on Skokholm. Six trapped on 11th August were the first of the season and a further 28 were taken over four sessions during the remainder of the month, with a peak catch of 21 on the 15th and two on the 31st which were the last of the year. A 2020 tally of 34 moth-days, although down on the 65 of last year, is up on earlier totals; there were seven in both 2018 and 2017, three in 2016, one in 2015 and two in 2014. An apparent increase in the distribution of rank grassland, as opposed to closely grazed turf, has been seen in recent years, an increase probably linked to disease triggered dips in the Rabbit population; this has perhaps benefited the Antler Moth.

73.267 **Bright-line Brown-eye** *Lacanobia oleracea* (Linnaeus, 1758)
This common Skokholm breeder is a regular find in the moth trap throughout the visitor season. This year there were 58 in May, 36 in June, 21 in July, 15 in August and one in September. A cumulative total of 131 moth-days was down on the 194 of last year but up on a 2013-2019 mean of 111.1; there were 118 in 2018, 183 in 2017, 206 in 2016, ten in 2015 and 58 in 2014. Additionally a single caterpillar was noted at the Bluffs on 16th September. In Britain and Ireland as a whole, this is a species which has declined significantly in abundance since 1970 (Randle *et al*., 2019).

73.271 **Broom Moth** *Melanchra pisi* (Linnaeus, 1758)
The first 2020 example of this common Skokholm resident was taken on 25th April and a further three were recorded during the remainder of the month. A total of 68 were trapped in May (55 in 2019), there were 25 in June (49 in 2019) and two in July (eight in 2019). Large caterpillars were found on Bracken during late July, whilst an unusual second brood emergence saw single adults trapped on the 24th and 31st August and on 27th September; apparent second generation moths were also encountered in 2019, with three trapped in September and two in October.

73.276 **Campion** *Hadena rivularis* (Fabricius, 1775)
Perhaps in part as a result of fewer July trapping sessions, numbers of this common Skokholm breeder were down on last year. A total of 113 moth-days were logged, a tally not too dissimilar to the 140 of 2019, the 169 of 2018 or the 90 of 2017. The first moth came to light on 22nd April, this over three weeks earlier than the first of 2019. Campion subsequently appeared in the moth trap on 18 dates to 6th September, with a peak catch of 32 taken on 15th August.

73.278 **Barrett's Marbled Coronet** *Conisania andalusica* (Staudinger, 1859)
This Nationally Scarce B, which in the British Isles is very much restricted to the coasts of south Wales, southern Ireland and southwest England, is a rare find on Skokholm. One taken on 15th June was the first of the year and the first since one in July 2018. Another, rather worn insect, came to light on 24th June. This becomes the third year of the last eight in which there has been a record, with seven in 2016 the peak count. The only encounters prior to these came in 1996, 1995, 1992, 1960 and 1937. Sea Campion and Rock Sea-spurrey *Spergularia rupicola* provide the larval food.

73.281 **Lychnis** *Hadena bicruris* (Hufnagel, 1766)
This is a species which could potentially be overlooked amongst larger catches of Campion, especially when worn individuals of both species are present in the trap; in worn Campion which have lost their pinkish hues, assessing the pattern of the outermost cross-line and whether the oval and kidney are joined can be difficult. Nevertheless, a minimum of 14 fresh Lychnis were identified over seven trapping nights between 24th April and 7th August. There were 12 in 2019, nine in 2018, ten in 2017, two in 2016, four in 2015, two in 2014 and three in 2013; prior to these recent encounters, Lychnis has made it onto the Skokholm list in just four further years.

73.283 **Marbled Coronet** *Hadena confusa* (Hufnagel, 1766)
This coastal Noctuid is a relatively abundant Skokholm breeder, where its larvae feed on a plentiful supply of Sea Campion. A total of 74 moth-days were recorded between 11th April and 7th July; with the exception of two singles attracted to lit Lighthouse windows, all were taken from the moth trap. A peak catch of 14 was logged on 20th May, this down on a 7th May 2019 high of 27 which took the moth-days total for that year to 133. There were 44 in 2018, 22 in 2017 and 196 in 2016.

73.286 **Pod Lover** *Hadena perplexa capsophila* ([Denis & Schiffermüller], 1775)
Although this coastal subspecies is typically found in Ireland and the Isle of Man, Skokholm moths appear a better match for this than any other form of Tawny Shears. The first came on 11th April, just two days later than an early 2019 record. A further six were logged in April, there were 51 in May (including a peak catch of 14 on the 21st), 18 in June, two in July and 22 in August (with the last on the 15th). An annual total of 100 moth-days is an above average showing; there were 105 last year, 34 in 2018, 25 in 2017 and a recent high of 174 in 2016.

73.293 **Smoky Wainscot** *Mythimna impura* (Hübner, 1808)
It proved a notable year for encounters with this grass eating species, a moth which, despite almost certainly being a Skokholm breeder, is typically only encountered in low numbers. Seven taken from the light trap on 7th August were the first of the year, whilst a further 27 August moth-days included an all-time daycount record of 20 on the 15th. A 2020 moth-days total of 34 was the highest on record; there were four in 2019, three in 2018, 24 in 2017 (a high total attributable to the use of multiple traps that year), three in 2016 and five in both 2015 and 2014.

73.298 **Clay** *Mythimna ferrago* (Fabricius, 1787)
Two taken from the moth trap on 15th August was the first sighting since three singles were trapped in 2014, this the only other year of the last eight with a record. Although a relatively common species on the UK mainland, there are records in the Skokholm database for just six further years, the most recent of which was in July 2000. This species has a preference for open woodland, however, whilst not thought to be a regular Island breeder, several of its larval foodplants are present here (including various grasses and chickweeds).

73.317 **Heart & Dart** *Agrotis exclamationis* (Linnaeus, 1758)
This was previously regarded as a scarce Skokholm resident which infrequently visits the light trap, however this species seems to be exhibiting an increase in abundance. The first came to light on 13th May, whilst a further 25 were encountered during eight trapping sessions to 12th July (including a peak catch of eight on 14th June). A total of 26 moth-days almost matched the 28 of 2019, both tallies well up on those of recent years; only singles were recorded in 2018, 2015 and 2013, nine were logged in 2017 and 2016 and there were seven in 2014. Indeed the 2020 tally is the third highest to date, with the all-time record set in 1996 when 57 moth-days were logged.

73.319 **Turnip Moth** *Agrotis segetum* ([Denis & Schiffermüller], 1775)
It was a more typical year for records of Turnip Moth on Skokholm. The first was taken from the light trap on 8th May, this the only first brood insect to be encountered. Two second generation moths were trapped on 15th August and singles were observed along the Lighthouse Track, after dark on the 12th and 27th September. An annual total of five moth-days was down on the all-time record of 11 logged last year, but up on the two of 2018, the four of 2017 and the singles of 2016 and 2015.

73.324 **Crescent Dart** *Agrotis trux* (Stephens, 1829)
This moth of cliffs and rocky shores is typically only found in the southwest of Britain. On Skokholm it is a fairly common summer species, with this year seeing a total of 23, taken over nine trapping nights between 14th June and 18th August, and a peak catch of seven on 7th August. Whilst this is down on the 56 moth-days of last year, fewer trapping sessions in July 2020 make for a misleading

comparison. Prior to the bumper total of last year, the number encountered was gradually declining; there were 76 logged in 2015, 41 in 2016, 32 in 2017 and 17 in 2018.

73.327 **Dark Sword-grass** *Agrotis ipsilon* (Hufnagel, 1766)
It was a better year for records of this, almost annual, Skokholm immigrant. The first of the season was trapped on 10th April. There were a further six April moth-days, one in May, nine in August, four in September and one on 24th November which was the last of the year. The catch size was low throughout, with five on 24th August the 2020 peak. An annual total of 22 was similar to the 12 of 2019, the 24 of 2018 and the 14 of 2016, but was down on an exceptional 2017 tally of 90 (a year which saw a significant spring influx into the UK) and well up on the four of 2015. The number of individuals encountered on Skokholm is inevitably driven by the number reaching the UK; despite intensive autumn trapping effort, no Dark Sword-grass were found in 2014.

73.329 **Flame Shoulder** *Ochropleura plecta* (Linnaeus, 1761)
A total of five were caught between the 15th and 31st August, these all second generation insects. This is the second consecutive year with a low total, however numbers do seemingly fluctuate; there were eight last year, 22 in 2018, an all-time high of 52 in 2017, 31 in 2016 and just four in 2015. This is a widespread moth on the British mainland which has undergone a 65% increase in abundance since the 1970s (Randle *et al*., 2019). Low Skokholm totals tend to coincide with a reduced catch of first brood moths, this perhaps reflecting poor overwinter survival of the underground pupae.

73.333 **Ingrailed Clay** *Diarsia mendica* (Fabricius, 1775)
A single taken from the light trap on 15th June was the first since one on 6th July 2018. This becomes the third year of the last eight, and the seventh year ever, with a record. A highly variable moth, this species is common and widespread across the British Isles where it occupies wooded and moorland habitats. It uses a range of herbaceous plants and shrubs as larval food, several of which are present on Skokholm. However, given the sporadic nature of previous records, it is perhaps likely that this moth is not established on the Island and that this individual was a wanderer from the mainland.

73.334 **Small Square-spot** *Diarsia rubi* (Vieweg, 1790)
A total of five were logged between the 24th and 31st August, this the lowest tally of the last seven years. Trapping on Skokholm rarely produces big numbers, with the 66 logged in 1998 the highest year total to date; there were eight in 2019, 11 in 2018, 33 in 2017, 49 in 2016, 20 in 2015 and 48 in 2014. Although a widespread and often numerous species on the mainland, it has suffered a long-term decline in abundance (with national data suggesting a drop of 54% (Randle *et al*., 2019)).

73.336 **Red Chestnut** *Cerastis rubricosa* ([Denis & Schiffermüller], 1775)
Perhaps owing to its early spring flight season, Red Chestnut are encountered infrequently on Skokholm. This year saw favourable spring trapping weather and thus a record moth-days total of 22, taken over 11 nights between 26th March and 24th April and including peak catches of four on the

10th and 12th. This species has been logged in five of the last eight years, albeit in lower numbers; there were four in 2019, one in 2018, 11 in 2017 and four in 2016. That it has only made it onto the Island list in six further years probably reflects unsuitable weather conditions, low early season trapping effort and reduced battery power during March and April.

73.342 **Large Yellow Underwing** *Noctua pronuba* (Linnaeus, 1758)
Four taken on 14th June were the first of the year, whilst a further ten were noted during the remainder of the month. There followed four in July, 149 in August (which included a peak catch of 38 on the 15th) and nine in September. A heavily worn individual trapped on 5th November was the last of the year; this was two days later than two logged in 2017 and becomes the latest ever Skokholm record. Historically this is one of the most frequently recorded Noctuids on the Island, although over recent seasons numbers have fluctuated markedly (perhaps due to the irregular arrival of migrant insects). The 2020 total of 177 moth-days is the second highest tally of the last eight years; there were 382 in 2019, 81 in 2018 and 140 in 2017, whilst the poorest post-2013 showing was in 2014 when just 30 were taken (this despite increased trapping effort that year).

73.343 **Broad-bordered Yellow Underwing** *Noctua fimbriata* (Schreber, 1759)
The second Island record of this widespread species was a single taken from the Cottage light trap on 15th August. Surprisingly this moth was first recorded on Skokholm as recently as last year (when one was trapped to the west of the Central Block on 25th August). As with the 2019 individual, the pale buff-brown forewing colours suggested that this year's moth was a female (males are typically darker and richer in colour). Of the five common 'yellow underwings', this species is encountered least frequently in Pembrokeshire, although nationally its distribution has spread by 158% since the 1970s and it has become 544% more abundant during the same period (Randle *et al*., 2019).

73.345 **Lesser Yellow Underwing** *Noctua comes* (Hübner, 1813)
Singles attracted to light on the 7th, 27th and 31st August represent a good showing for this typically scarce Island find. One taken last year was the first since the five logged in 2017, although there have now been sightings in seven of the last eight years. Prior to 2013 there are records in the Skokholm database for 13 further years, however annual totals have always failed to exceed single-figures; the nine of 2000 and the eight of 1997 are the highest tallies to date.

73.352 **Green Arches** *Anaplectoides prasina* ([Denis & Schiffermüller], 1775)
This moth of broadleaved woodland was a great find in the trap on 14th June and another addition to the Island moth list. Although in pristine condition, this individual had almost certainly drifted over from the nearby mainland during a run of gentle easterlies. The stunning green ground colour affords excellent camouflage when resting on moss and lichen covered trees.

73.357 **Square-spot Rustic** *Xestia xanthographa* ([Denis & Schiffermüller], 1775)
One taken from the trap on 24th August was the first of the year, whilst a further 16 were attracted to light between 31st August and 20th September. As is typically the case, catch sizes were small with a peak count of seven on the 31st. An annual total of 17 moth-days, although down on last year, is a relatively good showing for this species and continues a run of more regular encounters; there were 21 last year, 24 in 2018 and 27 in 2017, but just ten in both 2016 and 2015 and one in 2014.

73.359 **Setaceous Hebrew Character** *Xestia c-nigrum* (Linnaeus, 1758)
There were an above average number of encounters with this Nettle eating species in 2020. A lone moth trapped on 21st May was the first of the season and two further first generation individuals were taken in June. The first second brood moth was a single trapped on 16th August, after which a further 12 were logged (including peak catches of three on 31st August and 6th September). The last of the year was attracted to light on 27th September, this taking the moth-days total to 16.

Aggregates and species groups

73.096/7 **Uncertain/Rustic** *Hoplodrina octogenaria/blanda* (Goeze, 1781/[Denis & Schiffermüller], 1775)
Records of both Rustic and Uncertain were again lumped. The first of the year came to the light trap on 7th July, whilst four on the 12th took the July tally to five. Three catches in August produced 321 moths, including a 2020 maximum of 211 on the 7th (this the largest single catch since 285 were taken on 25th July 2014). The 2020 moth-days total came to 326, this a figure likely reduced by low trapping effort during July; there were 486 in 2019, 314 in 2018, 391 in 2017 and 35 in 2016.

73.126-9 **Ear Moth agg.** *Amphipoea* agg.
A single caught on 15th August was not dissected to determine its species. This becomes the third year of the last eight in which an Ear Moth spp. has been trapped, this following singles in 2013 and 2016. The Skokholm database contains entries for just one of the four *Amphipoea* species, with Crinan Ear *A. crinanensis* logged in both 1937 and 1960.

73.169/70 **Common/Lesser Common Rustic** *Mesapamea secalis/didyma* (Linnaeus, 1758/Esper, 1788)
As with many of the species found in mid-summer, reduced July trapping effort will have impacted the *Mesapamea* spp. total this year. Nevertheless the 18 moths taken over eight nights between 7th July and 31st August was a very poor tally (16 of these were in the latter month). This was well down on the 157 of 2019 and the lowest total in a trapping year. It should be noted that, although there were fewer July sessions, just three of the 2019 moth-days were logged in this month.

73.312/3 **Square-spot Dart/White-line Dart** *Euxoa obelisca/tritici* (Tutt, 1902/Linnaeus, 1761))
Given its possible confusion with White-line Dart, the Skokholm status of Square-spot Dart has recently been brought into question by County Moth Recorder Robin Taylor. Whilst there are very

few records of White-line Dart in the Skokholm database, the Nationally Scarce B Square-spot Dart is regarded as a commonly encountered Noctuid during late summer trapping sessions. The Pembrokeshire database holds over 400 records of Square-spot Dart, almost all of which are from the three offshore Islands of Skokholm, Skomer and Ramsey and all of which have been identified on appearance alone. Four individuals identified as Square-spot Dart were thus retained for genital dissection by Robin Taylor, all of which proved to be as anticipated. Nevertheless these species were lumped this season. Six taken from the light trap on 15th August were the first of the year. There followed a further 39 August moth-days logged during seven trapping sessions, including a peak catch of 17 on the 24th. There were 11 taken in September, with three on the 20th being the last of the season. An annual total of 56 moth-days was a below average tally; there were 96 in 2019, 32 in 2018, 95 in 2017, 92 in 2016 and 50 in 2015.

Butterflies

It was another interesting and comparatively varied year for records of butterflies on Skokholm. Fewer staff and an absence of guests will inevitably have resulted in lower coverage during the hottest periods of the day, however, as during the last seven years, butterflies were still surveyed during the daily census and additional counts were made on days when arrivals or emergences were evident. It proved an early season for the majority of our regular species, with individuals of **Meadow Brown** and **Small Copper** equalling the earliest of the last eight seasons. A **Large White** was 16 days earlier than the first of 2019, a **Red Admiral** was 12 days earlier and a **Peacock** was 26 days earlier. The first examples of **Green-veined White** and **Small White** were one and three days later than the respective firsts of last year, however this was no surprise given that last year's individuals were the earliest of the last eight seasons. Island scarcities added some diversity, with **Orange-tip** (the first for ten years), **Dark Green Fritillary** and **Speckled Wood** all logged, along with the highest number of **Gatekeeper** sightings since 1959. **Clouded Yellow** was notable by its absence, this becoming just the second year of the last eight without a record. Totals of **Large White**, **Small Tortoiseshell**, **Red Admiral** and **Peacock** were all up on last year, whilst **Large White** numbers rose by 234% in what was their best year in recent history. Conversely the butterfly-days totals for five of the eight most regular Skokholm species were down on their seven year means. Indeed it was the worst of the last eight years for records of **Meadow Brown**; this species has been the most abundant Skokholm butterfly in five of the last eight years, however a further drop in numbers resulted in a total 67% below the 2013-2019 mean.

Skokholm butterfly sightings were again recorded during Birdlog. An account of each species encountered is listed systematically below, with the totals for the period 2015 to 2020 included in tables to allow for comparisons to be made. The Maximum Daycount 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 (thus the same individual may be included for multiple dates). For each of the regularly occurring species, the earliest and latest records from the last eight years, the highest and lowest annual totals from the same period and the 2013-2019 mean are listed below the species title. Where relevant, the text compares these with historic butterfly data which is now digitised and readily accessible; at times this comparison paints a rather gloomy picture, one which reflects the dire declines seen in both the abundance and distribution of many of Great Britain's common species.

Orange-tip *Anthocharis cardamines* (Linnaeus, 1758)
Following a period of gentle easterlies, a female was found in the Courtyard on 20th April. It was watched briefly nectaring on Narcissi near the Ringing Hut before it flew low along Home Meadow. Having lingered amongst Bluebells to the east of the Well, it continued a strong and direct flight over South Haven and towards Hog Bay. This exciting observation was the first for nearly a decade, with one on 6th June 2010 the last to be seen on Skokholm. Prior to these there have been sightings in 19

years, although numbers have been low with multiple butterfly-days noted in only six years. The best season on record was 1976 when ten butterfly-days were logged during June, including a peak daycount of three on the 26th. There have now been a total of 37 Orange-tip butterfly-days recorded on the Island, with 81% of these occurring in either May or June. The 2020 insect becomes the earliest on record, with a male on the 30th in 1990 the only other April sighting.

Large White *Pieris brassicae* (Linnaeus, 1758)
High 487 in 2020 **Low** 73 in 2015 **2013-2019 mean** 197.6 ±sd 101.9
Earliest 23rd April 2017 **Latest** 29th September 2018

One present on 9th May was over two weeks earlier than the first of 2019 and the first in what was an excellent year for this robust Brassica eater. A further five butterfly-days were noted during the month, with four on the 12th equalling the highest May daycount of the last eight years (historically there were peaks of 100 insects in 1948, 1951 and 1959). June is typically quiet for records of Large White, a pattern which continued in 2020, however the exceptionally quiet July which followed was unusual; just nine July butterfly-days were logged, this a tally 91% down on the seven year mean (98.6 ±sd 67.9). A total of 15 insects encountered on the 31st was the highest August daycount of the last eight years, however, with just two further imagoes found during the month, the August total fell 65% short of the mean (48.0 ±sd 36.2). What was looking like a very poor year for Large White records improved significantly during September; although it was a mediocre start, numbers began to increase mid-month, with 89 insects logged on the 14th.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020 Maximum Daycount	0	0	4	2	2	15	105	0	0
2019	0	0	1	1	18	14	4	0	0
2018	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	1	1	1	9	7	0	0
2020 Butterfly-days Total	0	0	6	5	9	17	450	0	0
2019	0	0	1	1	63	63	18	0	0
2018	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	1	1	6	43	22	0	0

High counts continued for the next seven days, with a 2020 peak of 105 recorded on the 18th; this was the highest daycount since a phenomenal 2000 insects were logged on 21st August 1947. The Skokholm database includes nine further years in which three-figure daycounts were recorded, with the most recent being 1983. A September butterfly-days total of 450 was 998% up on the seven year mean, the highest to be ever noted in this month and the highest logged in any month since August 1953. Numbers tailed off rapidly towards the end of the month, with a single at Isthmian Heath on the 27th being the last of the year. Eggs laid on Cabbage in the Courtyard began to hatch on 29th September, although no large caterpillars were encountered. An annual total of 487 butterfly-days was the highest of the last eight years, a tally 234% up on that of 2019 and 147% above the 2013-2019 mean. The Skokholm data mirrors that recorded in the rest of Wales where an 80% increase in numbers was observed during the Big Butterfly Count (Butterfly Conservation, 2020).

Small White *Pieris rapae* (Linnaeus, 1758)
High 309 in 2013 **Low** 11 in 2017 **2013-2019 mean** 125.1 ±sd 104.1
Earliest 17th April 2019 **Latest** 13th October 2016

Early singles found at Crab Bay and South Haven on 20th April were the first of the season and three days later than the first of 2019. A further two during the remainder of the month resulted in the highest April butterfly-days total of the last eight years, although 2019 and 2020 are the only years with a sighting; the earliest ever was logged on 28th March 1990 and there are April records in an additional 19 years. May is typically a quiet month, with the arrival of five insects on the 4th thus being notable; there have been May sightings in four of the last eight years, however the database contains entries for a further 53. Small White are often absent in June, although one was seen on the 24th this year; there have been June butterflies noted in just three of the last eight years.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020 Maximum Daycount	0	2	5	1	6	4	24	0	0
2019	0	2	1	0	7	77	3	0	0
2018	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
2020 Butterfly-days Total	0	4	5	1	7	16	53	0	0
2019	0	2	1	0	25	154	15	0	0
2018	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

Seven insects noted over two July dates was a total 67% below the 2013-2019 mean (21.3 ±sd 25.0). August was similarly disappointing with only 16 butterfly-days logged, this also a tally 67% down on the seven year mean (48.9 ±sd 51.7); it was a strikingly different month to August 2019 when several arrivals resulted in 90% more insects being encountered. In a similar pattern to that observed in Large White, numbers began to increase from mid-September, with a light passage of insects producing a peak 2020 daycount of 24 on the 19th (this just one day after the peak in Large White numbers). Although the 2020 high was 69% down on that of 2019, it was the third highest of the last eight years. Two on 26th September were the last of the season and took the annual butterfly-days tally to 86, a total 56% down on that of 2019 and 31% below the seven year average.

Green-veined White *Pieris napi* (Linnaeus, 1758)
High 187 in 2018 **Low** 21 in 2020 **2013-2019 mean** 84.0 ±sd 62.7
Earliest 21st April 2014 **Latest** 1st October 2015

It was the worst year on recent record for numbers of Green-veined White, with a butterfly-days total of 21 being 75% down on the 2013-2019 average and 46% down on last year. The first 2020 imago was found at the Stream Net on 22nd April, this just one day later than the earliest of the last eight seasons (there have been 37 earlier butterfly-days since the first Island record in 1947). There followed an 80 day absence, with no further sightings until 10th July when one was at East Bog; although it is not unusual for counts to be low in May and June, it was the first May of the last eight without a sighting. There were no further July butterflies, a total of one being the worst of the last eight and 97% below the seven year average (39.1 ±sd 30.6). Following another long absence, this time of 40 days, the next record was of ten insects on 30th August; this proved to be the peak 2020 daycount and equalled the third highest maximum of the last eight years. A further five the following day took the August butterfly-days total to 15, this the highest monthly total this year; totals have peaked in August in four of the last eight years. Sadly, a September arrival similar to those observed in the Large and Small Whites was not seen for this species, with a monthly total of four including one on the 17th which was the last of the year. Quite why Green-veined White fared so poorly in 2020 is unclear, but in Wales an annual decline of 17% was recorded (Butterfly Conservation, 2020).

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020 Maximum Daycount	0	1	0	0	1	10	2	0	0
2019	0	1	1	0	13	2	2	0	0
2018	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
2020 Butterfly-days Total	0	1	0	0	1	15	4	0	0
2019	0	1	3	0	27	5	3	0	0
2018	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

Speckled Wood *Pararge aegeria* (Linnaeus, 1758)
One found alongside the Little Bay Point safety line on 30th August was the only record of the year, this making 2020 the sixth of the last eight and the second consecutive year with a Skokholm record. Although it has occurred more regularly of late, this is a scarce Island species which has historically been encountered much less frequently; prior to 2013 there were observations in just 11 years, with 83% of an all-time butterfly-days total of 29 occurring from 1987 onwards. The highest year total was logged in 1987 when five butterfly-days were noted. The increase in Island records reflects population expansion across the UK mainland; the distribution of Speckled Wood has increased by

71% during the last four decades, whilst an 84% increase in abundance has occurred during the same period (United Kingdom Butterfly Monitoring Scheme, 2020).

Meadow Brown *Maniola jurtina* (Linnaeus, 1758)
High 15,288 in 2018 **Low** 1873 in 2020 **2013-2019 mean** 5639.0 ±sd 4395.9
Earliest 9th June 2016 and 2020 **Latest** 18th September 2015

It was the second consecutive season in which counts of this underrated herald of summer have been down on the preceding year, indeed it proved the worst showing of the last eight summers. One outside of the Cottage on 9th June was the first, this matching a 2016 record as the earliest of the last decade. June sightings remained infrequent until the 19th, after which low double-figure tallies were noted on seven dates during the month. Numbers began to increase in July, although daycounts remained disappointing; a count of 95 on the 23rd was the lowest maximum of the last eight years and 79% down on the 2013-2019 mean (460.0 ±sd 420.1). Despite sightings on every date, 84% of which were double-figure counts, a July total of 1206 butterfly-days was the lowest of the last eight, 75% below the 2013-2019 average (4838.0 ±sd 4157.2) and 91% down on the superb 2018 total. As is invariably the case, July was the peak month for records of adults on the wing.

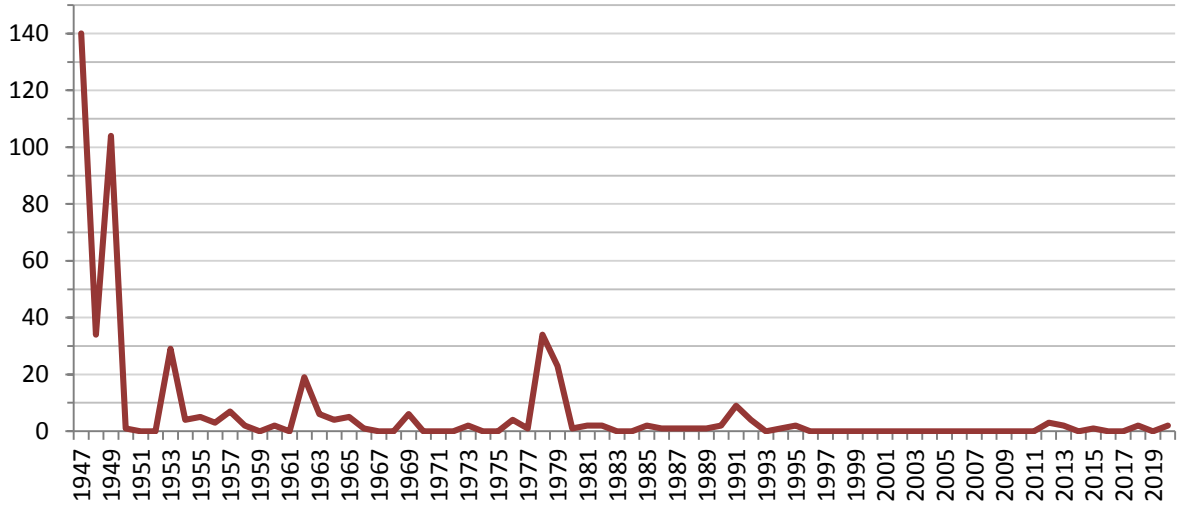
Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020 Maximum Daycount	0	0	0	39	95	67	1	0	0
2019	0	0	0	36	383	85	1	0	0
2018	0	0	0	265	1368	106	0	0	0
2017	0	0	0	60	381	80	1	0	0
2016	0	0	0	22	516	120	2	0	0
2015	0	0	0	80	220	140	10	0	0
2020 Butterfly-days Total	0	0	0	186	1206	480	1	0	0
2019	0	0	0	130	3058	278	2	0	0
2018	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

There was an August high of 67 on the 2nd, whilst daycounts dropped considerably from mid-month and there were sporadic single-figure records during the last week. An August butterfly-days total of 480 was nevertheless 73% up on that of 2019 and just 13% below the seven year August mean (552.0 ±sd 270.8). A surprisingly fresh insect found on 1st September was the last of the year, this taking the 2020 butterfly-days total to 1873; the total was 67% lower than the seven year mean, 46% down on the mediocre 2019 tally and the worst showing of the last eight seasons. An 8% decline in abundance was noted across Wales during 2020 (Butterfly Conservation, 2020).

Gatekeeper *Pyronia tithonus* (Linnaeus, 1771)
A single at the Well on 15th July was the first since 2018 and marked the start of a good year for records of this scarce Skokholm species. Four further butterfly-days were noted during the month, with a peak of two on the 17th (with insects observed at the Well and at the Red Hut), a male at the Well on the 19th and one at Billy's Dyke on the 23rd. The next record was not until 15th August when a single was found at the Red Hut. There were two further butterfly-days, with one on the 19th being the last of the year. All of this year's sightings came from the same sheltered area between the Well, Billy's Dyke and the Red Hut, this shallow valley a favoured haunt for butterflies which have drifted over from the mainland. Although there have been sightings in four of the last eight years, a 2020 total of eight butterfly-days is the highest since 1959 when 11 were logged. There have now been Gatekeeper records in 31 seasons since the first was recorded in 1947.

Dark Green Fritillary *Speyeria aglaja* (Linnaeus, 1758)
Two stunning males found at Billy's Dyke on 15th June were the only individuals seen this year and the first since 2018. The insects were watched working a circuit along the sunny and sheltered side of the Well Stream and Billy's Dyke, periodically chasing one another before disappearing over the Bracken. This remains one of the most common and widespread fritillary species in the British Isles, however its range has contracted considerably since the 1970s (UK Butterflies, 2020). The Skokholm records have followed the national pattern, with sightings of this butterfly now proving unusual (with records in just three of the last eight years). Given that this species breeds on neighbouring Skomer Island and that a larval foodplant, Common Dog Violet *Viola riviniana*, is common on Skokholm, the lack of records is perhaps surprising.

The total number of Dark Green Fritillary butterfly-days logged each year between 1947 and 2020.



Red Admiral *Vanessa atalanta* (Linnaeus, 1758)
High 3598 in 2014 **Low** 890 in 2015 **2013-2019 mean** 1477.3 ±sd 960.1
Earliest 10th March 2014 **Latest** 9th November 2013

One in the Wheelhouse Heligoland on 11th April was the first of the year, this 12 days earlier than the first of 2019 but over a month later than an early 2014 sighting. There were eight further April butterfly-days, the monthly total matching that of 2015 as the highest of the last eight years. Low counts on 14 May dates peaked at 16 on the last day of the month when insects were watched flying along the coast. A May total of 48 butterfly-days was the third highest of the last eight years and a figure 69% up on the 2013-2019 mean (28.4 ±sd 22.0). Although June began quietly, a large arrival during the middle of the month saw 177 butterfly-days logged between the 12th and 14th, including a peak of at least 70 on the 13th; this was the highest June daycount on record, the previous high being the 50 logged on the 6th in 1996. Unsurprisingly the total for the month was correspondingly large, 308 butterfly-days being the highest ever June tally and a figure 173% up on the 2013-2019 mean (113.0 ±sd 65.0). The insects did not linger, with daycounts at the end of June yo-yoing between single and low double-figures and only one July daycount of more than nine. Indeed the July total was 45% lower than that of 2019 and 30% below the seven year average (177.7 ±sd 55.0).

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020 Maximum Daycount	0	2	16	70	15	87	227	28	2
2019	0	1	7	37	48	38	35	7	3
2018	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
2020 Butterfly-days Total	0	9	48	308	125	722	624	58	4
2019	0	3	49	209	229	352	304	51	3
2018	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

August proved to be busier, with observations on every date and an increase in abundance from the 5th. An arrival from the sea of 39 insects on the 13th was followed by a count of 75 the following day, whilst an August peak of 87 was reached on the 18th. Only 40 live Red Admiral were logged on the 19th, with many wings discarded from eaten insects littering the path network. Double-figure counts

on all but two of the remaining August dates contributed to a monthly total of 722 butterfly-days; this was the highest total in any month since the 2705 of September 2014 and a figure 111% up on the 2013-2019 August mean (342.0 ±sd 78.8). An obvious arrival and an emergence of Skokholm bred insects were noted from 15th September, with the 2020 daycount high coming on the 18th when at least 227 were present; this was the highest daycount since 409 were logged in 2014. Although the remainder of the month was quiet, a butterfly-days total of 624 was the second highest September tally of the last eight and a total 105% up on 2019. An arrival of 28 butterflies on the 14th led to the highest October daycount since 2016, although sightings were scarce during the rest of the month, this resulting in a butterfly-days total 51% below the 2013-2019 mean (117.9 ±sd 106.1). Four in November included the last two of the year on the 6th and took the annual butterfly-days total to 1898; this was 58% up on that of last year and 29% higher than the seven year mean.

Painted Lady *Vanessa cardui* (Linnaeus, 1758)
High 5894 in 2019 **Low** 140 in 2020 **2013-2019 mean** 1333.0 ±sd 2037.0
Earliest 13th April 2015 **Latest** 22nd November 2014

It was an exceedingly quiet year for records of this stunning immigrant, an annual total of just 140 butterfly-days being the lowest of the last eight years and conspicuously different to the impressive numbers witnessed last year. A single at the Well on 21st May was the first of the year, however one on the 31st was the only other sighting during the month. There was little improvement in June, with sightings on just seven dates producing a monthly total of 11; this was the worst June showing of the last eight years and a total 96% below the 2013-2019 mean (242.0 ±sd 323.9).

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020 Maximum Daycount	0	0	1	3	1	8	9	0	0
2019	0	0	2	208	72	614	218	5	3
2018	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
2020 Butterfly-days Total	0	0	2	11	1	55	71	0	0
2019	0	0	2	943	639	2870	1414	22	4
2018	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

The dearth of Painted Lady continued into July, indeed one at Winter Pond on the 30th was the only imago seen during the month, this total dramatically different to the 639 butterfly-days recorded last July; although there were just ten in 2016, the 2013-2019 July mean stands at 140.9. The August total has been the highest monthly tally in five of the last seven years, with the 2019 influx seeing 2870 butterfly-days and a peak daycount of 614, however a daycount maximum of eight on the 31st took the 2020 total to just 55. September became the best month for sightings in 2020, with an unremarkable nine butterflies on the 18th being the highest daycount this year; this was the lowest daycount high since 2014 when peaks of eight were logged in both August and September. Records on a further 17 dates took the butterfly-days total to 71, this the worst September total since the 61 of 2014. Four on the 21st were the last of the year. The 2020 butterfly-days total was 98% down on last season's record tally and 90% below the seven year mean.

Peacock *Inachis io* (Linnaeus, 1758)
High 387 in 2015 **Low** 36 in 2013 **2013-2019 mean** 145.0 ±sd 125.2
Earliest 10th March 2015 **Latest** 3rd December 2019

A single outside of the Cottage on 22nd March was 26 days earlier than the first of 2019 and the first in what was a slightly better season for this unmistakeable species. One in the Cottage Garden on the 26th and two at North Haven the following day took the March butterfly-days total to four; there have been March sightings in 19 previous years (with one in 1948 the first), although this becomes the highest March total on record. Sightings on 16 April dates produced a total of 31 butterfly-days, this the best April tally since 2015 and a total 81% above the 2013-2019 mean (17.1 ±sd 28.3). May and June were typically quiet, however respective monthly totals of eight and six were nevertheless comparatively good. June, a month with sightings in just four of the last eight seasons, also saw the first caterpillar observations of the year, with larvae first noted at the Well and outside of the Central Block on the 14th and along the Lighthouse Track the following day.

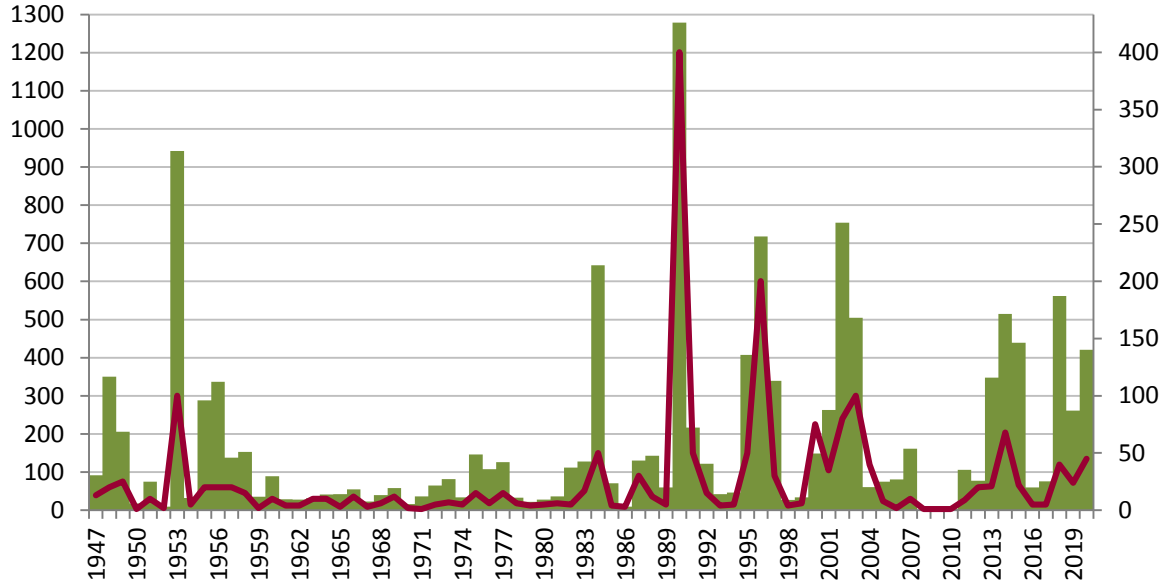
Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020 Maximum Daycount	2	5	3	3	11	4	2	0	1	0
2019	0	4	3	0	11	12	2	2	1	1
2018	1	0	1	1	4	6	0	0	0	-
2017	0	1	1	0	12	5	4	2	0	-
2016	1	3	2	0	40	11	2	1	0	-
2015	2	22	3	1	16	13	3	1	3	-
2020 Butterfly-days Total	4	31	8	6	71	20	6	0	1	0
2019	0	13	4	0	44	27	7	4	3	1
2018	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	-

An adult on Isthmian Heath on 10th July was the first in what proved to be the best month of the last three years. Regular records thereafter, which included four freshly emerged insects at the Well on the 14th and a 2020 high of 11 on the 24th, took the monthly butterfly-days total to 71; this was 13% up on the 2013-2019 July mean (62.9 ±sd 47.6) and 61% up on the 2019 tally. Numbers declined in August, with records of no more than four insects on 11 dates resulting in a butterfly-days total of just 20, this 59% below the seven year August average (49.0 ±sd 48.6). Sightings of up to two insects on five September dates was rather typical for this month. Adults were seemingly absent in October, 2020 becoming just the second of the last eight years without a record (there have however only been October sightings in 23 years). One at the Farm on the 24th was the only November Peacock and the last of the year. Although 43% up on 2019, a 2020 butterfly-days tally of 147 was an average showing for this species on Skokholm (being just 1.4% up on the seven year mean).

Small Tortoiseshell *Aglais urticae* (Linnaeus, 1758)
High 562 in 2018 **Low** 60 in 2016 **2013-2019 mean** 323.0 ±sd 200.9
Earliest 9th March 2014 **Latest** 14th November 2018

One at the Farm on 8th April was the first of the year and over two weeks later than the first of 2019. A further seven were recorded during the month, resulting in the second highest April butterfly-days total of the last eight years. Five, noted over three dates, was surprisingly the second highest May tally to be logged during the same period. June saw a much better showing than of late, with 62 butterfly-days being a sizable increase on the four of 2019 and a tally 128% above the 2013-2019 mean (27.1 ±sd 30.9); a peak daycount of 14 on the 25th was the highest in this month for five years.

The total number of Small Tortoiseshell butterfly-days (green) and the maximum daycount logged in each year since 1947.



Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020 Maximum Daycount	0	2	2	14	12	45	35	0	0
2019	1	1	1	3	4	24	22	1	0
2018	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
2020 Butterfly-days Total	0	8	5	62	44	202	100	0	0
2019	4	2	1	5	40	124	84	1	0
2018	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

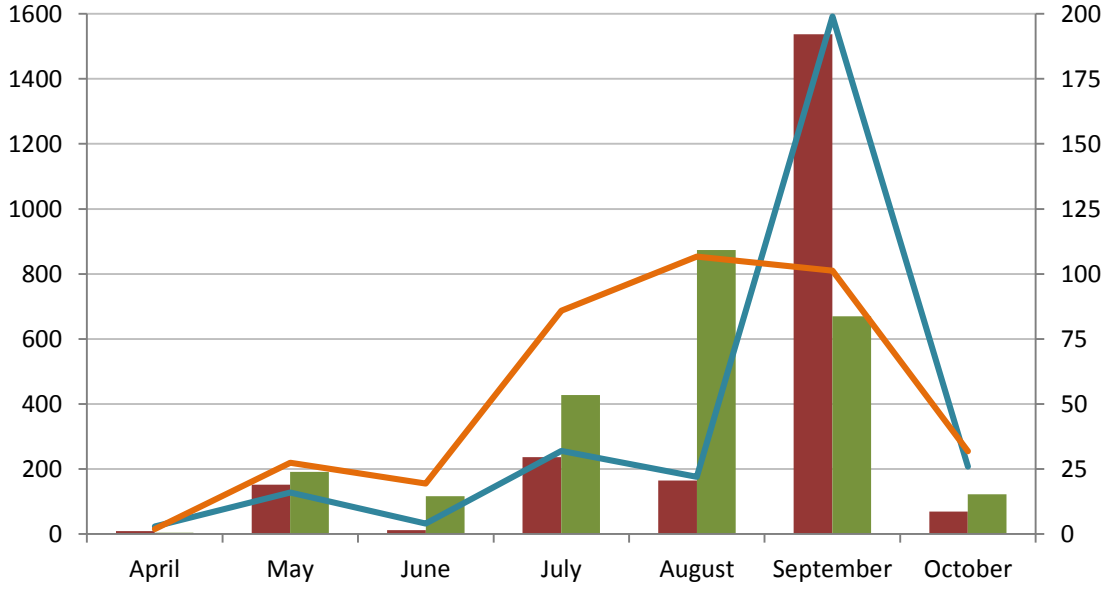
July, August and September are typically the most productive months for Small Tortoiseshell records; although this was the case in August and September 2020, the July tally was unimpressive for a second consecutive year. Whilst a total of 44 butterfly-days was 10% up on last July, it was 47% below the seven year mean (83.4 ±sd 71.0). Sightings on 28 August dates included five double-figure daycounts (with a 2020 high of 45 on the 24th), which resulted in 202 butterfly-days being logged; this was the highest monthly total this season, a figure 63% up on that of last year and 50% above the 2013-2019 August mean (135.0 ±sd 123.9). The 35 noted on the 1st was the highest September daycount since 40 were present on the 7th in 2005. Although subsequent daycounts were

comparatively low, a total of 100 September butterfly-days was 19% up on 2019 and 51% above average (66.4 ±sd 41.8). A single logged on the 27th was the last of the season, this thus becoming the third year of the last eight without an October record. Nevertheless, a grand total of 421 butterfly-days were logged, this 61% up on last year's poor showing and a tally 30% higher than the 2013-2019 mean. Conversely, a 50% decline in abundance was observed in Wales during this year's Big Butterfly Count (Butterfly Conservation, 2020), whilst the UK population of a once ubiquitous garden visitor has declined by three quarters since the 1970s (Butterfly Conservation, 2015).

Small Copper *Lycaena phlaeas* (Linnaeus, 1761)
High 5775 in 2013 **Low** 1124 in 2016 **2013-2019 mean** 2405.6 ±sd 1576.9
Earliest 19th April 2015 and 2020 **Latest** 30th October 2018

The first of the year was found at the Cutting on 19th April, this at the same location and just four days earlier than the first of 2019 and equalling the earliest sighting of the last eight years. Occasional encounters between the 22nd and 29th resulted in eight further butterfly-days and the second highest April total of the last eight years; records in this month are unusual, indeed there have been sightings in only four of the last eight Aprils, with a mean butterfly-days total of 4.8 (±sd 7.7). The bulk of first generation adults typically emerge in May, with this year seeing records on 26 dates which took the monthly butterfly-days total to 152; this figure was 36% down on last May and 21% lower than the seven year May mean (191.1 ±sd 162.7). A high of four on 25th June fell well short of the average maximum for this month (19.4 ±sd 18.2), whilst a June butterfly-days total of just 12 was 79% down on last year and 90% lower than the 2013-2019 mean (117.0 ±sd 91.3). Numbers increased in July, with records on 23 dates; of these, 90% were logged after the 15th when the second brood emergence peaked. A peak July daycount of 32 on the 21st was 20% down on that of July 2019 and 80% down on that of 2018. A total of 237 July butterfly-days was the lowest since 2015 and 45% down on the 2013-2019 July mean (427.3 ±sd 256.6). It was also a quiet August, with just six double-figure daycounts during the first 16 days of the month and a sharp drop in records from the 17th as second generation adults reached the end of their lifecycle (very worn insects were noted during the final week). The resulting August tally of 165 was the second lowest of the last eight and 81% down on the 2013-2019 August mean (873.4 ±sd 1114.1).

The number of Small Copper butterfly-days (maroon) and the peak daycount (blue) logged in 2020, along with the 2013-2019 mean butterfly-days total (green) and mean peak daycount (orange).



The emergence of a third generation was apparent from 6th September (this one day later than last year), whilst the month went on to be the busiest of the year (for the fourth time in seven years).

The 199 logged on 19th September comprised counts from only the Trapping Area, the North Coast, the Neck and the Lighthouse Track; the only higher September daycount of the last eight years is the 241 noted on the 18th in 2019. A further four three-figure daycounts contributed to an impressive total of 1537 butterfly-days, this 20% up on last year, 129% up on the seven year mean (670.1 ±sd 480.8) and the highest September tally of the 70 on record. Following 26 on the 1st, counts dropped quickly during October, indeed a butterfly-days total of 69 was below average. One on Isthmian Heath on 23rd October was the last of 2020, this on the same date as the last of 2019 and taking the annual total to 2181 butterfly-days. The total was 9.3% down on the 2013-2019 mean, although this mean is increased substantially by the remarkable 5773 butterfly-days logged in 2013 (the 2014-2019 mean is only 1844.0 ±sd 578.6).

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020 Maximum Daycount	0	3	16	4	32	22	199	26	0
2019	0	1	21	8	40	30	241	22	0
2018	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
2020 Butterfly-days Total	0	9	152	12	237	165	1537	69	0
2019	0	2	237	57	345	260	1285	84	0
2018	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

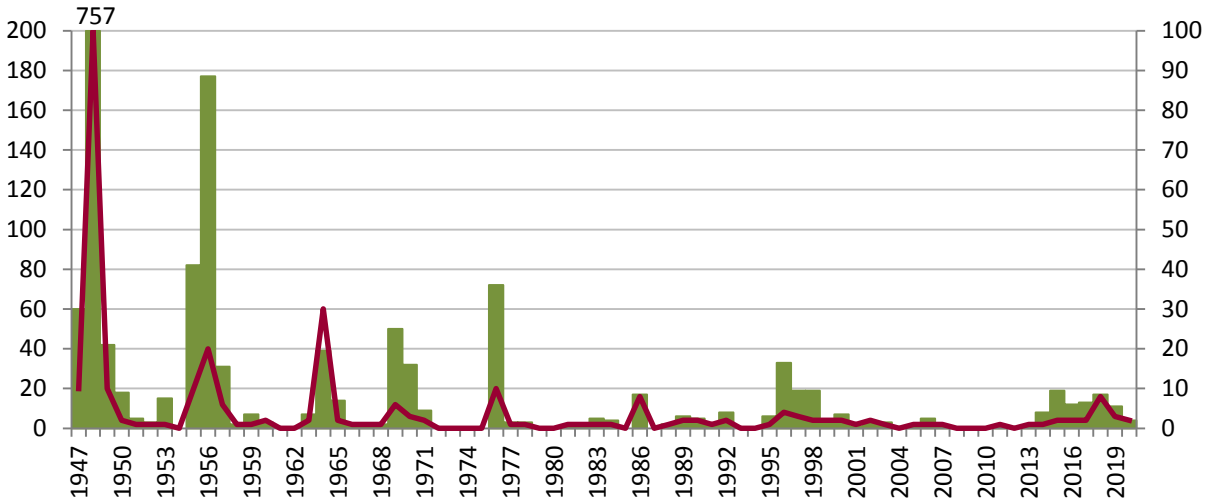
Common Blue *Polyommatus icarus* (Rottemburg, 1775)

A male on Home Meadow on 1st June was the first of the year, this 27 days earlier than the first of a late 2019 season. However, two males along Well Stream on the 5th were the only other June butterflies, indeed there were no further encounters with first brood imagoes. The next sighting did not occur until 12th August when a second generation male was found roosting on East Bog rushes covered in an early morning dew; this proved the only other 2020 record. An annual total of four butterfly-days was a poor showing for this species on Skokholm, a tally 64% down on last year, 66% below the 2013-2019 mean (11.6 ±sd 6.0) and the worst since 2013 when only a single was logged.

Common Blue have been recorded in 56 of the last 73 years, however numbers have fluctuated and declined significantly since the first half of the 20th century; the Skokholm database includes highs of 177 butterfly-days in 1956 and an Island record of 757 in 1948, but several subsequent years without

a sighting. Nevertheless, an increase in records between 2014 and 2019, including sightings during both flight seasons, raised hopes that this species was to again establish itself; it was thought that an increase in the extent of Greater Birds-foot-trefoil *Lotus corniculatus*, brought about by a drop in Rabbit numbers, may benefit Common Blue. However, given both the low number encountered and an apparent lack of females, it would seem likely that the butterflies seen in 2020 were immigrants.

The total number of Common Blue butterfly-days (green) and the maximum daycount logged in each year since 1947. Note that the 1948 peak of 757 is not accurately represented on this chart.



Amphibians

Common Frog *Rana temporaria*

Encounters with this amphibian have become exceedingly rare, indeed the presence of spring spawn has often been the only indication in recent times that multiple frogs were still extant on the Island. However, during the period between 2017 and 2019, March checks of the main water bodies failed to find evidence of breeding. Whilst this is concerning, it was speculated in the 2019 Annual Report that, as a result of the mild maritime climate, frogs may be spawning as early as January on Skokholm (spawn may thus have already hatched when staff return from late February onwards). This year saw two unusual early season daytrips undertaken by WTSWW staff, with visits on 22nd January and 6th February providing a rare opportunity to look for early spawn. Whilst none was noted on the first trip, a large clump was found in a small pool to the north of North Pond Wall during the second visit; this was the first spawn to be found on Skokholm since March 2016. There was no evidence of the eggs when staff returned on 16th March and a more thorough search the following day again failed to locate any. However eight small tadpoles were found in a puddle to the south of North Pond Wall on the 25th. By the following day the puddle had emptied completely, with 20 tadpoles remaining in the damp mud; only nine were alive, these transferred to the shallow eastern section of North Pond.

There have been very few sightings of adults in recent times and this year was no exception; the only adult encountered was near North Pond, in misty, damp conditions on the night of 8th September. Although it appeared otherwise healthy, a large subcutaneous mass was present on its lower back and there was a small growth on its hind leg. This observation of a single animal is typical of recent times; there were two found last year, a single in 2018, three in 2017 and one in each year between 2013 and 2016 (with the 2015 record being of a dead frog). The digitised data, although incomplete, suggest that numbers have been much higher, but have also plummeted, in the past; whereas 127 frogs were logged in 1948, only six were found the following year. Adults can survive for up to 12 years; there is thus the potential for numbers to again increase if conditions allow.

Mammals

European Rabbit *Oryctolagus cuniculus*

Adults and juveniles, either apparently diseased or intact but dead, were found at various locations during the 2020 season, although to a much lesser extent than in recent years. A very small youngster at the Well on 10th April was the first sick animal to be logged, however there were no further encounters that month. The first dead individual was found near the Garage on 12th May. There followed a further seven dead and one sick Rabbit during the remainder of May, whilst a lingering smell of decomposing dead animals was present near the Cottage during the last week of the month. Three dead subadults were noted in June, one of which was found hidden in a Manx Shearwater burrow during annual census work; this again highlighted how the number suffering from disease could be much higher than the encounter rate suggests. Only one sick Rabbit was found during June, this a paralysed youngster on the 11th which was dead the following day. Remarkably there were no dead animals observed for the next two months, indeed one at South Pond on 29th August was the only sick individual to be seen; interestingly this was the only Rabbit encountered this year which exhibited signs of Myxomatosis. The next dead animal was found on 1st September, whilst a further five dead and two sick were noted during the month; as with the majority of diseased Rabbits studied this year, these animals were paralysed and soon died. A total of 23 sick or dead Rabbits were encountered in 2020, this 63% down on the 2019 figure.

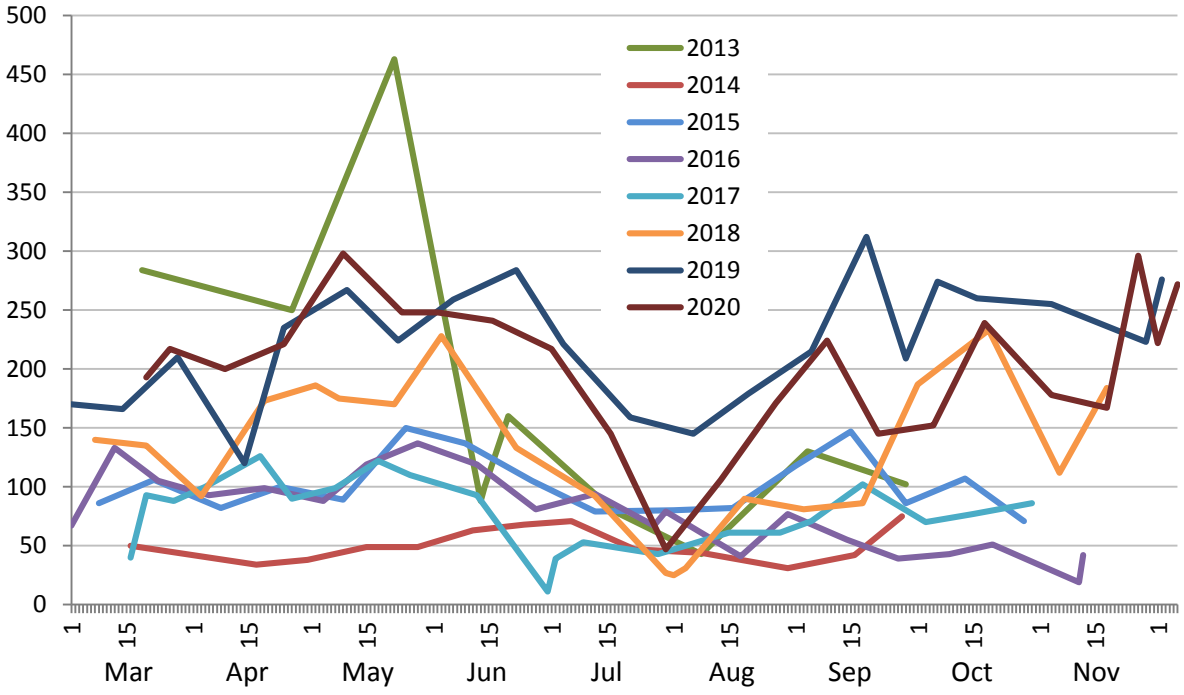
This year saw most infected animals exhibiting symptoms predominantly associated with Rabbit Viral Haemorrhagic Disease (RVHD), such as partial or complete paralysis (followed within 24 hours by death), seizures, breathing difficulties and death without external signs of damage. Whereas approximately half of the sick animals encountered in 2019 showed symptoms commonly linked with Myxomatosis (namely matted fur and fur loss, a lack of coordination, swollen face, audible breathing and red, infected eyes), only one such individual was found this year. It has been suggested that the absence of the European Rabbit Flea *Spilopsyllus cuniculi* would prevent the spread of Myxomatosis on Skokholm (Thompson, 2007), however the disease can be transmitted via several different arthropod vectors including Harvest Mites *Neotrombicula autumnalis* (Cousquer, 2013), an invertebrate which is present in large numbers on the Island. Animals thought to have Myxomatosis have not been tested.

Rabbits were first monitored from a fixed point on the Knoll in the mid-1990s when an outbreak of 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. Rabbits were counted in two adjacent North Plain plots on 22 evenings between 20th March and 6th December this year, with the survey commencing approximately 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 (this an area of approximately seven hectares).

Due to the delayed return of staff, the first survey of 2020 was 19 days later than the first of 2019; a total of 193 animals was 14% up on the early count of last year. More comparable was the second March survey which took place on the 26th; numbers had increased to 217, this just 3% up on the count of 28th March 2019. The first April survey suggested a minor drop in numbers, this followed by a steady increase to 298 on 9th May; this was the peak 2020 count and the third highest tally of the last eight years (312 on 19th September 2019 and 458 on 26th May 2013 are the only higher totals). Numbers remained high during June, whilst a drop to 217 on 1st July was perhaps the result of a Lesser Black-backed Gull roost in both plots. However numbers continued to decline, reaching 145 on 16th July (when there were no gull roosts or other obvious disturbances); this was the lowest count since the same number was logged on 6th August last year. The presence of over 300 anting gulls on 30th July may again have impacted the count; a total of just 47 was the lowest this year and the lowest since 4th August 2018 when 31 were present. A significant drop in numbers has occurred during the summer months in each of the last three years (for example there was a drop of 88% between 3rd June and 30th July 2018), and less dramatic declines have been noted previously; whilst this may be due to disturbance caused by gulls (which often roost and occasionally feed on North Plain during the post-breeding period), it is perhaps likely that the lower counts reflect a genuine seasonal decline in the number of Rabbits present on the surface.

The total number of Rabbits logged during evening counts of the North Plain study area between 2013 and 2020.



As is frequently the case, numbers increased in August, this despite the presence of a gull roost during both surveys. The 171 logged on 27th August was just 5% down on the late August count of

last year, whilst the 224 present on 9th September was fractionally up on the 215 of 5th September last year. Following a drop to 145 in the last week of September, numbers again rose, with an October high of 239 and a peak of 296 on 26th November; although there have been November surveys in only four recent years, this is the highest count to be made in this month. A later staff departure allowed for two December surveys; there were 222 present on the 1st, whilst 272 on the 6th was just four fewer Rabbits than logged during the last count of 2019.

Bats

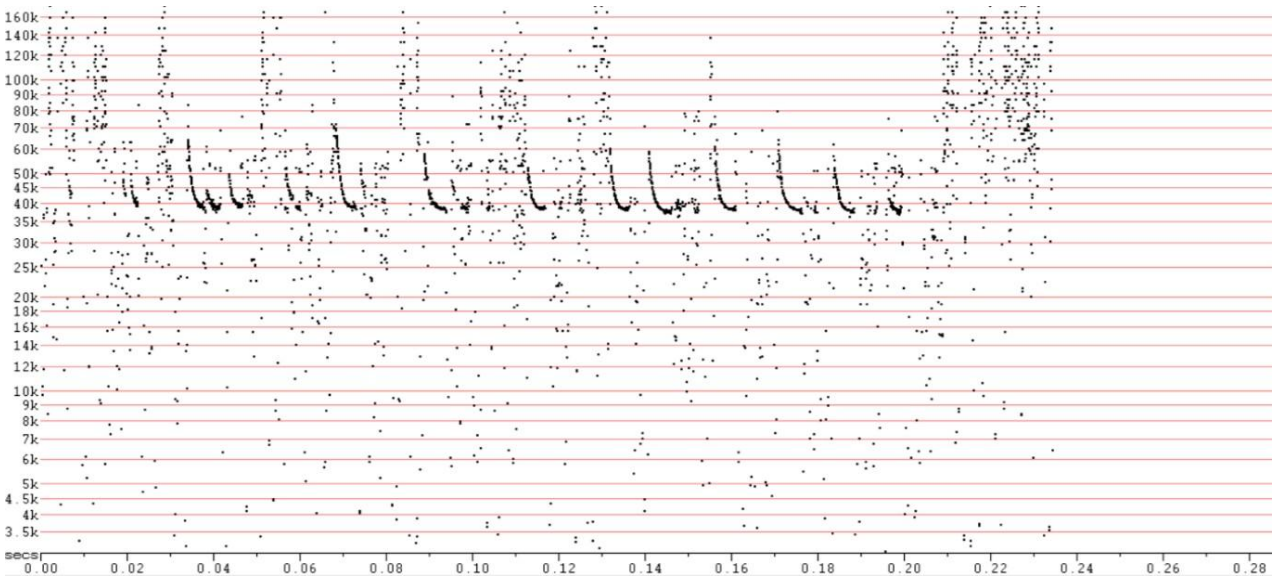
Bats have been surveyed on Skokholm since 2014 using an SM2 (an automated detector which is left in situ to record echo-locating bats which pass within its range). The use of such a device has allowed us to gather regular and systematic data, vastly improving our knowledge of the species which visit the Island. To maintain consistency with the previous six years, the SM2 was again located at the Well (housed in the Well Hide and with the microphone facing due east). Since recording began here in 2014, the detector has been triggered by **Nathusius'**, **Soprano** and **Common Pipistrelles**, **Leisler's Bat**, **Noctule**, **Serotine** and **Greater Horseshoe**; additionally a ***Myotis* spp**. was also recorded, although this could not be identified to species. Although this set up has clearly yielded valuable information about the bats which have flown over the Well, it provides only a glimpse as to how these enigmatic mammals exploit the Island. Thus, with monies raised by Dave Astins competing in the Ironman Wales race, a second detector was purchased in 2019. To again maintain consistency with last year, this SM4 (a more portable and power efficient device) was positioned on top of the North Pond Hide where a more open habitat could be monitored. These detectors, deployed at the Well and North Pond on 8th April, remained in position until the end of October.

A total of four species were identified this season, this down on the five of 2019. **Nathusius' Pipistrelle** was recorded for a second consecutive, but only third ever, year, **Soprano Pipistrelle** was also logged for a second year running (there have now been records in three of the last five years) and it became just the fourth season in which **Greater Horseshoe** has been detected. In the following text a 'pass' refers to each occasion that the detector was triggered into recording.

Nathusius' Pipistrelle *Pipistrellus nathusii*
In the calm, early hours of 19th September, the detector at North Pond recorded a total of 11 Nathusius' Pipistrelle passes. These took place in quick succession, with the first logged at 0356hrs and the last at 0402hrs, thus making it likely that all of the calls came from the same animal. There were no further records. Nevertheless 2020 becomes only the third year in which this species has been identified on Skokholm; in 2019 five passes were recorded by an AnaBat Express in the Quarry on the night of 22nd September and a single recording was made by the same device in North Haven on the 25th, whilst the first Skokholm record was logged at the Well on 18th September 2014. In addition to the 2020 record of Nathusius' Pipistrelle, a total of 11 passes were attributed to a '40kHz Pipistrelle', that is to say that it could not be determined whether the call was made by a Nathusius' or a Common Pipistrelle; these all occurred at North Pond between 0357hrs and 0403hrs on 19th September and were thus almost certainly passes made by the same Nathusius' Pipistrelle.

The true status of this species in the UK remains unclear. It was first recorded as a vagrant in 1940, however an accumulation of records thereafter afforded it the status of winter migrant. A small number of UK maternity roosts have been found since the mid-1990s, confirming that this bat also breeds (Russ *et al*., 2001). In continental Europe, this species migrates from its breeding strongholds in the east, heading in a southwesterly direction to central and western Europe to overwinter. The appearance of individuals in the Shetland Islands and on oil platforms in the North Sea between September and November is regarded as evidence that breeding populations in Scandinavia also migrate in a southwesterly direction to avoid the harsh winter conditions there. Records of animals travelling in a northeasterly direction past North Sea oil rigs in May further supports this theory,

indeed it is now thought that Britain and Ireland occupy a region where resident bats are joined in winter by migratory individuals from the northeast of their range (Russ *et al*., 2001).



Soprano Pipistrelle *Pipistrellus pygmaeus*

A single pass was recorded by the North Pond detector at 2133hrs on 16th September. A second was logged at the same site at 2043hrs on the 20th. There were no further 2020 passes. Following the first Skokholm record of Soprano Pipistrelle, in the Courtyard on 25th September 2013, calls were detected at the Well on two dates in autumn 2014 and once on 15th September 2015, whilst there were four recordings made at Purple Cove in 2019 (these on the evening of 19th September and in the early hours of the 20th). This season's records thus make 2020 the fifth year in which this species has been identified. Additionally a total of five passes were attributed to '50kHz Pipistrelles', that is to say that it could not be determined if the calls were made by a Common or a Soprano Pipistrelle; these occurred on the evenings of the 9th, 16th, 18th and 19th September. This species typically emerges from its roost at approximately 20 minutes after sunset; that this year's passes occurred between one hour 25 minutes and two hours 11 minutes after sunset perhaps thus suggests that these bats had not roosted on Skokholm but had instead crossed from the mainland.

Noctule *Nyctalus noctule*

For a seventh consecutive year, Noctule was the most frequently recorded bat species on Skokholm. The first 17 passes were logged on 8th April (this the first night of deployment); of these six were at North Pond and 11 were at the Well. The North Pond detector was first triggered at 2049hrs, this quickly followed by a further three passes before the Well detector was triggered a minute later; whilst the presence of multiple animals cannot be ruled out, it is tempting to think that these early recordings were of the same mobile individual. A further 209 North Pond passes and 127 Well passes took the April total to 353 (there were 95 recorded at the Well in April 2019, but just three in 2018). There followed 54 passes at North Pond and 20 at the Well in May (there were 83 at the Well in May 2019 and 30 there in 2018) but no June or July recordings (there were no June records in 2019, however 241 were logged in July). The first autumn passes were all at the Well, with 65 logged during August. There were 199 at North Pond and 334 at the Well in September (in 2019 there were 48 at North Pond and 73 at the Well), and just two at the Well in October (there were 11 there in 2019). The last of the year was recorded at 2032hrs on the 14th, this seven days earlier than the last of 2019. A 2020 total of 559 Well passes is the second highest of the last seven years; there were 461 in 2019, 295 in 2018, 131 in 2017, 396 in 2016, 143 in 2015 and 621 in 2014. The North Pond detector was installed in the summer of 2019; a total of 183 passes recorded between July and September that year was close to the 199 logged there during the same period this year.

Prior to the start of passive bat monitoring on the Island in 2014, the only documented Noctule was a single mist netted in September 1968. In the years between 2014 and 2016, activity at the Well peaked during September and October, the same period in which animals from northeast European populations migrate southwest (UNEP, 2021). That the Noctules logged over the Island could be long-distance migrants is an exciting idea, however no evidence exists at present to suggest that this is the case. The autumnal increase in numbers may just reflect the dispersal of juvenile and/or post-breeding adults from the nearby mainland, or perhaps a smaller scale migration of British animals from summer roosts to winter hibernacula. Recordings made in 2017, 2018 and 2019 suggested that Noctule activity peaked in July and August, these arrivals perhaps more indicative of dispersal from nearby. However the 2020 data showed a return to numbers peaking in September (52% of passes were logged in this month), indeed there were no July records at all. Interestingly April proved to be the month with the second highest tally of Noctule passes this year (with 34% of the annual total); whilst it is tempting to think that these animals could be returning migrants, this spring peak may just reflect a post-hibernation feeding strategy used by individuals from the nearby mainland.

Noctule/Leisler's Bat
A total of 416 passes were recorded, with 296 at the Well and 120 at North Pond, where it could not be determined if the call had been made by a Noctule or a Leisler's Bat (there were 143 in April, 27 in May, 22 in August and 224 in September). In 2019 there were 45 such passes. Leisler's Bat has been recorded in four previous years, with five passes in 2018, two in 2017 and 2016 and three in 2014; one of the 2018 passes was in May, with all other records being from August and September.

Greater Horseshoe *Rhinolophus ferrumequinum*
The detector at North Pond was triggered by a Greater Horseshoe at 2145hrs and 2338hrs on 19th September, these the only passes recorded this season. This makes 2020 just the fourth year in which this species has been detected on Skokholm; there were two passes logged last September (one at the Well at 0327hrs and one at North Pond at 0510hrs on the 8th), five in 2017 (three on the evening of 6th April, one in the early hours of 19th May and one on the evening of 3rd September) and three in September 2014 (two on the morning of the 2nd and one on the morning of the 23rd). Of the bat species recorded on Skokholm, it is the Greater Horseshoe which is most likely to be utilising the Island as a winter roost site, although this has yet to be proven categorically. Droppings found in a Purple Cove sea cave in 1993 were thought to be from this species, however this could not be confirmed at the time. Additionally the timing of some passes may be used to cautiously suggest that the animals were heading to or from a Skokholm hibernacula (for example records at 0501hrs on 8th September 2019, 2117hrs on 6th April 2017 and 0542hrs on 23rd September 2014). This species is known to regularly interrupt its hibernation, at intervals of between once a day and once every ten days, in order to feed near the entrance of the cave or to switch roost site (Duvergé & Jones, 1994); the winter use of a static detector near the entrance of the Purple Cove caves would perhaps thus reveal further activity (although this device would experience some extreme weather).

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, in a normal year, to overnight guests from the path network. The COVID-19 dictated staffing shortage and absence of guests meant that counts at these sites did not always take place at low tide in 2020, this the period when numbers typically peak; the monthly totals reflect this. Daycounts were regularly supplemented by small numbers seen elsewhere around the Island, primarily off the Neck.

Whilst a reduced number of observers resulted in lower monthly totals, the pattern of attendance

seen this year was still typical of recent seasons; totals were at their lowest in March and November and peaked during the summer. Although a meaningful comparison cannot be made with previous monthly totals, the maximum daycount logged each month is likely to be more comparable; although low tide gatherings could not be surveyed every day, enough counts were made during each month to obtain a representative peak count. Maximum daycounts were up on the seven year mean for all months bar March, May, July and September. The April high was the most unusual, with a count of 38 on the 28th, which comprised haul-outs of 19 at both Crab Bay and South Haven, being the highest on record for this month; the April high was 14 up on that of 2019 and 110% up on the 2013-2019 mean (18.1 ±sd 7.7). Of the four months where maxima dropped below the seven year average, September saw the biggest shift; the 27 counted on the 20th was 30% down on the 2013-2019 mean (38.3 ±sd 9.1). The number of Grey Seals seen around Skokholm has been steadily rising since 2013; even in a year with reduced observer effort, the peak monthly daycounts suggest that this trend has not reversed. Three early December singles are not included in the table below.

The total number of Grey Seal logged each month, along with the maximum monthly daycount. Counts from 2015 to 2019 are included for comparison.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2020* Monthly Total	14	186	271	410	456	465	428	246	40
2019*	48	199	518	616	735	548	487	262	50
2018	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
2020* Maximum Daycount	4	38	25	45	39	39	27	26	9
2019*	9	24	37	37	47	42	35	25	11
2018	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

*there were three animals logged in the first three days of both December 2019 and December 2020.

Pupping beaches are plentiful around the nearby mainland and on the islands of Skomer and Ramsey to our north, but suitable areas on Skokholm are few. As a result, 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 pupping areas, the use of these beaches apparently resulting in a higher success rate. Other bays, mostly situated around the Neck, are used infrequently 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 go unrecorded.

The first pup of the year was found in Cave Bay on 22nd September. Although this was three days later than the first of 2019, it had actually been born earlier; less frequent checks of the eastern coves of the Neck meant that this animal was already at least one week old when discovered. The second 2020 pup was in Dumbell Bay on the 26th, with a dead newborn found floating into North Haven on the same date. The fourth was born in Peter's Bay on the 27th and by the 30th the youngster from Cave Bay had finished moulting. The first pup to be seen alive in North Haven was found on 1st October and the sixth of the year was in the narrow western cove of this site on the 9th; the latter animal was approximately ten days old and had likely been hidden amongst the boulders during earlier checks. The last known Skokholm pup of 2020 was born in North Haven on 14th October. A total of seven pups is the third highest on recent record and 36% up on the seven year mean (5.1 ±sd 4.2); there were 12 pups born last year (this a remarkable Skokholm total which included twins in North Haven (see the Skokholm Annual Report 2019 for a full account)) and ten in 2018, but lower counts of two in 2014, 2016 and 2017, three in 2013 and five in 2015.

During late September and October, there is an increase in the number of weaned pups found in coves and bays around Skokholm, the origins of which are unknown; some may be Skokholm animals born in caves or other difficult to see locations and some may have arrived from neighbouring islands or from mainland pupping sites. On 22nd September an apparently weaned pup, found alone in Peter's Bay, had enough retained down on its lower back for coloured marks to be seen; this unique combination of coloured paint was applied on Skomer Island as part of a long-term project monitoring pup numbers. It had been born at South Castle and was estimated to be nine days old when marked on the 14th; it was thus approximately 17 days old when found on Skokholm. The pup was still present on the 23rd (surrounded by further shed down), but was not seen thereafter.

Cetaceans

A lack of both guests and Long-term Volunteers will inevitably have impacted the frequency with which cetaceans were encountered this year. This was perhaps most evident during the spring and summer months when the staff were focussed on maintenance work and seabird monitoring; during a typical year there would often be observers engaged in seawatching at the same time. However, given that the staff were no longer journeying to the Farm for Birdlog, there was quite possibly an increase in evening coverage (the staff certainly spent longer seawatching on an evening this year, particularly during the autumn). **Short-beaked Common Dolphin** were encountered on seven more dates than they were in 2019, with the annual dolphin-days total being 36% up on that of last year and just 14% below the mean. Records of **Risso's Dolphin** on three dates also suggests that coverage in 2020 was reasonable; there have only been records on more dates in three of the last eight years. Conversely **Harbour Porpoise** were noted on fewer dates than in any other year of the last eight; this may in part reflect what is seemingly a steady decline in abundance, however lower observer effort during the first three months of the year will no doubt have had an impact.

Harbour Porpoise *Phocoena phocoena*

Largely owing to their infrequent and rather discreet surfacings, sightings of this diminutive cetacean are very much dependent on the suitability of sea conditions for viewing; although the Skokholm records 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. Although staff did not return until the 16th, 2020 became just the second year

of the last eight without a March sighting. Four on 1st April were the first of the year, with two more on the 25th being the only other animals logged during the month; the April total was thus the lowest since 2013. Such low tallies were the norm throughout the year, with the porpoise-days total in every month bar November being lower than the 2013-2019 mean. Indeed the May, July and September totals were the lowest of the last eight years, as was an annual total of 71 porpoise-days, this a tally 43% down on the 125 of last year and 69% below the 2013-2019 mean (228.4 ±sd 84.9). These low totals may in part reflect a reduction in seawatching effort. Animals were certainly logged on fewer dates; there were sightings on only 31 dates during 2020, this a figure 28% down on that of 2019 and 57% down on the 2013-2019 mean (71.6 ±sd 20.8). However there was also a drop in peak daycounts; only the May and November highs were above the 2013-2019 monthly means (the former only down on counts in 2016 and 2017 and the latter the highest on recent record), whilst the peak daycounts in March, July and September were the lowest on record and those of April, June and August were the second lowest. These lower peak daycounts perhaps suggest that the number of Porpoise present off Skokholm is genuinely declining. Despite the variable observer effort, porpoise-days totals of 391 in 2014, 247 in 2015, 222 in 2016, 252 in 2017, 200 in 2018, 125 in 2019 and 71 in 2020 are perhaps cause for concern. A calf accompanied by two adults on 9th July was the only youngster to be encountered this year, although low totals are the norm; there were three last year, one in 2018, two in both 2017 and 2016, six in 2015 and eight in 2014.

The total number of Harbour Porpoise logged during each recording month between 2015 and 2020, along with the maximum daycount made each month and the number of days during each month on which there was a sighting.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020 Monthly Total	0	6	14	2	13	18	6	6	6	0
2019	16	13	19	0	49	9	12	5	1	1
2018	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	-
2020 Maximum Daycount	0	4	9	1	4	3	2	4	6	0
2019	11	5	5	0	12	2	4	3	1	1
2018	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	-
2020 No. of Days Recorded	0	2	3	2	7	10	3	3	1	0
2019	3	5	8	0	12	5	6	2	1	1
2018	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	-

Risso's Dolphin *Grampus griseus*

A pod of 14, which included two large calves, travelled west past the Lighthouse at 2000hrs on 9th May (four of which are in the photograph below). There were no further records until 5th September when three animals were watched quartering an area off the Lighthouse for much of the evening. A minimum of two (there may have been three) were again present on the 10th, these the last of the year and perhaps the same animals as seen earlier in the month. This is the eighth consecutive year in which this distinctive dolphin has appeared close to the Island and the fourth of the last eight years with a record of a calf. There were sightings on one date in both 2019 (when one calf was logged) and 2014, on three dates in both 2018 and 2016 and on four dates in 2017 (one calf), 2015 and 2013 (three calves). Whilst recent years have seen more regular encounters, this species has

been logged erratically in the past; there were sightings in 15 years between 1958 and 1998, but no documented observations in the 14 years between 1999 and 2012.

Short-beaked Common Dolphin *Delphinus delphis*

A minimum of four heading north off the Quarry on 30th March were the first of the season, these almost a month earlier than the first of last year; this was the first March record in recent history, with 1983 being the last year with a March sighting (there were two on the 13th) and the only other March encounter in the Skokholm database occurring on the 22nd in 1961. There were no further records until 14th June; April and May are typically quiet months for sightings of this species, indeed there have been records in only four of the last eight Aprils and in two of the last eight Mays. Three on the 14th and a minimum of 12 on the 15th took the June total to 15; although three times that logged in June 2019, this did not quite equal the 2013-2019 June mean (16.0 ±sd 13.7). Sightings on ten dates produced the best July tally since 2017, with a dolphin-days total of 90 being 58% up on that of last year and 12% higher than the seven year July average (80.3 ±sd 48.9).

The number of encounters increased during August and peaked in September when there were observations on 14 dates. A total of 165 September dolphin-days was 114% up on that of 2019, but 20% below the 2013-2019 mean (207.3 ±sd 116.4). The number of sightings typically declines during October, at least in part due to rougher sea conditions, however this year still saw records on six dates (the seven year mean is 1.4) which took the dolphin-days total to 26; this was the highest ever

October tally. There were no November records (2019 remains the only year of the last eight with a sighting in this month), but a later staff presence allowed nine to be seen from the Lighthouse on the morning of 6th December; this was the second December record of the last eight years and perhaps ever (there are no records beyond October in the digitised log). An annual dolphin-days total of 457 was up 36% on last year's poor showing (the 2019 tally being the second lowest of the last eight years) but was 14% below the seven year mean (528.9 ±sd 191.7). A pod of nine adults on 9th August contained the first three echelon positioned calves of 2020. A further three calves were noted over two dates in July, there were seven over four August dates and one in September. A total of 14 calf-days was up on the seven of 2019 and the six of 2018, but down on a recent high of over 30 in 2017.

The total number of Short-beaked Common Dolphin logged during each recording month between 2015 and 2020, along with the maximum daycount made each month and the number of days during each month on which there was a sighting.

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020 Monthly Total	4	0	0	15	90	148	165	26	0	9
2019	0	6	0	5	57	95	77	20	7	68
2018	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	-
2020 Maximum Daycount	4	0	0	12	23	27	43	6	0	9
2019	0	6	0	3	10	16	28	10	7	68
2018	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	35	0	0	-
2020 No. of Days Recorded	1	0	0	2	10	12	14	6	0	1
2019	0	1	0	2	11	14	7	2	1	1
2018	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	13	0	0	-

Fish

Common Thresher Shark *Alopias vulpinus*

On 24th June a member of the public, aboard a recreational vessel positioned approximately two miles southeast of South Haven, witnessed the vigorous tail slapping of a Thresher Shark. The shark did not breach, but its tail was estimated as being one metre in length, thus suggesting the entire fish to be approximately two metres. This continues a recent run of records from the waters around Skokholm, with sightings now in four of the last six years. The first report of this pelagic migrant came in the late summer of 2015 when a member of the Dale Sailing crew saw a breaching individual from a boat positioned half a mile to the west of Skokholm Lighthouse. The next at sea observation was in August 2017 when, whilst chumming for seabirds near the Celtic Deep (approximately 20 miles offshore), Island staff and guests aboard the Dale Nelson watched one energetically breaching. The first to be seen from the Island itself was recorded on 23rd July 2019, this animal watched from the Lighthouse Seawatching Hide as it breached twice in quick succession.

Shanny *Lipophrys pholis*

On the morning of 23rd March, a Shanny was found on the Quarry Path, near its junction with the Lighthouse Track; this marine fish had almost certainly been dropped by a gull. Although it appeared unharmed, it was over 100 metres from the sea. This is a common species around the shores of the

British Isles, however, owing to the fact that Skokholm's intertidal zone is difficult to access and rarely surveyed, it has been encountered only infrequently on the Island; indeed this was the first sighting of a Shanny in recent history. It was left in situ and claimed at some point later that day.

Common Ocean Sunfish *Mola mola*
One found to the east of Little Bay Point on 23rd August was the first of the season and unusually close to the Island, whilst one off the Bluffs on 22nd September was the only other record this year. Sightings of this strange pelagic fish in the waters around Skokholm are scarce and sporadic; there were four encounters in 2019, one in 2018 (seen from the Irish Ferry, approximately one mile to our south), four in 2017, seven in 2016 and two in 2015. There were no sightings in either 2014 or 2013 and records in ten years during the period between 1992 and 2012.

Observers, Photographers and Literature Cited in the Text

Observers cited in the text.

BD	Billy Dykes	OP	Olivia Pargeter	ST	Sash Tusa
EH	Eveliina Hanski	RD	Richard Dobbins	WJ	Wendy James
GE	Giselle Eagle	RDB	Richard Brown		

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